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AUSTRALASIAN HIV//AIDS CONFERENCE.2012

AUSTRALIASIAN HIV AND AIDS 2012 CONFERENCE SECRETARIAT:

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CONFERENCE ENVIRONMENT POLICY

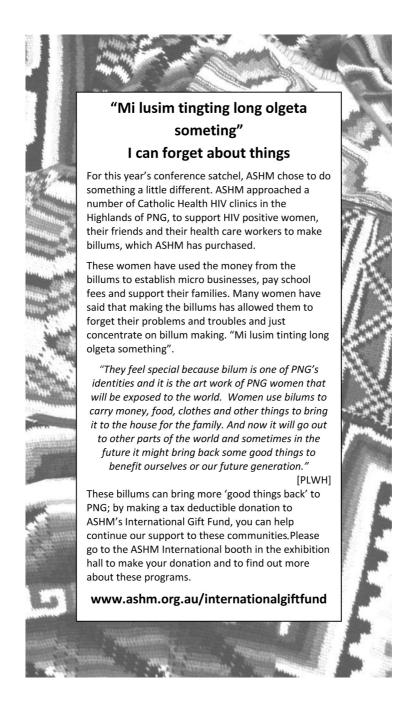
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- reduce the number of printed materials by using electronic communication means wherever possible, including the website, email, online registration and abstract submission.
- monitor final delegate numbers for an accurate forecast of catering requirements in order to avoid waste.
- research and prioritise purchasing items and equipment that support the use of recycled materials or can be recycled after use.
- · ensure that recycling bins are available onsite at all events.
- minimise travel through the use of teleconferences instead of face-to-face meetings and holding meetings only when necessary.
- encourage all Conference stakeholders to consider the environment by suggesting the following: reduction in printing requirements; recycling Conference materials; and reusing Conference merchandise.

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CONTENTS

Welcome Letter						5
Invited Speakers						15
General Information						23
Associated Events						29
Venue Maps						31
Exhibition Directory						35
Full Conference Program						43
Oral Abstracts - Wednesday 17 October	٠.					65
Oral Abstracts – Thursday 18 October						97
Oral Abstracts – Friday 19 October						177
Poster Listing						245
Poster Abstracts.						257
Author Index						385



WELCOME LETTER

The Australasian Society for HIV Medicine welcomes you to the 24th Australasian HIV and AIDS Conference, Australasia's premier medical/scientific conference in the HIV and related diseases sector. Over three days, 1000 of the region's leaders in the field of HIV will convene in Melbourne, the World's Most Liveable City, to discuss the latest developments in research into the cause, clinical manifestations, prevention, testing and treatment of HIV and AIDS and related diseases.

The key objectives of the annual Australasian HIV and AIDS Conferences are to promote the strategic objectives of ASHM in Australia and the Asia and Pacific regions with priority given to fostering:

- 1. Excellence in research and clinical care for HIV and related conditions
- 2. Professional development through the participation of new and early career physicians, scientists and allied health
- 3. Development and assessment of initiatives and protocols for the management of HIV and related conditions
- 4. Dialogue between disciplines (clinical, social sciences, epidemiology and community) and across different locations
- 5. Dialogue and collaboration between regional and Australasian researchers, community organisations, professional organisations and other institutions.

Highlights for this year include:

- The launch of a document titled ACTION on HIV! The Melbourne Declaration.
- Symposia and plenary presentations featuring the latest topics in the sector including Treatment as Prevention, Cure, Role of Culture, Vaccines, The Global Fund, Anal Cancer, STI control in Indigenous Communities, Co-infection with Hepatitis and new advances; Living Long-term with HIV and toxicity just to name a few.
- A dynamic program, internationally acclaimed speakers and diverse content that meets the wide-ranging needs of our audience.
- A continuation of the lunch time master classes on Basic Science, as well as Building Regional Clinical Research Capacity Workshop, A HIV Community and Researchers Workshop and an Early Career Networking Forum.
- The Q&A event promises to be another thought provoking but entertaining evening on Political Leadership in HIV and AIDS.
- The addition of an Advocacy Corner in the Exhibition Hall where dynamic lunch time sessions will be held.
- A focus on posters with two dedicated evening events and longer lunch times for more time to view, so please take advantage of this opportunity.
- Our Billum program with the aim to raise funds to support projects in Papua New Guinea.

Levinia Crooks, Chief Executive Officer, Australasian Society for HIV Medicine **Damian Purcell,** Local Convenor and University of Melbourne, Department of Microbiology and Immunology

Theme A Program Highlights:

This year in Theme A we expect to give insight into both the remarkable advances in understanding the immunity required to prevent HIV transmission together with the emerging theme of cure with specific emphasis on understanding the host virus interactions in determining outcome. International guest Dr. Guido Silvestri, (Atlanta) will examine the natural resistance to AIDS in natural hosts infected by primate lentiviruses and examples of immune control in humans. We will share with the IUSTI conference in hearing from Dr. Dennis Burton (SanDiego) about the properties of some remarkable antibodies that neutralize HIV-1 strains, new technology and insights for vaccine design. Francois Barre-Sinoussi (Paris) will also present on the imperatives for HIV cure and will provide context for a special cure symposium with Romas Gelezunias, Sarah Palmer. Sharon Lewin and Bill Whittaker.

Understanding the basic biology of HIV has underpinned the development of effective antiretroviral therapies that have been highly successful in controlling HIV replication resulting in near normal quality of life and longevity. However, limitations remain including side effects and lifelong and expensive therapy.

Dramatic advances in the technology used to examine antibody mediated immunity will be explained and the impact of these new insights for vaccine design discussed. The conference will provide both state of the art scientific presentations and entry-level education into the scientific issues driving current advances into the final frontiers of HIV medicine; a cure for HIV and effective vaccines.

Guest speaker presentations combined with symposia on the pathogenic basis of differing outcomes in HIV infected individuals and vaccine approaches, will give a framework to understand basic and translational studies in HIV

Theme A will provide insight into current research that will be the basis for future HIV therapies and vaccines broadly aimed at controlling the epidemic and more effectively managing HIV infection without requiring life-long therapy

Paul Cameron, Alfred Hospital, Infectious Diseases Clinic; Theme A Convenor

Theme B Program Highlights:

The 2012 Melbourne conference will focus strongly on HIV clinical medicine with direct relevance to settings within both Australia and other countries within the Asia Pacific Region. This year the Theme B clinical track received over 150 abstracts from at least a dozen countries.

We have a rich program. Our plenary speakers include Steve Deeks who will address ageing and cure in HIV populations, Bill Bowtell who will address how the Global Fund plans to tackle the problematic issue of achieving sustained funding for the ongoing care and treatment of HIV positive people in our region and Gail Matthews who will place the new hepatitis C antiviral therapies squarely on our therapeutic table for edification.

The Theme B Symposia will address the pathogenesis and best practice management of non-AIDS illnesses in long term HIV infection, look at people in Australia on the edge (and further) who live with HIV and other blood-borne viruses and a joint IUSTI symposium will closely examine the vexatious clinical challenge of whether and how to do anal cancer screening in HIV positive populations.

Our three proffered paper sessions offer original data around HIV testing, treatment -associated toxicities, the role of switching antiretrovirals in toxicity management, determinants of metabolic and cardiovascular risk factors and long term neurocognitive response to antiretroviral therapies. Furthermore the tremendous diversity in the purpose and function of clinics involved in HIV care and prevention *at home and away* in our region will be addressed.

Finally we have two oral poster sessions. One examines the practice of HIV medicine in the Digital Age, a somewhat ironically titled session, which addresses some of the basic challenges to the delivery of best practice of health care in the Modern age. Finally the second oral poster session will address current issues that inform and guide the practice of modern HIV medicine including a national survey of patient use of complementary medicine, QA assessment of proviral DNA testing for CCR5 tropism and the benefits of routine syphilis testing in HIV care.

Edwina Wright, Alfred Hospital, Infectious Diseases Unit; Theme B Convenor

Theme C Program Highlights:

The Preventing HIV theme (Theme C) at this year's Australasian HIV and AIDS Conference has a particular focus on 'combination prevention' and what this will mean for Australasia and the region. Plenary speaker, Professor Seth Kalichman (University of Connecticut), conducts research on HIV prevention in the southern United States and South Africa. He is the editor of AIDS & Behavior and the author of Denying AIDS: Conspiracy Theories, Pseudoscience, and Human Tragedy. In his plenary session, Professor Kalichman will discuss the challenges of integrating biomedical and behavioural prevention, arguing that the "scale up of antiretroviral therapies as prevention faces the humbling realities of human behaviour." Dr Vinh Kim Nguyen, (University of Montreal) an HIV physician and medical anthropologist, is also a plenary speaker. Dr Nguyen has extensive experience in Canada, Côte d'Ivoire, and Mali. His presentation will focus on the potential of antiretrovirals to prevent HIV; specifically on (1) hurdles to achieving sufficient coverage (2) impact on health systems (3) role of primary-infection and (4) medicalisation of prevention.

Submissions to Theme C were very strong this year and we trust that delegates will enjoy the proffered paper sessions on HIV epidemiology and prevention in Australasia and the Asia and Pacific, new approaches to HIV testing and antiretroviral-based prevention. Highlights include papers discussing attitudes to male circumcision as a HIV prevention strategy in Papua New Guinea, results of a study of rapid HIV testing in Sydney sexual health clinics, an analysis of the drop in HIV diagnoses among men who have sex with men in New Zealand and analyses of the potential of pre-exposure prophylaxis to prevent HIV among Australian gay men. In a symposium on the final day of the conference, the challenge of integrating 'treatment as prevention' with existing programs will be taken up by an expert panel of speakers. We hope this will stimulate further debate as countries in Australia and the region consider the benefits and risks of new approaches to prevention and treatment.

Stephen McNally, Australian Research Centre in Sex, Health and Society; Theme C Convenor

Theme D Highlights:

Theme D, HIV in Populations in Australia and the Region, will address the ways that a range of pertinent issues in HIV policies and programs impact upon populations in Australia, Asia and the Pacific. Those issues will include how cultures act as mediators of HIV interventions and responses; the ways that different communities interpret and manage conceptions of risk; and the challenges related to resource allocation and financing more effective national HIV programs. Within these discussions proffered paper sessions will address positive living diversity as well as the treatment as prevention paradigm amongst gay and bisexual men in Australia.

Key speakers this year include Prasada Rao, UN Special Envoy on HIV/AIDS for Asia and the Pacific; Barry Adam, University of Windsor, Canada and Professor Huang Yingying, Institute of Sexuality and Gender, Renmin University of China.

Edward Reis, Australasian Society for HIV Medicine; Theme D Convenor

Aboriginal & Torres Strait Islander Health Programming

The *IUSTI Congress and HIV Conferences*, received the greatest number of abstracts ever addressing sexual health and blood borne viruses in Aboriginal and Torres Strait Islander communities for consideration within the Program. The final conference program includes innovative research, programs, resources and responses underway to reduce the disparity in health status between Indigenous peoples and non Indigenous peoples.

On Wednesday there is a joint conference session highlighting responses and recent novel research findings in addressing STIs and HIV. In this symposia, findings from a large syphilis outbreak in remote Queensland affecting largely young heterosexual people will be presented, as will innovative findings from recent research largely based in health services, with major public health implications and a preliminary finding from a cross sectional survey from young Indigenous people being conducted nationally.

James Ward, Baker IDI; A&TSI Theme Convenor

The Australasian HIV and AIDS Conference and ASHM thanks the support of its collaborators. The support of the community sector is invaluable.

Welcome to the 2012 ASHM HIV and AIDS Conference from the National Association of People Living with HIV/AIDS (NAPWA)

The National Association of People Living with HIV/AIDS (NAPWA) is Australia's peak non-government organisation representing community-based groups of people living with HIV. Our organisation provides advocacy, effective representation, policy expertise, health promotion and outreach on a national level.

NAPWA contributes to clinical and social research into the incidence, impact and management of HIV. We strive to minimise the adverse personal and social effects of HIV by championing the participation of positive people at all levels of the Australian response to HIV. Our mission is to strengthen and maintain a responsive national leadership body that is credible, informed and guided by the interests of people living with HIV.

On behalf of our HIV positive membership and networks we welcome delegates to this important HIV Conference and thank you for participating in the work and collaborations that strengthen the HIV response across sectors and partnerships in Australia and beyond.

Robert Mitchell, President

Web address: www.napwa.org.au

Australian Federation of AIDS Organisations (AFAO)

AFAO is the national federation for the Australian HIV community response - providing leadership, coordination and support to Australia's community based policy, advocacy and health promotion response to HIV. Internationally we contribute to the development of effective policy, programmatic and human rights based responses to HIV and to the removal of laws that criminalise HIV and affected communities in South-East Asia and the Pacific.

In 2012, AFAO, our members and colleagues in the Australian HIV response are strongly focused on meeting the UN Political Declaration targets and bringing the health and prevention benefits of recent treatment and prevention research to the Australian response. Rapid HIV testing, the removal of other barriers to increased testing, increased uptake of HIV treatments by people with HIV, PREP and treatment as prevention are changes we need. At the same time, we need to secure the successes we have made over 30 years through strong, innovative HIV prevention and education WITH and led by affected communities. We also need to maintain and strengthen the legal and policy environment that enables us to work effectively with affected communities through protection from discrimination, decriminalisation of sex work, drug law reform and fighting moves to criminalisation of HIV exposure and transmission.

Web address: www.afao.org.au

National Program Committee List

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	Dr Rob Center
	Dr Edwina Wright (Convenor)
	Dr Christina Chang
	Ms Jo Watson
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	Dr Steven Ritchie
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	Mr Tim Stern
	Dr Alan Street
	Ms Judy Armishaw
	Dr Gail Matthews
	Dr Michelle Giles

	Dr Stephen McNally (Convenor)
AUD CTI	Mr Timothy Moore
	Dr Fengyi Jin
NPC Theme C	Dr Martin Holt
	Mr Colin Batrouney
	Mr Darryl O'Donnell
	Mr Edward Reis (Convenor)
	A/Prof Heather Worth
NPC Theme D	Prof Gary Dowsett
INPC Meme D	Dr Henrike Korner
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	Mr Victor Tawil

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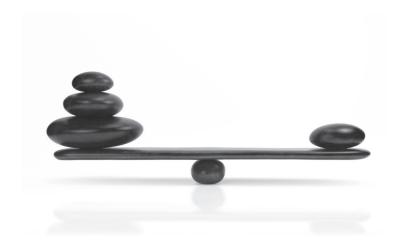






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1. Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. 1–239. Available at http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf.Section accessed [31.08.12] [p103].

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INVITED SPEAKERS



Professor D. Barry Adam

Criminology, University of Windsor; and Senior Scientist and Director of Prevention Research, Ontario HIV Treatment Network, Canada Barry D. Adam is University Professor of Sociology at the University of Windsor and an author of books on The Survival of Domination, The Rise of a Gay and Lesbian Movement, Experiencing HIV, and The Global Emergence of Gay and Lesbian Politics. He is also Senior Scientist and Director of Prevention Research at the Ontario HIV Treatment Network in Toronto, as well as co-principal investigator with the CIHR Center for Research Evidence into Action for Community Health in HIV/AIDS (REACH). Dr Adam's current work includes: development of HIV prevention and sexual health programs for HIV-positive men; HIV vulnerability among Spanish and Portuguese speaking men who have sex with men; the impacts of criminal prosecutions for HIV exposure and transmission on people living with HIV; and the impacts of the introduction of marriage on same-sex couples. He also leads a multidisciplinary collaborative partnership combining molecular epidemiology, sociology, and clinical practice to bring multiple tools to bear on advancing HIV prevention.

University Professor, Department of Sociology, Anthropology and



Dr Françoise Barre-Sinoussi, PhD

Professor at the Institut Pasteur & Research Director at the INSERM, France Director of Regulation of retroviral infections

Françoise Barré-Sinoussi is the Director of the "Regulation of Retroviral Infections" Unit at the Institut Pasteur in Paris. She is recognised for her contributions to HIV research, in particular for the identification of HIV-1 in 1983. The research programs of her team are focused on mechanisms required to protect against HIV/SIV infections and/or disease progression (regulation of viral replication and/or regulation of harmful T cell activation, in particular by components of the innate immunity).

Françoise Barré-Sinoussi has been strongly implicated in promoting integration between HIV/AIDS research and actions in resource-limited countries, in particular through the Institute Pasteur International Network and the coordination of the ANRS research programs in Cambodia and Vietnam. She is author and co-author of 270 original publications and has been invited as a speaker more than 270 International meetings and conferences. Through her career, she received more than 10 national or international awards, including the Nobel Prize for Medicine in 2008 together with Prof. Luc Montagnier for her contributions to HIV/AIDS. In february 2009 she was elected member of the French Academy of Science. She is President of the IAS.



Bill Bowtell AO

Executive Director, Pacific Friends of the Global Fund to fight AIDS, Tuberculosis and Malaria, NSW, Australia

Bill Bowtell is the Executive Director of Pacific Friends of the Global Fund, recently re-located at the Kirby Institute, UNSW. He has been the Director of the HIV/AIDS Project of the Lowy Institute for International Policy between 2005 and 2011. Mr. Bowtell was trained as a diplomat and had served in Portugal, Papua New Guinea and Zimbabwe. He is a strategic policy adviser, with particular interests in national and international health policy structures and reform. He maintains a close interest in the potential impact of the HIV/AIDS epidemic and the other communicable diseases, on the social, economic and political development of the Asia Pacific region



Professor Dennis Burton

Department of Immunology & Microbiology, The Scripps Research Institute, USA

Dennis Burton is a Professor in the Department of Immunology and Microbial Science, The Scripps Research Institute, La Jolla, USA. He received his B.A. in Chemistry from Oxford University and his Ph.D from Lund University, Sweden in physical biochemistry. He is the Scientific Director of the International AIDS Vaccine Initiative (IAVI) Neutralizing Antibody Consortium and Neutralizing Antibody Center at Scripps and a member of the Ragon Institute of MGH, MIT and Harvard, Boston, USA. He has held many research grants from the NIH and has published more than 250 papers in scientific journals. He has received numerous awards including the Jenner Fellowship of the Lister Institute and a Fellowship in the American Academy of Microbiology. His research is focused on infectious disease, in particular the interplay of antibodies and highly mutable viruses, notably HIV and HCV. He is interested in the potential of broadly neutralizing antibodies to inform vaccine design.



Dr Steven G. Deeks

Professor of Medicine, University of California, San Francisco, USA Steven Deeks has been engaged in HIV research and clinical care since 1993. He is a recognized expert on the role of chronic inflammation in untreated and treated HIV disease. Dr. Deeks co-directs a large ongoing cohort study aimed at defining the immunopathogenesis of HIV (the SCOPE study), and routinely uses information obtained from this cohort to develop focused interventional studies aimed at either reversing HIV-associated inflammation or at accelerating the decay of the virus reservoir. He has published over 250 peer-review articles, editorials and reviews on these and related topics. He has been the recipient of several NIH grants, and is a PI of a multinational effort aimed at developing therapeutic interventions to cure HIV infection (the Martin Delaney

Collaboration). He is a member of the Department on Health and Human Services Panel on Antiretroviral Guidelines for Adults and Adolescents and the NIH Office of AIDS Research Advisory Council, co-chairs the International AIDS Society Working Group for a Global Scientific Strategy "Towards an HIV Cure", and is a member of the American Society for Clinical Investigation (ASCI). In addition to his clinical and translational investigation, Dr. Deeks maintains a primary care clinic for HIV infected adults.



Professor Seth C. Kalichman

Professor of Psychology, University of Connecticut, USA

Seth C. Kalichman received his Ph.D. in Clinical-Community Psychology from the University of South Carolina in 1990. He is a Professor in the Psychology Department at the University of Connecticut and Director of the Southeast HIV/AIDS Research & Evaluation (SHARE) Project. His research focuses on social and behavioral aspects of AIDS, particularly sexual risk behavior intervention research in the US and South Africa and is supported by the US National Institutes of Health. He was the recipient of the Distinguished Scientific Award for Early Career Contribution to Psychology in Health awarded by the American Psychological Association and Distinguished Scientist Award from the Society for Behavioral Medicine. He is the Editor of the journal AIDS and Behavior and the author of five books, most recently Denying AIDS: Conspiracy Theories, Pseudoscience, and Human Tragedy published by Springer/Copernicus Books with all royalties donated to purchase HIV treatments in Africa



Dr Gail Matthews

Senior lecturer in the viral hepatitis clinical research program at the Kirby Institute, Australia

Gail Matthews is a senior lecturer in the viral hepatitis clinical research program at the Kirby Institute and also holds a clinical academic appointment in HIV and Infectious Diseases at St Vincent's Hospital, Sydney.

Her role is split between translational research in the fields of hepatitis B, hepatitis C and HIV, and clinical academic practice in the Viral hepatitis service at St Vincent's Hospital. She originally completed HIV specialist training in the UK before returning to Australia in 2002 to take up a position at the Kirby Centre (formerly NCHECR) and obtained her PhD on Therapeutic Strategies in HIV-HBV coinfection in 2009. She oversees a number of national and international research studies and collaborates with other international investigators on various projects. She has a specific interest in acute hepatitis C, antiviral resistance and HIV/viral hepatitis coinfection. She is the principal investigator of the Australian Trial in Acute Hepatitis C II.



Dr Vinh Kim Nguyen

Department of Social and Preventive Medicine, University of Montréal, Canada

Vinh-Kim Nguyen is a medical anthropologist and an HIV physician. He practices at the Clinique médicale l'Actuel and in the Emergency Department at the Jewish General Hospital in Montréal (Canada). He is a researcher at the CRCHUM (Centre de recherches du Centre hospitalier de l'Université de Montréal) and is an associate professor in the Department of Social and Preventive Medicine at the University of Montreal where he heads the PhD programme in Health Promotion. He is the author of The Republic of Therapy: Triage and Sovereignty in West Africa's Time of AIDS; coauthor, with Margaret Lock, of An Anthropology of Biomedicine and also the co-editor, with Jennifer Klot, of The Fourth Wave: Violence, Gender, Culture, and HIV in the 21st Century, and papers in HIV prevention and clinical epidemiology.



Marama Pala

Executive Director of INA (Māori, Indigenous & South Pacific) HIV/AIDS Foundation, New Zealand

Marama Pala (Ngātiawa), BML, BMA, AdvDip, the Executive Director of INA (Māori, Indigenous & South Pacific) HIV/AIDS Foundation, an organization that provides prevention, advocacy and support services to Māori. Marama is the Co-Chair of the International Indigenous Working Group on HIV & AIDS (IIWGHA) involving Indigenous Communities around the world in the fight against HIV & AIDS. Marama Pala contracted HIV in 1993 and was the first Māori woman to publicly disclose her HIV status; she became a powerful advocate for Māori and marginalized communities. As a key witness in a successful criminal HIV transmission case (P, Mwai 1993), she is now a courageous advocate against the use of criminal law to persecute people living with HIV. She was appointed as one of seven Global Community representatives on the Community Programme Committee for the 19th International AIDS Conference 2012 in Washington DC. Marama has been a keynote speaker globally.



Professor Tom Quinn

Professor of Medicine and Director, Center for Global Health, Johns Hopkins University Associate Director of International Research, and Head of the Section on International HIV/STD Research, National Institute of Allergy and Infectious Diseases, National Institute of Health, USA

Tom Quinn MD, MSc is Senior Investigator and Head of the Section on International HIV/AIDS Research in the Laboratory of Immunoregulation at the National Institute of Allergy and Infectious Diseases. He also serves as Associate Director for International Research for the Division of Intramural Research at NIAID. He is also Professor of Medicine and Pathology in the Johns Hopkins School of Medicine and has adjunct

appointments in the Departments of International Health, Epidemiology, and Molecular Microbiology and Immunology in The Johns Hopkins School of Public Health. In 2006 he was appointed Director of the Johns Hopkins Center for Global Health.

Dr. Quinn has been involved in HIV clinical and epidemiologic investigations in 25 countries, with current projects in Uganda, Zimbabwe, Tanzania, India, China, and Thailand. Among his professional activities, Dr. Quinn has been an Advisor/Consultant on HIV and STDs to the World Health Organization, Office of the Global AIDS Coordinator (PEPFAR), UNAIDS, and the U.S. Food and Drug Administration. In 2004 he became a member of the Institute of Medicine of the National Academy of Science. In 2007 he was elected as fellow of the American Association for the Advancement of Science. He is also a fellow of the Infectious Disease Society of America and a member of the American Association of Physicians. He is an author of approximately 900 publications on HIV, STDs, and infectious diseases.



Dr Guido Silvestri

Professor of Pathology, Emory University and Chief, Division of Microbiology & Immunology, Yerkes National Primate Research Center, USA

Guido Silvestri received his MD in Ancona, Italy, and completed Residency training in Internal Medicine & Clinical Immunology (Florence 1990) and Pathology (U. Penn 2001). He is currently a Georgia Research Alliance Eminent Scholar in Comparative Pathology, and Professor of Pathology and Laboratory Medicine at the Emory University School of Medicine, where he also serves as Chair of the Division of Microbiology & Immunology at the Yerkes National Primate Research Center. Dr. Silvestri has been involved in studies of HIV pathogenesis and vaccines using non-human primate models since 1993, and has authored or co-authored 141 peer-reviewed publications in this field including some in the highest impact journals (Nature, Science, Cell, etc). He is an Editor of PLoS Pathogens, Journal of Immunology, Journal of Virology, and Journal of Infectious Diseases, a member of the CROI organising committee, and was Co-Chair of the 6th International AIDS Conference in Rome. 2011.



JVR Prasada Rao

Special Envoy to Secretary General, United Nations on HIV/AIDS JVR Prasada Rao is the former Union Health Secretary, Government of India, and now is the Special Envoy to the Secretary General United Nations on HIV/AIDS for the Asia Pacific region. In this capacity Prasada Rao acts as the representative of the Secretary General to advocate with countries in the region on important policy and strategic issues connected with HIV/AIDS.

Prasada Rao is also the Member Secretary of the UNDP constituted Global Commission on HIV and law which is mandated to study the legal environment surrounding HIV and provide recommendations to countries and regional and global agencies for creating a more supporting legal framework to eliminate HIV related stigma and discrimination. The report of the Commission was launched by the Secretary General United Nations in July 2012.



Associate Professor Huang Yingying

Deputy director, Institute of Sexuality and Gender, Sociology department, Renmin University of China, China

Huang Yingying is associate professor of Sociology Department, deputy director of Institute of Sexuality and Gender, Renmin University of China. Her research areas are female sex workers, male clients, women's body and sexuality, social aspects of HIV/AIDS, and research methodology on sexuality. She is the author of the book 'Body, Sexuality and Xinggan (sexiness): Study on Chinese Women's Daily Lives' and several international and local publications on female sex workers and male clients in China. She is currently working on two research projects: Partnership for Social Science Research on HIV/AIDS in China and The changing sexualities in China: population-based surveys in 2000, 2006 and 2010. Dr. Huang also works as gender consultant for China-Australia Health and HIV/HIV Project, and key sponsor of biannual international conference on Sexualities in China which started in 2007.





MSD HIV Medical Education Speaker Tours

Professor José Gatell

Professor of Medicine, University of Barcelona, Spain

October 29 – November 2, 2012

Perth – Brisbane – Sydney – Melbourne

Professor Jürgen Rockstroh

Professor of Medicine, University of Bonn, Germany

February 18 – 22, 2013 Venues to be confirmed

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Level 4, 66 Waterloo Road, North Ryde, NSW 2113. INFC-1011073-0046 OCT 2012



GENERAL INFORMATION

Disclaimer

The information in this booklet is correct at the time of printing. The Conference Secretariat reserves the right to change any aspect without notice.

Venue

Melbourne Convention & Exhibition Centre 1 Convention Centre Place South Wharf Victoria 3006

The venue will host the conference sessions, poster presentations, the breakfast sessions, conference day catering and the exhibition.

Registration Desk

The Registration Desk will be located on the Ground Floor, Main Entrance, Melbourne Convention Centre, opposite Plenary 3. All enquiries should be directed to the Registration Desk which will be open at the following times:

 Tuesday
 16 October 2012: 3.00pm to 6.00pm

 Wednesday
 17 October 2012: 7.00am to 6.00pm

 Thursday
 18 October 2012: 7.00am to 6.00pm

 Friday
 19 October 2012: 7.00am to 4.00pm

Speaker Preparation Room

A speaker preparation room will be located on level 2, Speaker Room 201, Melbourne Convention Centre. This room will be open at the following times:

 Tuesday
 16 October 2012: 3.00pm to 6.00pm

 Wednesday
 17 October 2012: 7.00am to 6.00pm

 Thursday
 18 October 2012: 7.00am to 6.00pm

 Friday
 19 October 2012: 7.00am to 2.00pm

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.

Exhibition

An exhibition will be held in the Exhibition Hall, Bays 13-14 on the Ground Floor of the Melbourne Exhibition Centre, which also contains the posters and all the catering.

The exhibition will be open during the following hours:

Wednesday 17 October 2012: 10.00am to 6.30pm (Brief closure from 2pm-3.30pm)

Thursday 18 October 2012: 10.00am to 6.30pm Friday 19 October 2012: 10.00am to 2.00pm

The exhibition for the 13th IUSTI World Congress will also be available for viewing on Wednesday 17 October 2012 from 10.00am to 6.30pm (Brief closure from 4.00pm - 5.00pm).

Poster Displays

Posters will be displayed for the duration of the conference in the Exhibition Hall on the ground floor of the Melbourne Exhibition Centre. Posters for the IUSTI Congress will be removed at the end of Wednesday lunchtime, so get in quick to view these.

Internet HUB

An Internet Hub, proudly sponsored by the Conference, will be available in the Exhibition Hall on the Ground Floor.

Computers will be available for:

- · Completing an online conference evaluation survey
- · Printing a certificate of attendance
- · Viewing the abstract search database including the poster pdf's
- · Viewing participant lists

Wireless

Wireless will be available in the Convention Centre. The centre's free Wi-Fi service provides limited internet access to all conference delegates, event attendees and general public in the venue during the conference. Connection information will be available on the pocket program.

Catering

Morning teas, afternoon teas and lunches will be held in the Exhibition Hall each day. Lunches will be served as an informal stand-up buffet. Dietary requirements noted on your registration form have been passed on to the catering staff. Vegetarian options will be available on the buffets. A separate buffet station will be available for other specific dietary requirements such as vegan, halal, gluten intolerance etc. Please ask the Convention Centre staff at this station for assistance.

Special Requirements

Every effort has been made to ensure people with special needs are catered for. If y ou have not previously advised the Conference Secretariat of any special dietary or disability requirements, please see the staff at the Registration Desk as soon as possible.

Prayer Room

Separated male and female prayer rooms including washing facilities are located in the Convention Centre off the main foyer (Located Hilton end of the centre).

First Aid Room and Parenting Facilities

The MCEC's main first aid room is located off the Convention Centre foyer, Hilton side of the centre. A smaller first aid room is located off the Exhibition Centre foyer. A parenting room is located off both the Exhibition Centre and Convention Centre foyers.

Emergency and Evacuation Procedures

In the event of an emergency, such as a fire, the Convention Centre staff will direct delegates accordingly. A fire evacuation plan is available from the Melbourne Convention Centre Concierge/Reception Desk on the ground floor of the Convention Centre.

Smoking

This Conference has a no smoking policy.

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.

Messages

The Convention Centre main concierge reception desk will receive messages by telephone or fax for delegates through their switchboard. A message board is situated near the Conference Registration Desk and should be checked regularly. The Conference Organisers do not accept responsibility for personal mail. Please have all mail sent to your accommodation address.

Luggage Storage

During the Conference, luggage can be stored by Melbourne Convention Centre staff. The cloakroom is located off the main Convention Centre foyer (Hilton end), providing storage for visitors' and delegates' belongings.

Taxis

Taxis can be hailed from the Hilton, Exhibition Centre exit or booked in advance. They are reasonably priced and readily available at the airport, railway station, coach terminal and central points within the city.

Parking

Melbourne Exhibition Centre Car Park Rates

BASEMENT CAR PARK Entry and Exit via Norma	nby Road – 24 Hour Ope	ration				
Day Rate: Monday to Friday (to 6:00pm)						
0 - 1 hour	\$8.00	Minimum				
1 - 2 hours	\$16.00					
2 - 3 hours	\$24.00					
3 - 4 hours	\$32.00					
4+ hours	\$32.00	Maximum				
Early Bird Rate: Monday to Friday (entry between 6:00am – 9:00am and exit between 3:00pm – 12:00am Midnight)						
Early Bird Rate	\$12.00	Maximum				
Evening Rate: Monday to Thursday (Entry after 6pm and exit before 6am)						
Night Rate	\$11.00					
Weekend Rate: Per exit, per day (from 6:00pm Friday to 6:00am Monday)						
Weekend Rate	\$13.00	Per exit, per day				

The Melbourne Exhibition Centre Basement Car Park has a number of ticketing pay machines located within the Car park adjacent to Entry Doors 1, 6, 8 and 10. Any enquiries please call the Wilson Car Park office (03) 9224 0301.

NOTE: All Exhibitors are encouraged to use this car park below.

Freeway Car Park Rates

FREEWAY CAR PARK Located at Munro Stree Access via Normanby Ro	t under the Westgate Bridg oad and Munro Street	e.
0 - 1 hour	\$4.00	
1 - 2 hours	\$8.00	
2 - 3 hours	\$12.00	
3 - 4 hours	\$16.00	
4 - 5 hours	\$20.00	
5 - 6 hours	\$24.00	
6 hours +	\$28.00	Maximum
Lost Ticket fee	\$50.00	
Evening Rate: Entry afte	er 6pm and exit before 6 an	n the next day
Flat Rate	\$8.00	

Name Badges

For security purposes, all attendees must wear their name badge at all times while 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.

Participant List

Information necessary for your attendance at the Conference will be gathered, stored and disseminated in accordance with the nation's privacy legislation. A participant list with name, organisation and state/country will be supplied to all delegates and exhibitors at the Conference (excluding those who indicated during registration they did not wish to be named on the participant list).

The participant list will be viewable by delegates at the Internet Hub.

Liability/Insurance

In the event of industrial disruptions or natural disasters the Australasian Society for HIV Medicine cannot accept responsibility for any financial or other losses incurred by delegates. Nor can the Conference Secretariat take responsibility for injury or damage to property or persons occurring during the Conference or associated activities. Insurance is the responsibility of the individual delegate.

HIV Prescriber CPD Points

HIV s100 prescribers who are accredited in NSW/ACT/VIC/SA will receive three (3) Prescriber CPD points for each day of the conference that they attend.

RACP/AChSHM

Registrants may claim one credit point/hour of the Conference attended to a maximum of 50 credits annually in the Category 2: Group learning activities section.

The onus is on the Fellow themselves to determine the total number of credit points they may claim and to claim them. Further information and access to the MyCPD program is available at www.racp.edu.au.

RACGP

The Conference has been awarded 30 Category 2 RACGP QI&CPD Points. If you wish to claim these points please sign the attendance sheet at the Registration Desk.

Scholarships

Scholarships have been provided to some domestic and international speakers in the conference. Thank you to our sponsors of our scholarship program: Department of Health and Ageing and AusAID.

Evaluation

Your feedback on the conference is important as it will help us plan future events. An online evaluation will be sent out to delegates post conference.

An email reminder will be sent to delegates in the weeks following the Conference. Thank you in anticipation of your feedback.

Roll of Honour

The Roll of Honour was introduced as a way of recognising the achievements of colleagues who have retired or reduced their involvement in the field of HIV in recent years. The Roll of Honour includes those who have had Memorial Sessions named were after them, ensuring we honour the memory of those people who have contributed greatly to the sector.

Previous Roll of Honour awardees are:

David Bradford

Ron Lucas

Margaret MacDonald

Phillip Medcalf

Peter Meese

Anne Mijch

Alex Wodak

New inductees into the Roll of Honour are:

Liz Dax

Nicholas Deacon

ASHM AWARDS

Junior Researcher Support Awards in HIV and Hepatitis

ASHM offers a number of annual Support Awards to junior researchers in the fields of HIV and viral hepatitis. The Awards are offered to foster research interests in HIV and viral hepatitis, and applications are invited from a range of relevant disciplines including medicine, nursing, dentistry and allied health. Awards are given for quality research that reflects national priority action areas as outlined in the National HIV/AIDS Strategy, the National Hepatitis C Strategy and the first National Hepatitis B Strategy.

This year's awardees receive among other things: complimentary registrations at the 2012 Australasian HIV/AIDS Conference, Melbourne or the 2012 Viral Hepatitis Conference, Auckland; scholarships for travel and/or accommodation to assist attendance at the chosen conference; ASHM Membership; access to the ASHM website to showcase their research project; participation in relevant ASHM committees; and access to the ASHM library, resources and archives.

Applications for the 2013 conference will be open next year.

This award has been proudly supported by the ASHM Domestic Gift Fund.

Congratulations are extended to the following 2012 awardees:

Hao Lu, Burnet Institute/Monash University, VIC. Presenting in Theme A Proffered Paper Session: HIV transmission and molecular pathogenesis on Friday 19 October from 10.30am.

Nitasha Kumar, PhD student, Department of Medicine, Monash University and Centre of Virology, Burnet Institute, VIC. Presenting in Theme A Proffered Paper Session: Cellular Monkey business on Thursday 18 October from 4pm.

Eric Pui Fung Chow, PhD Candidate, Surveillance and Evaluation Program for Public Health, The Kirby Institute, NSW. 2 poster presentations within the conference.

Patti Shih, PhD candidate, International HIV Research Group, School of Public Health and Community Medicine, University of New South Wales, NSW. Poster Presentation

Vijaya Madhavi, PhD Student, University of Melbourne, Dept. of Microbiology & Immunology, VIC. Poster Presentation

Samantha Brunt, University of Western Australia, WA. Poster Presentation

Rachel Sack-Davis, Research Assistant Centre for Population Health. Poster Presentation

Tina lemma, PhD student, Kirby Institute, University of New South Wales, NSW. Poster Presentation

Future Award

ASHM wish to develop those in the sector to become leaders and build the next generation of early career workers dedicated to HIV research and management. The ASHM Conference Advisory Group will be looking at developing this award for the 2013 conference which will be held from 21 - 23 October 2013

ASSOCIATED EVENTS

A variety of social functions and satellite sessions are on offer at the conference. Please note those events that you will need to register for, space permitting.

Advocacy Corner

Wednesday 17 – Friday 19 October Exhibition Hall, Melbourne Convention and Exhibition Centre

At the 2012 Australasian HI and AIDs Conference in Melbourne, AFAO-the Australian Federation of HIV Organisations and other Australian community based HIV organisations will, for the first time, host a small community networking zone in the main hall. It will be staffed at lunchtimes and breaks, and be a place for NGO workers and other community members to meet, talk and find information. There will be presentations and discussions, each lunch time for 1 hour. The themes for these offer a chance to reflect and share ideas about important issues.

Satellite Session: MSD - HIV and The Brain Wednesday 17 October 2012, 7.00am - 8.25am Room 219 and 220, Melbourne Convention and Exhibition Centre

For many years, clinicians saw the impact of HIV on the brain through dementia's and other AIDS-associated conditions. Thankfully, these are becoming less common here in Australia. Understanding the clinical and neurological aspects of early HIV infection however remain key. We recognise neurocognitive processing in people in early HIV infection can be affected, and ongoing inflammation in some parts of the brain has lifelong consequences. We need to equip ourselves to better screen, prevent and manage HIV-associated neurocognitive disorders, in virologically suppressed patients in particular. It is important to explore the brain as an HIV reservoir in patients on suppressive ART and the implications of strategies currently being tested for eradication on the CNS reservoir.

Complimentary for all delegates including Joint Registrants. Registration is required.

Welcome Reception and Poster Viewing Evening

Wednesday 17 October 2012, 5.30pm – 6.30pm Exhibition Hall, Melbourne Convention and Exhibition Centre

All delegates are invited to enjoy a relaxing end to the first day of the Conference. This is also the dedicated time to meet with the poster presenters. It is an opportunity to catch up with old friends and make new friends, whilst enjoying drinks and canapés.

Complimentary for all delegates excluding day registrations and guests - Ticket cost: A\$55.

IUSTI Congress Gala Dinner

Wednesday 17 October 2012, 7.00pm – 11.00pm Peninsula, Melbourne Docklands (a short walk from the Conference venue)

The Gala Dinner is an event that all delegates look forward to and is renowned for being an enjoyable night where delegates can network and dance to live music. This year the Gala Dinner will be held at Peninsula, Melbourne's most glamorous and avant-garde waterfront event space. Complimentary for all IUSTI delegates including Joint Registrants but excluding HIV/AIDS only, day registrations and guests - Ticket cost: A\$130. Tickets to be booked by Wednesday 11am.

Satellite Session: Gilead - Examining the Unique Doctor Patient Relationship in HIV Medicine

Thursday 18 October 2012, 7.00am – 8.25am Room 219 and 220, Melbourne Convention and Exhibition Centre

The relationship between clinician and PLHIV is a critical component to the success of HIV treatment, especially at the crucial decision points of treatment initiation and treatment switch and for ensuring successful maintenance of lifelong therapy. This symposium will examine recent Australian research providing a deeper understanding of the unique relationship that currently exists between PLHIV and HIV clinicians fifteen years on from the introduction of antiretroviral therapy (HAART).

Complimentary for all delegates including Joint Registrants. Limited space, registrations required.

Satellite Session: Janssen – Encompassing HIV: Virtual Medical Clinic

Thursday 18th October 2012, 5.30pm – 7.15pm Room 216, Melbourne Convention and Exhibition Centre

A HIV symposium with an expert multidisciplinary panel focusing on some hot topics in HIV delivered through a series of complex case studies. Case studies will focus on the complexities of initiating and switching of HIV regimens as well as ageing. Audience discussion and participation are encouraged.

Complimentary for all delegates including Joint Registrants. Registrations required.

O&A Event

Thursday 18 October 2012, 7.15pm – 9.30pm Room 219 and 220. Melbourne Convention and Exhibition Centre

Following on from the popularity of similar events over the last two years an intellectually stimulating and entertaining event will be held on Political Leadership in HIV.

Leadership has been identified by the UN and other agencies as one of the paramount determinants of effective HIV responses. But what exactly is meant by 'leadership'? Who is expected to demonstrate leadership and why is it so important? Or perhaps more importantly, why is it so frustratingly difficult at times? This evening a panel of leaders from across a wide range of disciplines and agencies who have been closely involved with the response to HIV, both internationally and within Australia, will consider these and other questions related to leadership. They may also be challenged to disclose how they would demonstrate leadership in some tricky situations.

The discussion will look at the serious side of leadership but also entertain with a more light-hearted approach some of these issues.

Seating is limited so tickets may not be available, see registration desk before 11am on Wednesday if interested in attending. Ticket cost: A\$44 for all attendees.

Case Presentation Breakfast

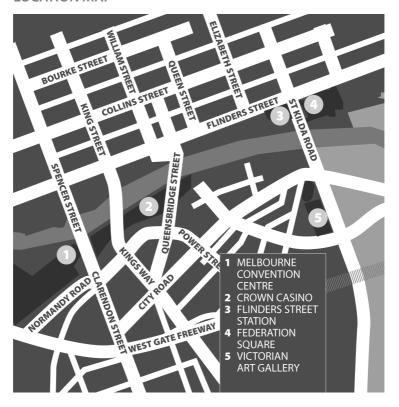
Friday 19 October 2012, 7.00am – 8.30am Room 219 and 220, Melbourne Convention and Exhibition Centre

Case presentations will take place at this early-morning session presented by trainees. Presenters will be asked to present their clinical case and a succinct literature review before taking questions from a panel of physicians and members of the audience.

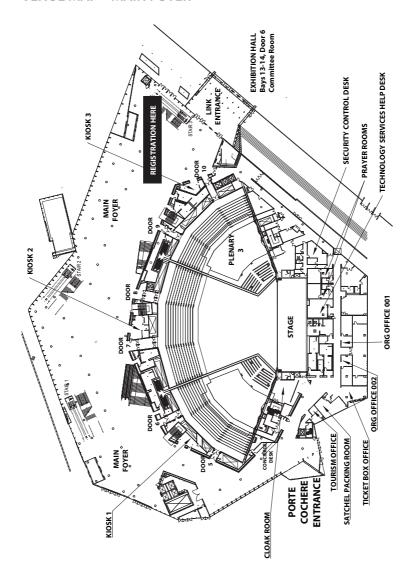
Ticket Cost: A\$30 for all delegates. Book tickets by Wednesday 11am

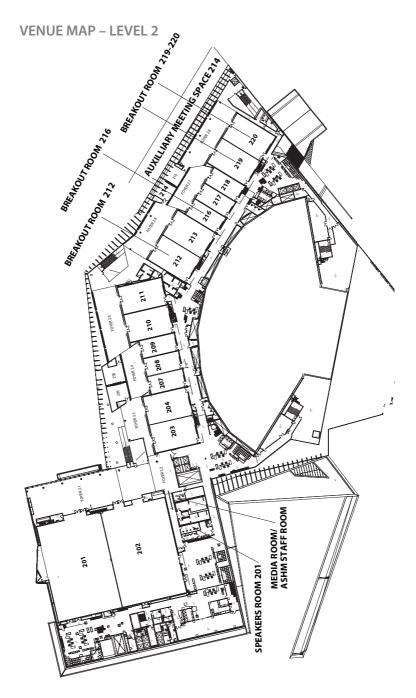
VENUE MAPS

LOCATION MAP



VENUE MAP – MAIN FOYER





EXHIBITION DIRECTORY

EXHIBITOR DIRECTORY

A17	Alere
Alere	As a leader in point-of-care diagnostics and platforms, Alere's focus areas include infectious diseases, cardiology, toxicology, oncology and women's health. In the field of HIV, the Alere DetermineTM HIV-1/2 rapid test has been used globally for over a decade. This product, together with Alere PimaTM CD4, a portable system which generates a CD4 count in only 20 minutes from a fingerstick sample, is enabling physicians to test and treat at the point-of-care, thereby enhancing patient management.
	Alere is committed to supporting patients and clinicians; and has partnered with the not for profit organisation, Population Services International (PSI), in a campaign called Make (+) More Positive as a vehicle to donate up to one million HIV tests.
	Alere Australia +61 7 3363 7100 Phone +61 7 3363 7199 Fax 1800 622 642 Freecall (in Aus) au.enquiries@alere.com www.alere.com.au
В6	Australasian Society for HIV Medicine
Supporting the HIV, Viral Hepatitis and Sexual Health Workforce	The Australasian Society for HIV Medicine (ASHM) is a peak organisation of health professionals in Australia and New Zealand who work in HIV, viral hepatitis and sexually transmissible infections. ASHM draws on its experience and expertise to support the health workforce and to contribute to the sector. ASHM offers a comprehensive range of practical resources, education and training to support healthcare workers, including face-to-face training, online learning, publications and resources. ASHM LMB 5057 Darlinghurst NSW 1300
	Phone: (+61 2) 8204 0700 Fax: 02 9212 2382 email: ashm@ashm.org.au www.ashm.org.au

B7 Australian Research Centre In Sex, Health and Society



The Australian Research Centre in Sex, Health and Society (ARCSHS) is a centre for social research into sexuality, health, and the social dimensions of human relationships based at La Trobe University. It works collaboratively and in partnership with communities, community-based organisations, government and professionals in relevant fields to produce research that promotes positive change in policy, practice and people's lives.

ARCSHS specialises in community-focused, multidisciplinary research across the following priority areas:

- · Sex, gender and sexuality;
- Social research into blood-borne viruses and sexually transmissible infections;
- · International social research; and
- · Research into policy and practice.

Contact Details

Australian Research Centre in Sex, Health and Society La Trobe University, 215 Franklin Street Melbourne, Victoria 3000 Australia T: (+61 3) 9285 5382 F: (+61 3) 9285 5220

F: (+61 3) 9285 5220 E: arcshs@latrobe.edu.au

E: arcshs@latrobe.edu.au www.latrobe.edu.au/arcshs

A1 Australian Therapeutic Supplies



Four Seasons Condoms are Australian owned and a brand you can trust. Four Seasons condoms are proudly owned and distributed by Australian Therapeutic Supplies. We are 100% Australian owned and operated company established in 1984

Australian Therapeutic Supplies has been promoting 'Safe Sex' and condom research and development since 1987. The Four Seasons range is one of the best quality brands available today here in Australia.

Australian Therapeutic Supplies is a quality endorsed Company to IS09001 and this is just one of the many ways we ensure customers receive the very best quality and service, which we strive and pride ourselves to do so.

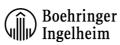
Four Seasons condoms are developed in the latest, high-tech facilities using modern latex casting and compounding techniques and are designed to be among the best quality condoms in the world. Every single condom we supply here at Australian Therapeutic Supplies is individually electronically tested to comply with ISO4074-20002(E).

Australian Therapeutic Supplies PTY LTD 5/25 George Street North Strathfield NSW 2137 PH: 02 9743 6144 FAX: 02 9743 6244

EMAIL: Joshua@australiantherapeutic.com

B1

Boehringer Ingelheim



Boehringer Ingelheim is committed to active involvement and practical answers for people living with HIV. The fight against HIV/AIDS extends to resource-poor settings. where Viramune® (nevirapine) has been donated to treat more than1,747,000 mother-child pairs 170 programmes in 60 countries through the Viramune Donation Programme. Boehringer Ingelheim is also proud to be a member of the Collaboration for Health in PNG (CHPNG). The CHPNG is the initiative of a group of Australian pharmaceutical companies who are dedicated to making a philanthropic contribution towards improving the health and wellbeing, and political and social stability of Australia's nearest neighbour and is currently working with its partners to provide education and support to health care workers in PNG.

PO Box 1969, Macquarie Centre NORTH RYDE NSW 2113 Phone: 61 2 8875 8833 Fax: 61 2 8875 8712

B2

Bristol-Myers Squibb



Bristol-Myers Squibb is a global biopharmaceutical company whose mission is to discover, develop and deliver innovative medicines that help patients prevail against serious diseases. Around the world, our medicines are helping millions of patients in their fight against such diseases as cancer, cardiovascular disease, diabetes, hepatitis B, HIV/ AIDS, psychiatric disorders and rheumatoid arthritis. And our philanthropic programs have given new hope to some of the most vulnerable people in the world.

As a BioPharma leader, we believe it's our commitment to help patients prevail over serious diseases and our focus on finding innovative medicines to combat those diseases.

Bristol-Myers Squibb Pharmaceuticals 556 Princes Hwy, Noble Park North VIC 3174 Tel.:+61 3 9213 4100 Fax:+61 3 9701 1526 Email: contact.australia@bms.com

A15

Burnet Institute



Burnet Institute is an Australian, not-for-profit, unaligned and independent organisation that links medical research with public health action to achieve better health for poor and vulnerable communities in Australia and internationally. Across research, education and public health, Burnet focuses on six key themes: infectious diseases, including HIV/AIDS; alcohol, drugs and harm reduction; immunity, vaccines and immunisation; maternal and child health; sexual and reproductive health; and young people's health, to make a difference by applying our research outcomes to everyday health problems that impact on millions of people around the world.

Burnet Institute
Paul Rathbone, Head of Public Affairs and Development
Email: prathbone@burnet.edu.au
Phone: +61 3 9282 2113

A7	Headjam
Headjam	The name Headjam means 'the coming together of ideas, a collective input, the brainstorm'.
Focused visual communication.	Headjam is a creative agency that exists because we are passionate about people and the community. We believe in the power of great creative and how it can change the world for the better. Our focus is producing successful campaigns for the health, education, community and art sectors. We collaborate with our clients giving their campaigns a voice and making sure they get noticed. How do we accomplish this? Through app design and development, web, print and broadcast mediums.
	Welcome to Headjam, a new way to communicate. We look forward to meeting you.
C1	MSD Australia
MSD Consumer Care	Today's MSD is a global healthcare leader working to help the world be well. MSD is a tradename of Merck & Co., Inc., with headquarters in Whitehouse Station, N.J., U.S.A. Through our prescription medicines, vaccines, biologic therapies, and consumer care and animal health products, we work with customers and operate in more than 140 countries to deliver innovative health solutions. We also demonstrate our commitment to increasing access to healthcare through far-reaching policies, programs and partnerships. For more information, visit www.msd-australia.com.au. Merck Sharp and Dohme (Australia) Pty Limited 66 Waterloo Road, North Ryde NSW 2113 (02) 8988 8000
A6	NAPWA and AFAO
napwa national association of people living with HIV/AIDS	The National Association of People Living with HIV/AIDS (NAPWA) is Australia's peak non-government organisation representing community-based groups of people living with HIV. NAPWA provides advocacy, effective representation, policy, health promotion and outreach on a national level. Our work includes a range of health and education initiatives that promote the highest quality standard of care for HIV positive people. NAPWA contributes to clinical and social research into the incidence, impact and management of HIV. We strive to minimise the adverse personal and social effects of HIV by championing the participation of positive people at all levels of the organisation's activity. Web address: www.napwa.org.au



Australian Federation of AIDS Organisations (AFAO) is

the national federation for the Australian HIV community response - providing leadership, coordination and support to Australia's policy, advocacy and health promotion response to HIV. Internationally we contribute to the development of effective policy and programmatic responses to HIV in South-East Asia and the Pacific.

The effectiveness of Australia's response to HIV has been built on the partnership of governments, affected communities, community-based organisations, researchers and health professionals. Sustaining the strength of the partnership is now particularly important given the potential offered by recent scientific findings for HIV prevention and improved health outcomes for people living with or at risk of HIV.

AFAO works in partnership with its members - utilising and complementing national members' policy and advocacy expertise and leadership; and drawing on its State/Territory members' programmatic expertise.

Web address: www.afao.org.au

D₁

ViiV Healthcare



We are ViiV Healthcare - a global specialist HIV company established by GlaxoSmithKline and Pfizer to deliver advances in treatment and care for people living with HIV. Our company is 100% dedicated to the area of HIV and we aim to take a deeper and broader interest in HIV/AIDS than any company has done before. Our focus is to deliver effective and new HIV medicines and to provide support for the communities affected by the epidemic.

In Australia, ViiV Healthcare has been involved in supporting research through investigator initiated and pivotal clinical studies. Globally, ViiV Healthcare has been actively involved in expanding access to treatment in resource poor settings through compassionate supply programs and royalty free licensing agreements to 69 countries for our current and future products.

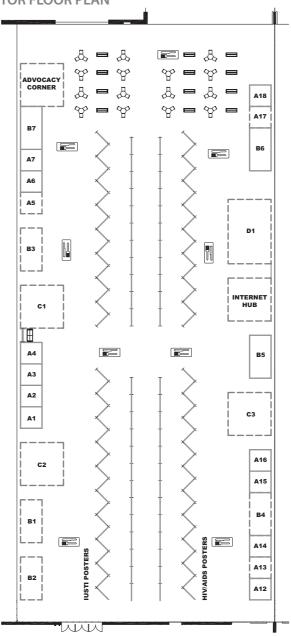
For more information visit www.viivhealthcare.com Ph: 1800 499 226 Fax: 03 8761 2456

EXHIBITION BOOTH LISTING

Booth Number	Company
A5	Abbott
A17	Alere
B7	Australian Research Centre in Sex, Health and Society
B6	Australasian Society for HIV Medicine
A18	ASHM International
A1	Australian Therapeutic Supplies
B2	Bristol-Myers Squibb
B1	Boehringer Ingelheim
A15	Burnet Institute
C2	Gilead
A7	Headjam
C3	Janssen
C1	MSD Australia
A6	NAPWA and AFAO
A16	The National Centre in HIV Social Research
D1	ViiV Healthcare

Additional exhibitors for the IUSTI Congress will also be available on Wednesday 17 October.

EXHIBITOR FLOOR PLAN



PREZISTA (darunavir) once-daily...

66 Once-daily DRV/r 800/100mg was non-inferior in virologic response to twice-daily DRV/r 600/100mg at 48 weeks in treatment-experienced patients with no DRV RAMs*, and with a more favorable lipid profile. These findings support use of once-daily DRV/r in this population.
50 DIN, Cahn P 2011¹

*Darunavir resistance associated mutations: V111, V321, L33F, I47V, I150M, I50V, I54L, T74P, L76V, I84V, L89V¹



PBS Information. This product is listed on the PBS as a Section 100 item. PREZISTA (darunavir) once-daily is not reimbursed in Australia for treatment naive patients. Refer to PBS Schedule for full authority information.

Please review product information before prescribing (available at ianssen-cilag.com.au) PREZISTA® darunavir MINIMUM PRODUCT INFORMATION (150 mg, 300 mg and 400 mg tabléts) INDICATIONS: HIV-1 Protease Inhibitor, HIV-1 infection (with low dose ritonavir and other antiretrovirals) in adults and treatment-experienced children (6 years and over, >20 kg). *DOSE: Adults: 800 mg once daily with ritonavir 100 mg once daily with food for antiretroviral treatment-naive patients, antiretroviral treatment-experienced patients with no darunavir resistance associated mutations and HIV-1 RNA<100, 000 copies/mL, antiretroviral treatmentexperienced but protease inhibitor-naive for whom genotype testing unavailable; **600 mg twice daily** with ritonavir 100 mg twice daily with food for antiretroviral treatment-experienced patients with one darunavir resistance associated mutations, protease inhibitor-experienced for whom genotype testing unavailable, antiretroviral treatment-experienced patients with HIV-1 RNA ≥ 100,000 copies/mL. Children: over 40 kg: 600 mg (2 x 300 mg tablets) twice daily with 100 mg ritonavir and with food; 30 kg to 40 kg: 450 mg (3 x 150 mg tablets) twice daily with 60 mg ritonavir and with food. **CONTRAINDICATIONS:** Darunavir hypersensitivity, concomitant use with CYP3A substrates with narrow therapeutic indices (see Interactions and full PI); ritonavir contraindications due to requirement for ritonavir coadministration. **PRECAUTIONS: Hepatotoxicity:** Drug-induced hepatitis has been reported, monitor liver function before and during treatment, caution in patients with liver dysfunction, Hep B or Hep C; severe skin reactions: SJS, TEN, and rash have been reported, discontinue if signs of severe skin reactions, caution with sulfonamide allergy; haemophilia: increased bleeding; diabetes mellitus/hyperglycaemia; fat redistribution and metabolic disorders; immune reconstitution inflammatory syndrome; special populations: elderly, paediatric patients under 6, severe hepatic impairment, renal impairment. Use in Pregnancy: Category B2, do not breastfeed. INTERACTIONS: Contraindicated: antiarrhythmics, *alfuzosin, sildenafil (when used for treatment of pulmonary arterial hypertension), rifampicin, ergot derivatives, St. John's wort, midazolam, triazolam, lopinavir/ritonavir, saquinavir, anticonvulsants, simvastatin. Dose adjustment: didanosine, indinavir, warfarin, clarithromycin, antifungals, rifabutin, calcium channel blockers, corticosteroids, oral contraceptives, atorvastatin, pravastatin, rosuvastatin* immunosuppressants, methadone, PDE-5 inhibitors, selective serotonin reuptake inhibitors (SSRIs), *salmeterol, bosentan, colchicine. See full Pl. **ADVERSE EFFECTS:** Common (\$\sum 5\%): diarrhoea, nausea, abdominal pain, headache, *rash, vomiting, biochemical and haematological laboratory abnormalities. Less frequent: drug hypersensitivity, hepatitis, hepatotoxicity, SJS, lipodystrophy, osteonecrosis, TEN. See full Pl. *PRESENTATION: 240 tablet bottle (150 mg), 120 tablet bottle (300 mg), 60 tablet bottle (400 mg). Store below 30°C. Date of preparation: 20 April 2012. PBS dispensed price: 600 mg (120 tablets) \$2097.42; 400 mg (120 tablets) \$1398.28; 150 mg (240 tablets) \$1048.71.

*Please note change(s) presented as *italicised text in Product Information.

1. Cahn P et al. AIDS 2011;25:929-939. Janssen-Cliag Pty Ltd, ABN 47 000 129 975, 1-5 Khartoum Road,
Macquarie Park NSW 2113. *PREZISTA is a registered trademark of Tibotec Pharmaceuticals Ltd. AU-PREGIOS9



CONFERENCE PROGRAM

WEDN	WEDNESDAY 17 OCTOBER				
7.00am	Registration Melbourne Convention Centre, Foyer Plenary 3	nary 3			
7.00am-	Penelope Lowe Trainee Update	7.00am-	7.00am- Satellite Session - MSD	7.00am-	
8.30am	Breakfast	8.25am	HIV and The Brain	8.30am	Nurses Association (ASHHNA) Breakfast Annual General Meeting
	Room: 212		Room: 219 and 220		Room: 214
	Chair: Dr Carole Khaw, Dr Ian Denham,		Chair: Bruce Brew		Chair: Donna Tilley
7 00am-	_	7 Olam –	Arrivals and Breakfast	7 Olam-	Nursing in Remote Aboriginal
7.15am		7.10am		8.30am	Communities: Successes and challenges
7.15am-	Chair Introduction	7.10am-	Chair introduction		coordinating a comprehensive sexual
7.20am	Dr Carole Khaw	7.15am	Professor Bruce Brew		health program
7.20am-	Sex or drugs: What's going to kill you	7.15am-	Case presentation		Ms Annie langey, Coordinator Sexual
7.35am	first? A case study of harm minimisation 7.25am	7.25am	Dr Nenad Macesic		Health Programme, Ngaanyatjarra Health
	Dr Janet Towns, Forensic Physician,				Service
	Victorian Institute of Forensic Medicine;				
	Family Planning Australia, VIC, Australia				
7.35am-	Delayed diagnosis of secondary syphilis: 7.25am-	7.25am-	HIV and the Brain: Clinical features from		
7.50am	Two biopsies and three organs	7.50am	go to whoa		
	Dr Rohan Bopage, Infectious Diseases and		Dr Edwina Wright		
	Sexual Health Registrar, Prince of Wales				
	Hospital, Sydney, NSW, Australia				
7.50am-	i-	7.50am-	HIV and the Brain: Implications for cure		
8.05am		8.15am	strategies		
	- case presentation and literature review		Professor Sharon Lewin		
	Dr Jennifer Hayward, Registrar, Wellington				
	Sexual Health Service, Wellington, New				
	Zealand				
8.05am-	Anal cancer in HIV positive MSMs: It's	8.15am-	Q&A		
8.20am	time to restart the conversation	8.25am			
	Dr Jason Ong, PhD Candidate, Prahran				
	Market Clinic, Melbourne Sexual Health				
	Centre, Melbourne, VIC, Australia				
8.20am-	Discussion				
8.30am					
Make wa	Make way to conference opening plenary in Plenary 3 using Door 15 and 16 from Level One	y 3 using D	oor 15 and 16 from Level One		
		,			

8.30am- 10.10am	8.30am— HIV/AIDS Conference Opening and Joint Conference Plenary - sponsored by the Department of Health and Ageing 10.10am Feasibility of HIV Prevention and Cure	onference	e Plenary - sponsored by the Department of	Health and Ageing	
	Room: Plenary 3, Door 4 on Lower Ground Chairs: Damian Purcell and Prasada Rao V.R. Jonnalagadda	lonnalaga	dda		
8.30am- 8.35am	Welcome to Country				
8.35am-	Opening address by Government Official				
8.40am	Hon David Davis, Minister of Health, Victoria				
8.40am-	ACTION on HIVI- The Melbourne Declaration	u.			
8.45am					
8.45am-	The value of being seen and heard				
8.50am	Ji Wallace, Silver medalist Olympic Games Sydney 2000	dney 200	0		
8.50am-	An approach to vaccines for highly variable pathogens	e pathog	ens		
9.10am	Professor Dennis Burton, Department of Imr	nunology	Professor Dennis Burton, Department of Immunology and Microbiology, The Scripps Research Institute, USA	ute, USA	
9.10am-	The Global Fund: Prescence and impact in the Asia-Pacific	the Asia-	Pacific		
9.30am	Bill Bowtell AO, Executive Director, Pacific Fri	ends of th	Bill Bowtell AO, Executive Director, Pacific Friends of the Global Fund to fight AIDS, Tuberculosis and Malaria, NSW, Australia	Malaria, NSW, Australia	
9.30am-	The new era of HIV treatment as prevention: Will behavior trump biology	n: Will be	havior trump biology?		
9.50am	Professor Seth C. Kalichman, Professor of Psychology, University of Connecticut, USA	chology, l	Jniversity of Connecticut, USA		
9.50am-	Prospects for an HIV cure				
10.10am	Dr Steven G. Deeks, MD, Professor of Medicine, University of California, San Francisco, USA	ne, Univer	sity of California, San Francisco, USA		
	Billum Project				
	Damian Purcell				
10.10am-	10.10am Morning Tea in Exhibition and Poster Area				
11.00am	11.00am Exhibition Hall, Bays 13 - 14, Door 6				
10.15am-	10.15am The Kirby Institute and NCHSR Surveillance Reports Launch	e Reports	Launch		
10.45am	10.45am Room 2.19 and 220	:			
10.30am-	10.30am- Advocacy Corner Discussion - Exhibition Hall 10.45am Ryan Shaith Kenya Aid	all a			
11 00am	ion.	11 00am	11 Olem Loint Symposium Session:	11 Olem HW/AIDS Conference - Basir Science Session	eir Science Section
12.30pm		12.30pm		1230pm On the path to translation: ACH2 Studies Sponsored by ACH2	ion: ACH2 Studies
	Room: Plenary 3 Chairs: Angela Bobinson and Edwina Wright		Room: 219 and 220 Chairs: Yanri Subronto and Stephen McNally	Room: 212 Chaire: Anthory Cunningham and Mira John	am and Mina John
000		00 7	-		
11.20am– 11.20am	Place of screening using cytology and HKA Professor Joel Palefsky, Professor of Medicine, Division of Infectious Diseases, University of California, San Francisco, USA	11.20am– 11.20am	Children are the Inture: Desire of parenthood among HIV-positive people in West Java 1 Mr Inwan Hidayana, Center of Gender and Sexuality Studies, University of Indonesia	11.00am – Development of Nuclear import 11.15am inhibitors as anti-HIV agents Kylie Wagstaff	gents

11.20am– 11.40am	Epidemiology of anal HPV, pre-cancerous 11.20am–lesions, and cancer: Implications for anal 11.40am cancer screening Professor Andrew Grulich, Head, HIV Epidemiology and Prevention Program, The Kirby Institute, The University of New South Wales, NSW, Australia	11.20am– 11.40am	11.20am	11.30am	11.15am Amutant Tat protein provides strong 11.30am protection from HIV-1 infection in human CD4+ T cells David Harrich
11.40am– 12.00pm	Screening HIV positive homosexual men with annual anal examinations for detection of early anal cancer DrTim Read Sexual health physican, Melbourne Sexual Health Centre: Victorian Infectious Diseases Service, Melbourne, VIC, Australia	11.40am– 12.00pm	STI/HIV knowledge, attitudes and behavior: Evidence from the 2010 transition to adulthood survey of Greater Jakarta Dr Iwu Utomo, Australian National University, Canberra, ACT, Australia	11.30am– 11.45am	Reduced effectiveness of the NRTIs D4T and AZT in Astrocytes: Implications for Neurocart Lachlan Gray
12.20pm-	Should we be screening for anal cancer? Issues to consider Associate Professor Jane Hocking, University of Melbourne, VIC, Australia	12.20pm-	Should we be screening for an al cancer? 12.00pm - 12.20pm Provision of friendly and convenience MSM 11.45am - 12.00pm Expression of HIV-1 TAT by an internal list and internal lis	11.45am-	Expression of HIV-1 TAT by an internal ribosome entry mechanism reveals a novel pathway for TAT trans-activation from latent provirus Jonathan Jacobson
12.30pm 12.30pm	2.30pm – Discussion	12.20pm- 12.30pm	12.30pm Discussion	12.00pm- 12.15pm 12.15pm- 12.30pm	12.00pm Determining the mechanism by which HIV 12.15pm blods interferon induction in dendritic cells Andrew Harman Mucosal uptake mechanisms of recombinant 12.30pm HIV-1 fowl poxvirus vaccines and safety following intranasal delivery Shubbanshi Trivedi
12.30pm 1.30pm 1.00pm-	12.30pm Lunch in Exhibition and Poster Area 1.30pm Exhibition Hall, Bays 13 - 14, Door 6 1.00pm ASHM AGM 1.45pm Room 212				
1.00pm- 1.45pm	Advocacy Corner Discussion - Exhibition Hall Scarlet Alliance, Australian Sex Workers Asso	lall sociation	Advocacy Corner Discussion - Exhibition Hall Scarlet Alliance, Australian Sex Workers Association: Mandatory testing, titled, Mandatory Testing: Evidence demonstrates failure	ing: Evide	nce demonstrates failure

= 700+	1.45pm Room: Plenary 3, Door 4 Lower Ground				
	Chairs: Robert Monaghan and Victor Tawil				
-ma00.	Developing multimedia resources in colla	aboration	Developing multimedia resources in collaboration with young Aboriginal people to improve sexual health in remote and urban Australia	sexual hea	Ith in remote and urban Australia
1.15pm	Mr Michael Borenstein, Centre For Disease (Control, Se	Mr Michael Borenstein, Centre For Disease Control, Sexual Health and Blood Borne Virus Unit, Darwin, NT, Australia	win, NT, Au	stralia
.15pm-	Smart and Deadly! Community ownership	p, collabo	Smart and Deadly! Community ownership, collaboration, and cultural respect for effective Aboriginal sexual health promotion	original se	exual health promotion
.30pm	Ms Kylie Stephens, Centre for Excellence in Rural	l Sexual Hea	Ms tylie Stephens, Centre for Excellence in Rural Sexual Health, The University of Melbourne, Mc, Australia and Mr Peter Waples-Growe, VACCHO, MC, Australia	Australia and	d Mr Peter Waples-Crowe, VACCHO, VIC, Austra
.30pm-	The NSW Aboriginal Sexual and Reproduc	ctive Heal	The NSW Aboriginal Sexual and Reproductive Health Program: Engaging Youth through Innovation	vation	
.45pm	Ms Dina Saulo, Aboriginal Health and Medical Research Council, NSW, Australia	cal Resear	ch Council, NSW, Australia		
2.00pm-	Joint Symposium Session: 2.00pm-STI Management in Indigenous Communities 3.30pm	2.00pm-	2.00pm	2.00pm-	HIV/AIDS Conference - Theme A Symposia: Correlates of protection and a vaccine design
	Room: Plenary 3		Room: 219 and 220		Room: 212
	Chairs: Nathan Ryder and James Ward		Chairs: Edward Reis and Heather Worth		Chairs: Damian Purcell and Rob Center
2.00pm-	An outbreak of infectious syphilis amongst	2.00pm-	HIV in Asia – Transforming the agenda for 2.00pm-	2.00pm-	Neutralizing targets on HIV
2.15pm	young Aboriginal and Torres Strait Islander	2.10pm	2012 and beyond. Report of a joint strategic 2.30pm	2.30pm	Professor Dennis Burton, Department of
	people in Far North West Queensland		assessment in ten countries. June 2012		Immunology and Microbiology, The
	Dr Arun Menon, Townsville Sexual Health		Jackie Mundy, AusAID Health Resource		Scripps Research Institute, USA
	Service, Queensland Health, QLD, Australia		Facility (HRF)		
2.15pm-	Chlamydia trachmonatis, neisseria	2.10pm-	Moderated Panel Discussion		
2.30pm	gonorrhoea and trichomonas vaginalis	3.30pm	Prasada Rao V.R. Jonnalagadda, UN		
	incidence in remote Australian Aboriginal		Secretary General's Special Envoy for		
	communities: Findings from the STRIVE Trial		AIDS in the Asia Pacific Region		
	Ms Bronwyn Silver, Menzies School of		Narciso Fernandes, National HIV/AIDS		
	Health Research, NT, Australia		Program Manager, CDC Department.		
2.30pm-	Measuring the impact of STI and HIV		Ministry of Health, Timor Leste	2.30pm-	Protection from HIV: Potential role of
2.45pm	control strategies: Experiences from		David Fowler Special Projects Officer	3.00pm	antibody-dependent cellular cytotoxicity
	remote communities		David Lowier, special Florens Officer,		(ADCC) antibodies in protective immunity
	Professor John Kaldor,		Australasian society for this medicine,		Professor Stephen Kent, Department of
	The Kirby Insitute, NSW, Australia		INDAW, Australia		Microbiology and Immunology, University
2.45pm-	-				of Melbourne, VIC, Australia
3.00pm	gonorrhoea infections in remote				
	Aboriginal communities: The Test,				
	Treat ANd GO- the "TTANGO" Trial				
	Dr Rebecca Guy, Senior Lecturer,				
	The Kirby Institute, NSW, Australia				
3.00pm-	The GOANNA Project: Condom use			3.00pm-	Promising HIV-1 vaccine strategies to enhance
3.15pm	among young Aboriginal and Torres			3.30pm	mucosal immunity and CD8 T cell avidity
-	Strait Islander people			-	Dr Charani Rangasinghe, Fellow and
	Ms Dina Saulo, Aboriginal Health and				Group Leader, Molecular Mucosal Vaccine
	Medical Research Council, NSW, Australia				Immunology Group, The John Curtin
3.15pm-	Discussion				School of Medical Research, Australian
3 3000					- + H) +

3.30pm- 4.00pm	3.30pm – Afternoon Tea in Exhibition and Poster Area 4.00pm Exhibition Hall, Bays 13 - 14, Door 6
4.00pm- 5.30pm	4.00pm - 13th IUSTI World Congress and 2012 Australasian Sexual Health Conference Closing and Joint Conference Session 5.30pm Where to from Here?
	Room: Plenary 3
	Chairs: Richard Hillman and David Lewis
4.00pm-	4.00pm Indigenizing HIV
4.30pm	Ms Marama Pala, Executive Director of INA (Mãori, Indigenous & South Pacific) HIV/AIDS Foundation, New Zealand
4.30pm-	4.30pm Is an AIDS-Free Generation Feasible: Science vs. Reality
5.10pm	Professor Thomas Quinn, Professor of Medicine and Director, Center for Global Health, Johns Hopkins University Associate Director of International
	Research, and Head of the Section on International HIV/STD Research, NIAID, NIH, USA
5.10pm-	5.10pm- Prize Presentations and Closing Remarks
5.20pm	Professor Richard Hillman, President, Australasian Chapter of Sexual Health Medicine, Sydney, NSW, Australia
5.20pm-	5.20pm - Closing Remarks by IUSTI President
5.25pm	5.25pm Dr Raj Patel, President- IUSTI, Genito Urinary Medicine, The Royal South Hants Hospital, England
5.25pm-	Presentation of next years' conference
5.30pm	5.30pm Dr Nathan Ryder, 2013 Australasian Sexual Health Conference Committee Local Representative
5.30pm-	5.30pm – HIV/AIDS Conference Welcome Reception and Poster Viewing Evening
6.30pm	6.30pm Exhibition Hall, Bays 13 - 14 Drinks and canapes will be served
7.00pm-	7.00pm – IUSTI and Sexual Health Conference Gala Dinner - Peninsula Docklands
11.00pm	

THUR	FHURSDAY 18 OCTOBER
7.00am	7.00am Registration, Foyer Plenary 3
7.00am- 8.25am	7.00am – Satellite Session - Gilead S.25am Examining the unique doctor patient relationship in HIV medicine
	Room: Meeting Room 219 and 220
	Chair: Darren Russell
7.00am- 7.15am	Breakfast served
7.15am-	Welcome and Introduction
7.20am	Professor Darren Russell
7.20am-	Summary of Tracking Changes research
7.35am	Dr Jeffrey Grierson
7.35am-	What's working and what needs to change? A physicians perspective
7.50am	Dr Edwina Wright
7.50am-	What's working and what needs to change? A community perspective
8.05am	Mr Simon O'Connor
8.05am-	What's working and what needs to change? Panel and Audience discussion
8.25am	
8.30am- 10.00am	8.30am- HIV/AIDS Conference Plenary 10.00am Factors in Viral Control
	Room: Plenary 3, Door 4 Lower Ground
8.30am-	
9.00am	Dr Guido Silvestri, Professor of Pathology, Emory University and Chief, Division of Microbiology & Immunology, Yerkes National Primate Research Center, USA
9.00am-	Where are we in HIV reduction among gay, bisexual, and other men who have sex with men?
9.30am	Professor D. Barry Adam, University Professor, Department of Sociology, Anthropology and Criminology, University of Windsor, and Senior Scientist and Director
	of Prevention Research, Untario HIV Treatment Network, Lanada
9.30am-	HIV and HCV Coinfection: Breaking down the barriers
10.00am	Dr Gail Matthews, Clinical Academic, HIV/Infectious Diseases, St Vincent's Hospital; Senior Lecturer, Viral Hepatitis Clinical Research Program, Kirby Institute, NSW, Australia
10.00am- 10.30am	10.00am– Morning Tea in Exhibition and Poster Area 10.30am Exhibition Hall, Bays 13- 14, Door 6

	10.30am Aboriginal and Torres 12.30pm Strait Islander Symposium Room: 212 Chairs: John Kaldor and Robert Monachan		10.10am use and HIV prevalence among indigenous and among indigenous and non-indigenous and non-indigenous as australian gay and bisexual men Martin Holt, Senior Research Fellow, The University of New South Wales, NSW, Australia	11.10am Supporting BBV 11.30am Prevention & Capacity Building in relation to Aboriginal People & Injecting Drug Use Annie Madden, Executive Officer, Australian Injecting & Illicit Drug Users League (AIVL),
	Theme A Proffered Paper Session: Pathogenesis: Go to Woe Room: 216 Chairs: Gilda Tachedjian and Bruce Brew		Systems Biology of HIV/ AIDS, Howard Hughes Medical Institute, Early Career Scientist, Nelson R Mandela School of Medicine, University of KwaZulu-Natal, South Africa	11.05am early 19G2 antibody response to pneumo-coccal polysacharides in HIV patients is associated with B-cell activation (#895)
	er 10.30am− 12.30pm e	<u>o</u>	eal sissing w	
	Theme C Proffered Paper Session - Sponsored by AusAID: HIV in the Asia/Pacific Region Room: 220 Chairs: Agnes Gege and Stephen McNailly	0.30am - Community leader's 10.45am attitudes toward male circumcision for HIV prevention in Papua New Guinea (#106) Lester Asugeni	11.00am people": Socio-cultural and people": Socio-cultural and individual determinants for motivation of sexual health workers in Papua New Guinea and their implications for male circumcision as an HIV prevention strategy in Papua New Guinea (#575)	11.05am Concurrency of sexual 11.15am partners and condom use of highway truck drivers in Papua New Guinea (#974) Holly Buchanan and Angelyn Amos
	10.30am– 12.30pm			11.00am– 11.15am
	Theme D Proffered Paper Session: Positive Living Diversity Room: 219 Chalis: Asha Persson and Gary Dowsett	1030am understanding 1050am motivations of health and lifestyle choices in PLHIV: Qualitative data from the Healthmap project (#940) Karalyn McDonald	11.10am methodology to explore experiences of HIV treatments among PLHV in the Pacific Islands (#884) Rebecca Kubunavanua	
~	10.30am- 12.30pm	* '	10.50am 11.10am	
HURSDAY 18 OCTOBER	O30am Session: Early antietroviral treatment Room: Plenary 3 Chairs: Jenny Hoy and Jeffrey Post	0.30am- HIV therapy: 1.10am When to start Dr Steven G. Deeks, MD, Professor of Medicine, University of California, San Francisco		

		1130am - It's all about relation- 1150am ships - Forming a partnership in chronic disease management no marter what it takes Marisa Giles, Midwest	Public Health Phsycian, Northern and Remote Country Health Service, WA, Australia	1150am An escalating HIV 1205pm epidemic in Aboriginal and Torres Strait Islander people is unlikely, but vigilance is required (#459) Richard Gray, The Kirby Institute, Sydney, NSW, Australia	1230pm 1230pm
	11.05am HIV RNA dynamics in 11.02am plasma and cerebrospinal fluid in HIV patients from Durban South Africa who develop crypto-coccosis-associated immune reconstitution inflammatory syndrome (C-IRIS) after initiation of combination anti-retroviral Herapy (CART) (#943) Richard Kangethe	Critical role for mono- cytes in mediating HIV-specific antibody- dependent cellular cytotoxicity (#1034) Stephen Kent	11.35am- Primary HIV-1 infection 11.50am (PHI) is associated with reduced CD4 counts in terminal ileum biopsies but not other gut biopsy sites (#734) John Zaunders	The influence of HIV-1 infection on the miRNA profiles of monocytes (#988) Daniel Murray	Comparable antiviral capacity but favorable exhaustion profile of CD8s from elite controllers compared to untreated progressors #975]
		1120am- ids 1135am	4 1 1		
	11.15am – Predictors of unprotected 11.30am anal intercourse with casual partners amongst men who have see with men & transgender in Fiji (#984) Patrick Rawstorne	The perceptions of condom and its uses amongst two highlands communities (#277)	Non-venue-based female sex workers in Chiang Mai, Thailand, reached through routine HIV surveillance for the first time, are a highly vulnerable hard-	to-reach population at urgent need for targeted HIV interventions (#240) Suvimon Tanpradech	12.05pm- Prevalence of HIV/STIs and associated factors among Men Who Have Sex With Men in An Giang, Vietnam (#1008) Duy Quang Pham
		11.30am– 11.45am	11.45am– 12.00pm		12.00pm- 12.15pm
	11.10am - Political determinants 11.30am of ART and PMTCT coverage (#686) Heather Worth	Infant feeding practice 11.30am The perceptions of for HIV positive 11.45am condom and its use mothers (#661) communities (#277 Richard Nake Trumb	11.50am – Living Positively: 12.10pm Lived experiences and intrapersonal issues of personal issues of persons living with HIV/AIDS (PLWHA) in Delhi, India (#81.2) Sangeeta Sharma Dhaor		12.30pm- Discussion
œ	11.30am 11.30am	11.30am– 11.50am	11.50am– 12.10pm		12.10pm- 12.30pm
THURSDAY 18 OCTOBER	1.10am – Early antiretroviral 1.50am therapy: Modelling the potential impact on the Australian epidemic Associate Professor David Wilson, Head of Surveillance and Evaluation Program, Kirby Institute, University of New South Wales, Sydney, NSW, Australia			Specialist, Albion Street Centre; Conjoint Senior Lecturer, UNSW, NSW, Australia Panel Discussions: Dr Steve Deeks, Dr Alan	Street, Professor Jenny Hoy and Bill Whittaker
THUR	11.50am 11.50am		11.50am– 12.30pm		

	12.15pm- Discussion 12.13pm- HIV prematurely 12.30pm 12.30pm induces age-related changes to monocytes in young HIV+men (#846) Ann a Hearps 12.23pm High glycolytic netabolism in CD4+T cells is associated with changes to monocytes in young HIV+men (#846) Ann a Hearps 12.23pm metabolism in CD4+T cells is associated with change is associated with change in the change in the change is associated with change in the cha	
12.30pm- L 2.00pm E	1230pm Lunch in Exhibition and Poster Area 2.00pm Exhibition Hall, Bays 13 - 14, Door 6	
1.00pm - N	1.00pm – Masterclass - HIV Molecular Virology 1.45pm Room 212	
	Triesenists. Each and said and wilclider nothing Durinet institute, viv., Abbudia	
1.45pm R	Masterclass - Early Career Forum Room 216	
	Facilitator: Paul Cameron	
<u>a</u> a	Presenters: Guido Silvestri, Yerkes National Primate Research Center, USA; Dennis Burton, The Scripps Research Institute, USA and Miranda Xhilaga, Prostate Cancer Foundation, VIC Australia	laga,
1.00pm-	1,00 pm. Masterclass - Clinical Research Workshop for Recional Practitioners: How to submit a successful abstract to the Melbourne 2014 World AIDS Conference	onference
1.45pm R	145pm Room 220	
Ъ	Panellists: Edwina Wright, Edward Reis, Christina Chang, Julian Elliott, John Milan and Kathy Petumenos	
1.00pm- N	Masterclass - HIV Community and Researchers Workshop: Getting it Together Room 219	
	Facilitator: Tim Moore, Nossal Institute, Melbourne University, VIC, Australia Presenters: Marama Pala, Executive Director, INA Foundation New Zealand; Martha Morrow, Nossal Institute, Melbourne University, VIC, Australia; Ele Morrison, AIVL, Canberra, ACT, Australia; Lee FitzRov, RhED, Melbourne, VIC, Australia; and Stephen McNally, ARCSHS, La Trobe University, Melbourne, VIC, Australia	Morrison, alia
1.00pm-	1.00pm - Advocacy Corner Discussion - Exhibition Hall	
1.45pm	Community participants will take part in a discussion amondst conference attendeds from the region including Indonesia. Working with MSM and HIV	≥H

SPONSORED SATELLITE SYMPOSIUM - What can we learn from the HV GP Workforce Project? Room: 212 Chair: Susan Kippax	200pm— Why do GP workforce 2.15pm issues matter to the future of HIV in Australia? Professor Michael Kidd AM 2.15pm— At the coalface and the 2.35pm cutting edge: Pathways into and rewards of providing HIV care in general practice Dr Christy Newman	235pm– What role can a Pacific 235pm No mainstream illness: 245pm television soap opera play in the HIV in general practice response? Challenging silences towards those most vulnerable (#89) Prysdale Robyn Drysdale	255pm- Engaging general 3.15pm practitioners with HIV medicine in an era of treatment v's prevention Professor John De Wit
2.00pm- 3.30pm	2.15pm 2.15pm 2.15pm- 2.35pm	2.35pm- 2.55pm	2.55pm- 3.15pm
Theme D Proffered Paper Session: Culture, Practice and HIV Room: 216 Chairs: Barry Adam and Sarah Huffam	Risk and 'Responsibility' 200pm- why do GP workforce in the narratives of women diagnosed with HIV (#51) Asha Persson Cultural beliefs, sex and pollution during pregnancy and breast-feeding: implications for the prevention of HIV during these times Priscilla Selon Off Risk and 'Responsibility' 2.15pm Australia? Australia? Australia? Australia? Australia? Australia? Australia?	What role can a Pacific television soap opera play in the HIV response? Challenging silences towards those most vulnerable (#89) Robyn Drysdale	Experiences of treatment among PLHIV in the Pacific Islands: A qualitative participatory study (#883)
2.00pm- 3.30pm	2.00pm 2.15pm 2.15pm 2.30pm	2.30pm– 2.45pm	2.45pm- 3.00pm
Theme C Proffered Paper Session in Honour of Liz Dax: New Approaches to NE Session in Testing Room: 220 Chairs: Colin Batrouney and Darryl O'Donnell	Switch Studies: The coop— Patterns of HIV testing labeled for informed algorian making around the risks and benefits and benefits and benefits and benefits low bone mineral density and markers to Rakets (#349) Winnie Tong Switch Studies: The native of HIV testing and benefits and pair lessing and barriers to few left and markers and benefits and benefi	2.35pm- New xpress HIV/STI 2.45pm screening clinic improves patient journey and clinic capacity at a large sexual heath clinic (#715) Vickie Knight	3.00pm Use home HIV testing? 3.00pm Experiences of (#593) Ren Bavinton Ben Bavinton Participatory s (#883) Luke Nayasa
2.00pm- 3.30pm	2.05pm 2.15pm 2.15pm 2.30pm	2.30pm- 2.45pm	3.00pm
Theme B Proffered Paper Session: Test, Treat and Switch Room: 219 Chairs: Jenny Hoy and Mark O'Reilly	Switch Studies: The need for informed decision making around the risks and benefits Jenny Hoy Switch from Tenofovir Cash Switch F	2.35pm performance of the determine HIV combo rapid test when used to test gay and bissual men for HIV in Sydney sexual health clinics (#882) Damian Conway	Ethnic/racial and gender differences in bone, body composition and renal function in HIV-infected people from middle-income countries (#599)
8.30pm-3.30pm	2.15pm 2.15pm 2.15pm 2.30pm	2.30pm- 2.45pm	2.45pm- 3.00pm
COOPTION CONTROLL OF THE MEAN OCTOBER 1990m— Theme A Symposium 2 1990m— In Honour of Nicholas 3 Deacon: Genetics in HIV Disease and Control Room: Plenary 3 Chairs: Guido Silvestri and Paul Cameron	dysregulation in HIV-1 2.15pm infection: Lessons from cohort studies and clinical trials Podessor Anthony Kelleher, Head, Immunovirologyand 2.15pm-Pathogenesis Program, The Kirby Institute, UNSW and St Vincent's Centre for Applied Medical Research, NSW,	Interleukin-7: Physiology, pathology 2.45pm and therapy in HIV infection Dr Marc Pellegrini, Laboratory Head, Infection and Immunity Division, Walter & Eliza Hall Institute, MC,	Australia
7HUR 2.00pm- 3.30pm	2.30pm 2.30pm	2.30pm- 3.00pm	

THUR	THURSDAY 18 OCTOBER	œ							
3.00pm-	3.00pm- Genetic studies	3.00pm-	3.00pm- Skeletal muscle toxicity 3.00pm- Rapid HIV testing	3.00pm	Rapid HIV testing	3.00pm-	3.00pm- Sexual Practices of	3.15pm-	3.15pm- Discussion and
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	sensory neuropathy in		combination anti-		men attending sexual		Horn of Africa in the		,
	HIV natients		retroviral therapy in		health clinics: Findings		Context of HIV/AIDS		
	Professor Patricia Price		HIV-infected adults (#292)		from the Sydney rapid		(#309)		
	School of Pathology		Frederick Lee and		HIV test study (#856)		Samuel Muchoki		
	and I aboratory Medicine		Andrew Carr		Damian Conway				
	University of Western	2 15nm	2 15 pm Corological recones	3 15nm		215nm	15pm Discussion		
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4.00pm	EXHIBITION HAII BAYS 13 - 14, DOOF O	- 14, Doc	910	3.45pm	study Report 2012				
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4.00pm-	Ineme D symbosium:	4.00pm		4.00pm	I neme С Proпегеd	4.00pm-	I neme A Proπегеd	4.00pm-	I neme в Proпегеd
5.30pm	Role of Culture	5.30pm	further)	5.30pm	Paper Session:	5.30pm	Paper Session: Cellular	5.30pm	
			on the Edge		HIV Epidemiology		Monkey Business		Heart and Mind
	Room: Plenary 3		Room: 219		Room: 220		Room: 216		Room: 212
	Chaire: Pracada Dao and		Car Oiroi Vi iio		Chaire: Les		Chaire: Champi Danascincha		Chaire: 1.100#0 Cyclollo
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	Edward Reis		Eugene Athan		Mark Stoove		and Robert Center		and Jeanine Irevyllian
4.00pm-	Everyday moral reason-	4.00pm-	4.00pm- Bridging the abyss	4:00pm-	A corner turned? Drop 4.00pm-	4.00pm-	Characterisation of	4.00pm-	4.00pm- Changes in metabolic,
4.15pm	ing in the govern-	4.15pm	Dr Lesley Voss,	4.15pm	in HIV diagnoses and	4.15pm	Simian Immuno-	4.15pm	4.15pm inflammatory and
					low rates of undiagnosed		deficiency Virus-		coaqulation biomarkers
	Professor D Barry Adam.		Dispasse Consultant		infection among MSM		infected cells in pigtail		after HIV sero-conversion-
	This is the Design of the Paris		Disease Collisation		i backet work ai		(#222)		the Health in Men
	University Professor,		Starship children's		In New Zealand In		macaques (#223)		the Health In Men
	Department of Sociology,		Hospital		2011 (#415)		wendy winall		(HIM) Biomarker
	Anthropology and		Auckland, New Zealand		Peter Saxton				sub-study (#832)
	Criminology, University								Amit Achhra
	of Windsor; and Senior								
	Scientist and Director								
	of Prevention Research.								
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THURSDAY 18 OCTOBER	4 15 000		11	Tronde in socialis	415pm	415mm Characteristics of CIV 415mm Causanises at	115000	30
4.30pm and the silencing of sexuality: Challenges in doing oral histories of older gay men in China Associate Professor Heather Worth, University of New South Wales, NSW, Australia	4.30pm and the silenting of exuality: Challenges in doing oral histories of older gay men in china Associate Professor Heather Worth, University of New South Wales, NSW, Australia Heath, Burnethin NIC, Australia exuality of New South Wales, NSW, Heath, Burneth Nuch, Heath, Burneth Nuch, Heath, Burneth Nuch, Heath, Burneth Nuch, Australia NIC, Australia	stralia Service sspital), Depart- ne, The boume; lation	4.30pm	rralia, 336)	430pm 430pm	Helper CD4 cells in Heretion of Toflicular 4.30pm cardiovascular risk score algorithms an Iymphoid tissues during pathogenic infection of pigtail macaques (#609) with Xu Yin Xu Xu Xi	430pm	cardiovascular risk score algorithms and their association with subclinical atherosciences in HIV-positive and negative individuals #693 Madigan
hyperbole; Culture as a concupisence Professor Gary Dowsett, PhD, FASSA, Professor and Acting Director, Australian Research Centre in Sex, Health & Society, La Trobe & Society, La Trobe Will Will Australia (Cantain Medium), Melbourne, VIC, Australia	4.30pm- The mar 4.45pm mar 4.45pm mar tran in yellon por trans in yellon profit	4.30pm	4.30pm-	.	4.30pm 14.5pm 1.0pm 1.0p	4.30pm Re-characterizing Autigen Specific CD4+ Cells using the Ox40/ CD2s assay and Single- cell RT-PCR (#588) Chansavath Phetsouphanh	4.30pm-	4.30pm – Determinants of A.45pm arterial stiffness and peripheral atherosclenosis in HIV positive men (#852) Saliya Hewagama
cyberspace: Same, same or different? Dr Jennifer Power, Bouverie Centre, La Trobe University, Melbourne, VIC, Australia	4.45pm- The 5.00pm Dr C	The "psychiatrically ill" 4 Dr Chris Kenedi	5.00pm	4.45pm- Inferring HIV incidence (4.45pm- Inferring HIV incidence Is 200pm from CD4 at diagnosis: 5.00pm PC his kenedi Scopm from CD4 at diagnosis: 5.00pm Friling the surveillance Friend Frieden Friend Friend Friend Friend Friend Friend Friend Friend Fried Friend Frieden Friend Frieden F	5.00pm i	Myeloid dendritic cells and HIV latency in greating T-cells (#499) Nitasha Kumar	5.00pm	Effects on post-prandial lipids and arterial striffness of Ritonavir-boosted Atazanavir versus Ritonavir-boosted Darunavir in HIV-uninfected adults (#293) Frederick Lee and Andrew Carr

THUR	FHURSDAY 18 OCTOBER					
5.30pm 5.30pm	5.00pm- Discussion 5.00pm- Discussion 5.30pm 5.30pm	5.05pm 5.15pm 5.15pm	5.15pm incidence among key 5.15pm incidence among key 5 populations in 7 sentinel provinces in Viet Nam in 2010 and 2011 (#589) Anh Tuan Nguyen 5.15pm Discussion	5.15pm dependent cellular cytotoxicity. Are we underestimating its potential? (#630) Nan Stratov		5.15pm change in HIV-infected individuals commencing three different initial antiretroviral regimens; A randomised, controlled study (#357) Rebekah Puls
		5.30pm		5.15pm- CD4+T cell metabolic 5.15pm- Discussion 5.30pm profile predicts immuno- 5.30pm logical deterioration during chronic HIV-1 infection (#855) Clovis Palmer	abolic 5.15pm nmuno- 5.30pm ation HIV-1	· Discussion
5.30pm- 6.30pm	6.30pm Poster Viewing Exhibition Hall Bays 13 - 14, Door 6 Take this opportunity to view the posters quietly in your leisure	your leisure				
5.30pm- 7.15pm	5.30pm – Satellite Session: Janssen Event 7.15pm Encompassing HIV: Virtual Medical Clinic Room: 216 Chair: Dick Quan	5.30pm-7.15pm	5.30pm- Representations of HIV and AIDS in the Arts and the Media in Australia 7.15pm Special session in honour of Dennis Altman and his long contribution to HIV Room: 212 Chairs: Edwina Wright and Gary Dowsett; Discussant: Dennis Altman	nd AIDS in the Arts and of Dennis Altman and Gary Dowsett; Discussa	the Media in Au his long contrib nt: Dennis Altma	stralia ution to HIV
5.30pm- 6.00pm	5.30pm- Registration; Drinks and Canapes 6.00pm	5.45pm- 5.50pm	5.45pm- Thank you to Dennis Altman and his long contribution to HIV 5.50pm Dr Edwina Wright, ASHM President, VIC, Australia	nan and his long contril resident, VIC, Australia	oution to HIV	
6.00pm 6.05pm	6.05pm- Welcome from the Chair	5.50pm- 5.55pm	5.50pm- Introduction 5.55pm Professor Gary Dowsett, PhD, FASSA, Professor and Acting Director, Australian Research Centre in Sex, Health & Society, La Trobe University, Melbourne, VIC, Australia	.iD, FASSA, Professor and iety, La Trobe University	Acting Director, Melbourne, VIC,	Australian Research Australia

HECK	THURSDAY 18 OCTOBER		
6.05pm	6.05pm- Case Study Presentations & Panel Discussion	5.55pm- C	5.55pm- Colin Batrouney, Manager, Health Promotion, Program Victorian AIDS Council/Gay Men's
7.00pm	7.00pm Presenters:	6.05pm H	6.05pm Health Centre, VIC, Australia
	Dr Dick Quan, Director, Holdsworth House Medical Practice, NSW, Australia;	6.05pm- K	6.05pm- Kathy Trifft, Manager, Health Promotion, Positive Life NSW, NSW, Australia 6.15pm
	Dr Sarah Pett, Infectious Disease Consultant, The Kirby Institute, NSW, Australia; Ms Jenny McDonald, Consultant Dietitian, Monash	6.15pm- D 6.25pm N	6.15pm Dr Dion Kagan, Sessional Lecturer, School of Culture and Communication, University of Melbourne, VIC, Australia
	Medical Centre, VIC, Australia; Associate Professor Darren Russell, Cairns Base Hospital, OLD, Australia	6.25pm- P 6.40pm L	6.25pm- Professor Dennis Altman AM, Professor of Politics and Director Institute for Human Security, 6.40pm LaTrobe University, VIC, Australia
7.00pm- 7.15pm		6.40pm- Discussion 7.15pm	iscussion
7.30pm-	7.30pm- Q&A Event: Political Leadership in HIV		
9.30pm	Melbourne Convention and Exhibition Centre - Room 219 and 220 Facilitator: Jon Faine, ABC Radio Melbourne	and 220	
	Panel:		
	Prasada Rao V.R. Jonnalagadda, UN Secretary General's Special Envoy for AIDS in the Asia Pacific Region Mariela Castro, Associate Professor, Institute of Medical Sciences, University of Havana; Director, National	cial Envoy fe nces, Unive	Prasada Rao V.R. Jonnalagadda, UN Secretary General's Special Envoy for AIDS in the Asia Pacific Region Mariela Castro, Associate Professor, Institute of Medical Sciences, University of Havana; Director, National Centre for Sex Education; President Cuban
	Multidisciplinary Society for the Study of Sexuality, Cuba		
	Sharon Lewin, Professor, Monash University; The Alfred Hospital; The Burnet Institute, MC, Australia	pital; The Bı	ırnet Institute, VIC, Australia
	Dennis Altman AM, Professor of Politics and Director Institute for Human Security, LaTrobe University, MC, Australia	te for Hum	ın Security, LaTrobe University, MC, Australia
	Annmaree O'Keeffe AM, A/G Director, Myer Foundation Me	lanesia Pro	Annmaree O'Keeffe AM, A/G Director, Myer Foundation Melanesia Program, Lowy Institute for International Policy, Sydney, NSW, Australia
	Colin Batrouney, Manager, Health Promotion, Program Victorian AIDS Council/Gay Men's Health Centre, VIC, Australia	orian AIDS (ouncil/Gay Men's Health Centre, VIC, Australia

FRIDA	FRIDAY 19 OCTOBER
7.00am	7.00am Registration, Foyer, Plenary 3
7.00am-	7.00am- Case Presentation Breakfast
8.20am	8.20am Room: 219 and 220
	Chairs: Alan Street and David Nolan
7.00am-	HIV and Listeria (#742)
7.20am	Victoria Madigan
7.20am-	20am A complex case of disseminated histoplasmosis and immunodeficiency in a man with recent primary HIV infection (#921)
7.40am	Kudzai Kanhutu
7.40am-	Successful use of Eltrombopag without splenectomy in refractory HIV-related immune reconstitution thrombocytopenia (#654)
8.00am	Lai-Yang Lee
8.00am-	800am- Progressive visual loss in a young man with longstanding HIV infection, lipodystrophy and sensory neuropathy (#1002)
8.20am	Edward Raby
8.30am-	8.30am- HIV/AIDS Conference Plenary
10.00am	10.00am Room: Plenary 3, Door 4 Lower Ground
	Chairs: Sharon Lewin and Jo Watson
8.30am-	RB30am - The social science of HIV: Sustaining advances in prevention, treatment and social justice
9.00am	Associate Professor Vinh Kim Nguyen, Department of Social and Preventive Medicine, University of Montréal, Canada; Chair of Anthropology and Global Health,
	College of Global Studies (Paris)
9.00am-	Imperatives for HIV cure
9.30am	Professor Françoise Barre-Sinoussi, PhD, Professor, Institut Pasteur & Research Director, INSERW, France
	Director of Regulation of Retroviral Infections Unit, Institut Pasteur, France
9.30am-	930am Understanding the social contexts of female sex work in China
10.00am	1000m Associate Professor Huang Yingying, Deputy director, Institute of Sexuality and Gender, Sociology department, Renmin University of China, China
10.00am-	10.00am – Morning Tea in Exhibition and Poster Area
10.504111	IOSOGIII EXIIIDINIOII Hall Bays 13- 14, DOOF O

11.30am Theme B Oral Poster Session: Modem Management of Hoden Management Chairs: Christina Chang and Roger Garsia	10.30am- Chair Introduction - 10.40am Linkage of presentations 10 overall theme Dr Roger Garsia, Clinical Immunologist and Head Division of Medicine, Royal Prince Alfred Hospital, Sydney, NSW, Australia	10.40am- Investigation of cellular markers inking Abacavir and cardio-vascular events. Gene expression profiles in STEAL participants (#967)	11.00am An audit of cardio- vascular risk as predicted by HIV specific and non-specific risk equations in HIV infected men (#752) Julia Price 11.00am medicines use in HIV positive people: A national survey (#672) Alison Duncan and Catherine Forrester
10.30am 11.50am	10.30am 10.40an	10.40am	10.50am 11.00am 11.10am
12.30pm Paper Session: HIV Transmission and Molecular Pathogenesis Room: 212 Chairs: Melissa Churchill and Anthony Kelleher	0.30am- Phenotyping and immunogenicity of HIV-1 Env from MSM transmission strains (#1035) Damian Purcell	1.100am variants have alterations in their Env glycoproteins, which alter the way they engage both CD4 and CCR5 (#864)	Structural and functional analysis of functional analysis of the SPL7013 dendrimer action against HIV env (#378) Catherine Latham
10.30am- 12.30pm	10.45am	10.45am-	11.15am
10.30am Theme D Proffered 12.30pm Paper Session: Managing risk in Asia and the Pacific Room: 220 Chairs: Huang Yingy and Heather Worth	10,30am- Condom use during 10,45am vaginal and anal intercourse amongst female sex workers in Port Moresby, Papua New Guinea (#316) Angela Kelly	11.00am prevention needs of women who sell sex to seafarers in Tarawa, Kiribati (#409)	11.15am involvement and involvement and involvement and associated occupational risks among selected transgender women in Cebu City, Philippines (#72) Raine N Cortes
0.30am-	0.30am- 0.45am	0.45am- 1.00am	11.15am
Theme B Proffered Paper Session: The Clinic: Should one size fit all? Room: 219 Chairs: Arun Menon and Darren Russell	10.30am- Perceptions of unmet 10.45am needs of people living with HIV in Australia (#978) Ulian Elliott	11.00am general population of Papua New Guinea: Findings from selected sites in Papua New Guinea (#987) Geraldine Maibani-Michie	11.00am Determinants of access to antiretroviral therapy and treatment outcomes for people living with HIV in Vietnam (#22) Dam Anh Tran 11.08am - Structural barriers 11.15am to timely initiation of antiretroviral treatment in Vietnam: Findings from six outpatient clinics (#23) Dam Anh Tran Findings from six outpatient clinics (#23)
10.30am-	10.30am 10.45am	10.45am- 11.00am	11.09am- 11.08am- 11.15am
Theme C Symposium: Hustralia's response to Hustralia's response to cevolution? Room: Plenary? Room: Plenary a And Peter Aggleton	Developments in prevention science and opportunities for action in Australia's response Professor, Andrew Grulich, Head and Professor, The Kirby Institute, NSW, Australia	HIV in Australia - 10.45am- Revolution! Evolution! 11.00am Disillusion? Bill Whittaker, NAPWA, NSW, Australia	1.15am Evolution or 1.15am Evolution? Some treatections on treatment as prevention Colin Batrouney, Manager, Health Promotion, Program Victorian AIDS Council/ Gay Men's Health Centre, VIC, Australia
FRIDAN 10.30am- 12.30pm	10.30am- 10.45am	10.45am-	11.15am

FRIDA	FRIDAY 19 OCTOBER								
		12.00pm 12.15pm	200m— The significance of HV blips'in diverse settings: Is it always the same Analysis of the Treat Asia HIV Observational Database (TAHOD) and the Australian HIV Observational Database (AHOD) (#853) Rupa Kanapathipillai	12.30pm-	2.30pm Discussion	12.00pm- 12.15pm	12.05pm PRMT6 does not suppress HIV-1 Tat transactivation in cells naturally lacking PRMT6 (#1047) David Harrich	11.50am-	11.40am- Assessing site 11.50am performance in Encorel study, a multinational clinical trial (#6.23) Carlo Dazo
		12.15pm 12.30pm	235pm- Ageing and long-term 230pm CD4 cell count trends in HIV-positive patients with 5 years or more combination antiretroviral therapy experience (#156) Stephen Wright			12.15pm- 12.22pm 12.23pm- 12.30pm	215pm- Dynamic regulation of 222pm IL-4 receptor (IL-4r) following viral infections and modulation of CD8+ Tell avidity (#1033) Danushka Wijesundara 223pm- GB virus C infection in HIV-positive Patients in Indonesia with and without HCV co-infection (#377) Nungki Anggorowati		
12.30pm- 2.00pm	12.30pm- Lunch in Exhibition and Poster Area 2.00pm Exhibition Hall, Bays 13 - 14, Door 6	d Poster / 3 - 14, Do	Area or 6						

12.45pm-		arec							
	1.45pm Sponsored Care - wno cares? 1.45pm Sponsored Satellite Session ASHM NSW Room 219	ion ASH	IM NSW						
12.45pm- 12.52pm	HIV Shared Care – Current challenges and opportunities Dr David Baker, GP HIV and HCV s100 prescriber, East Sydne	nt challe	inges and opportunities 100 prescriber, East Sydne	v Doctors	HIV Shared Care – Current challenges and opportunities Dr David Baker, GP HIV and HCV s100 prescriber, East Sydney Doctors, ASHM Clinical advisor, NSW, Australia	'SW, Austr	alia		
1252pm-	HIV Shared Care in WA - Diverse positive population	Diverse	positive population						
1259pm	Associate Professor David Nolan, Clinical Immunologist, Royal Perth Hospital, WA, Australia	Nolan, (Clinical Immunologist, Roy	/al Perth	Hospital, WA, Australia				
1259pm-	HIV Shared Care in VIC								
1.06pm	Dr Olga Vujovic, ID Physici	ian, Alfre	ed Hospital - Infectious Dis	sease Uni	Dr Olga Vujovic, ID Physician, Alfred Hospital - Infectious Disease Unit Incorporating the Victorian HIV Service, VIC, Australia	an HIV Se	rvice, VIC, Australia		
1.06pm-	NSW - 'HIV Shared Care Management Plan' template - a pilot program	Manage	ment Plan' template - a p	ilot proç	yram				
1.13pm	Dr David Baker								
1.13pm-	National E Health Transition Authority (NEHTA)	tion Aut	hority (NEHTA)	(
\rightarrow	Dr Irina Gregory, GP HIV a	and HCV	s100 prescriber, CPC Med	lical Cent	Dr Irina Gregory, GP HIV and HCV s100 prescriber, CPC Medical Centre, Port Macquarie, NSW, Australia	Australia			
1.20pm- 1.27pm	HealthMap, review and progress Or Inlian Elliot Infections diseases Physician Melbourne VIC Australia	progress diseases	Physician Melhourne VIC	7 Australi	n				
-		discussion.	יוין פובומון, ואוכוססמוווכ, אוג	, 100 al	3				
1.27pm- 1.45pm	Fanel Discussion Dr David Baker A/Prof David Nolan Dr Olga Villavig Dr Iulian Fligt Dr Trina Gregory ande Eeoney (Dostrive Life NSW)	Viol Nola	Or Olda Wijovic Or IIIlia	n Fliot	r Trina Gredony I ance Fee	Pocit	rive Life NSW/		
8	Martin Parisi Immino Da		ri, Di Olga vajović, Dr. Julia		יייים טרשטיץ, בשותר	(2)	CINC EIIC NOW)		
1.45pm		gy ocien s - The A	ntibody Response to HIV	infection	and Sonia Fernandez - Th	e effector	immune response to vira	al infectio	u
1.00pm-	1.00pm - Advocacy Corner Discussions - Exhibition Hall	sions - E	xhibition Hall						
1.45pm	James Gray, recently Youth Rapporteur at AIDS 2012 in Washington, will lead a discussion on young gay men, HIV and new responses in Australia	th Rappo	orteur at AIDS 2012 in Was	shington,	will lead a discussion on	young ga	ly men, HIV and new resp	onses in	Australia
2.00pm- 3.30pm	Cure Symposium Supported by an unrestricted	2.00pm– 3.30pm	Theme B Symposium: Living Long-term with HIV - A critical look at	2.00pm- 3.30pm	Theme C Proffered Paper Session: Antiretroviral-based	2.00pm- 3.30pm	Theme D Proffered Paper Session: Men, Sex and Risks	2.00pm- 3.30pm	Theme B Oral Poster Session: HIV Information in the Digital Age
	from Gilead		pathogenesis, clinical features and management						26C 181.6C
	Room: Plenary 3		Room: 219		Room: 220		Room: 212		Room: 216
	Chairs: Sharon Lewin and		Chairs: Edwina Wright		Chairs: Levinia Crooks		Chairs: Narcisco		Chairs: James McMahon
	Françoise Barre-Sinoussi		and Roger Garsia		and Mark Stoove		Femandes and Victor Tawil		and John Milan
2.00pm- 2.20pm	Selecting potential 2.00pm- HIV eradication agents 2.15pm for clinical facting	2.00pm- 2.15pm	Presentation title TBA 2.00pm- Dr Julien Elliot, 2.15pm	2.00pm- 2.15pm	The emerging use of HIV antiretroviral	2.00pm- 2.15pm	What have we learned 2.00pm - Chair Introduction from PASH 3 years on 2.10pm Linkage of (#601)	2.00pm- 2.10pm	2.00pm- Chair Introduction - 2.10pm Linkage of
	Romas Geleziunas.		Physician Melbourne		pre-exposure		Garrett Prestage		overall theme
	Director of Clinical		VIC, Australia		prophylaxis of HIV				Dr James McMahon,
	Virology at Gilead Sciences, USA				(PrEP) among gay men in Australia (#576)				Physician, Alfred Hospital, Melboume,
					Iryna Zablotska- Manos				VIC, Australia

o seine		Challenges for Indonesian PWID who receive harm reduction programs accessing VCT and ART (#334) Ratha Soehoed Meeting the demand for access: Provision of HIV results via phone for low risk clients - Evaluation of policy change at a busy metropolitan clinic (#365) Simon Wright	HIV information for aged Care facilities (#159) Denise Cummins
2.1000	2.20pm 2.20pm 2.30pm	2.40pm 2.40pm 2.40pm 2.50pm	2.50pm- 3.00pm
	2.15pm- 'Full Service': Reading 2.30pm male sex work into gay men's health promotion (#656) Cameron Cox	2.35pm Characteristics of analsex during incarceration and factors associated with condom use during anal sex in three prisons in Thailand (#239) Monsicha Poolsawat	245pm– MSM Sexual Venues 3.00pm and HIV Risk (#976) Rui Zhao
	2.15pm- 2.30pm	2.45pm	2.45pm- 3.00pm
	2.15pm- Impact of treatment 2.15pm- Full Service': Read 1.23pm based HIV interventions 2.30pm male sex work into in NSW (#1007) gay men's health promotion (#656) Cameron Cox	What factors are associated with planned sex among high-risk gay and bisexual men in Australia? (#546)	2.45pm- What do HIV-Positive 3.00pm and HIV-Negative gay and bisexual men think about pre-exposure prophylaxis and treatment as prevention? (#315)
	2.15pm- 2.30pm	2.45pm	2.45pm- 3.00pm
	Renal dysfunction after HIV suppression Dr Steve Holt, Monash University, Melbourne, VIC, Australia	Cardiovascular disease 2.30pm— in long-term HIV 2.45pm management 2.45pm Associate Professor David Nolan, Clinical Immunologist, Royal Perth Hospital, WA, Australia	When organ's fail: Transplantation and HIV Professor Deborah Marriott, St Vincent's Hospital, Microbiology Department, Sydney, NSW, Australia
	2.30pm	2.45pm	3.00pm
FRIDAY 19 OCTOBER	Clinical trials for HIV cure: What's being done and what challenges lie ahead Professor Sharon Lewin, The Alfred, Monash University and the Burnet Institute, Melbourne, VIC, Australia	- Assessing HIV - Persistence: A Vital Step for HIV Eradication Dr. Sarah Palmer, Ph.D., Senior Researcher, Swedish Institute for Communicable Disease Control and Karolinska	
FRID	2.20pm- 2.40pm	2.40pm- 3.00pm	

FRIDA	FRIDAY 19 OCTOBER								
3.15pm	6.15pm cure research - An HIV and the agin cure research - An HIV and the agin positive perspective BII Whittaker, Representative, NAPWA, NSW, Australia Stylincent's Hospit Melbourne, MC, Australia Stylincent's Hospit Melbourne, MC, Australia Andrea Melb	3.15pm	3.15pm brain: A tangled web?" Professor Bruce Brew, Head of Department, Department of Neurology, St Vincent's Hospital, Melbourne, VIC, Australia	3.15pm	3.05pm An ethical analysis 3.15pm between the sexual (#420) Bridget Haire Srimulant (ATS) use a mong Sex Workers Laukkai and Phakan Myanmar (#468) Yin Min Thaung	3.15pm	3.00pm- Addressing the link 3.15pm between the sexual risk behavior and Amphetamine Type Stimulant (ATS) use among Sex Workers In Laukkai and Phakant, Myanmar #468) Yin Min Thaung	3.10pm 3.10pm 3.20pm	3.00pm- HIVQUAL PNG Quality 3.10pm HIV service delivery initiative implemented at TININGA Paediatric HIV Clinic, Mt Hagen General Hospital, PNG (#836) Petronia Kaima General Hospital, PNG (#836) Petronia Kaima On estimates of lost to follow-up, mortality and retention in Antiretroviral Therapy Programs in Low-Middle Income Countries: A Systematic Review (#458) James McMahon
3.15pm- 3.30pm	3.15pm- Discussion	3.15pm- 3.30pm	3.15pm- Discussion 3.30pm	3.15pm- 3.30pm	3.15pm- Discussion 3.30pm	3.15pm- 3.30pm	3.15pm- Discussion 3.30pm	3.20pm- 3.30pm	3.20pm- Discussion 3.30pm
3.30pm- 3.45pm	3.30pm Pre-recorded Conference Closing shown in all session roomss 3.45pm	ce Closin	g shown in all session ro	omss					
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ORAL PRESENTATION ABSTRACTS WEDNESDAY 17 OCTOBER 2012

All abstracts within this handbook have been requested to include a disclosure of interest. These are also requested from the oral presenters to be shown during their presentations.

HIV/AIDS CONFERENCE OPENING AND JOINT PLENARY

SESSION SPONSORED BY DEPARTMENT OF HEALTH

AND AGEING

8.30AM - 10.10AM

PAPER NUMBER: 1101

AN APPROACH TO VACCINES FOR HIGHLY VARIABLE PATHOGENS

Burton, DR

Dept of Immunology and Microbial Science, Center for HIV/AIDS Vaccine Immunology and Immunogen Discovery, and IAVI Neutralizing Antibody Center, The Scripps Research Institute, La Jolla, CA, USA Ragon Institute of MGH, MIT and Harvard, Boston, MA, USA

Highly antigenically variable viruses such as HIV, HCV and influenza virus present problems for the development of vaccines. In particular, it is likely that effective vaccines will need to induce broadly neutralizing antibodies. A subset of individuals with these viruses typically generate such antibodies over time and these antibodies can provide vital clues as to the design of immunogens and immunization strategies in rational approaches to vaccine design. Such approaches will be discussed.

No pharmaceutical grants were received in the development of this study.

THE GLOBAL FUND: PRESENCE AND IMPACT IN THE ASIA-PACIFIC REGION

Mr <u>Bill Bowtell</u> AO, Executive Director, Pacific Friends of the Global Fund to Fight AIDS, Tuberculosis and Malaria. Sydney; Australia

Background: Since its creation in 2002, the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) has become the most significant public- private partnership in addressing the burden of HIV & AIDS within low-and-middle income countries. The Global Fund is the largest donor for antiretroviral therapy in the Asia-Pacific region and it is estimated that the services supported and delivered by its grants have directly saved the lives of more than 3 million people.

Methods: The presentation will provide a brief overview of the work of the Global Fund. It will briefly explore the financing of the Global Fund, as well as its estimated macro-impact within the Asia-Pacific region. The presentation will also consider factors surrounding the future financial replenishment of the Global Fund in the period of 2014- 2016.

Results: As of 2011, the Global Fund had approved \$US 22.9 billion in 151 countries. Between the years 2002-2010, US\$2.4 billion was approved by the Global Fund for HIV grants in the Asia-Pacific region. As of 2009, the Global Fund provided the 23 countries in the Asia-Pacific region with 37 per cent of the international financing for HIV and has committed approximately one-third of its allocations towards prevention activities. The cancellation of the Round 11 funding cycle has resulted in \$US 2.2 billion outstanding donor pledges, though the extent of this impact within the Asia-Pacific region, in both financial and epidemiological terms; has not been fully estimated.

Conclusions: The Global Fund has been integral to the reduction of new HIV infections in the Asia-Pacific region and continues to be a significant conduit in the treatment and prevention of the disease. However, the effects of the European financial crisis, the outcomes of the 2012 US presidential elections and official development assistance budgets necessitate renewed efforts to support future financing of the Global Fund.

Disclosure of Interest Statement: Pacific Friends of the Global Fund to Fight AIDS, Tuberculosis and Malaria receives no financial support or oversight from the Global Fund Secretariat. The opinions expressed within this presentation are solely those of the presenter and do not necessarily represent those of the Global Fund Secretariat.

THE NEW ERA OF HIV TREATMENT AS PREVENTION: WILL BEHAVIOR TRUMP BIOLOGY?

Kalichman S

HIV prevention relies on integrating biomedical technologies with behavior change strategies. The most established biomedical technologies to avert HIV infection are sterile syringes, antibody tests, and condoms. It is well known that these tools are most effective when delivered through effective behavioral interventions. At the forefront of HIV prevention is the use of antiretroviral therapies (ART) for reducing HIV infectiousness. In addition, uninfected persons may be protected by prophylactic use of ART. Following the path of previous biomedical technologies, the scale-up of ART as prevention faces the humbling realities of human behavior. Treatment for prevention requires strict adherence. Furthermore, treatments for prevention may result in individuals compensating for perceived lower-risk by increasing risk behaviors. Finally, contracting co-occurring sexually transmitted infections undermines treatment as prevention by increasing infectiousness as well as susceptibility to HIV. The future of HIV prevention therefore depends on the successful integration of ART with behavioral interventions to maximize adherence, reduce risk compensation, and prevent sexually transmitted co-infections.

67

PROSPECTS FOR AN HIV CURE

Steven G. Deeks, MD

Department of Medicine, University of California, San Francisco, SF CA USA

For motivated individuals with access to antiretroviral drugs, modern regimens can indefinitely reduce the amount of circulating virus to very low levels, which in turn results improved immunologic and clinical health. This therapeutic approach requires life-long adherence to expensive and potentially toxic antiretroviral drugs, which his not feasible for a large proportion of the global population. As a consequence, there is now intense interest in developing novel approaches to curing HIV infection. Several mechanisms contribute to HIV persistence during therapy, including chromatin silencing, homeostatic proliferation, suboptimal anti-HIV immune response and perhaps ongoing HIV replication. Each of these mechanisms is amenable to therapeutic intervention. Indeed, several pilot studies aimed at reducing the size of the reservoir are now ongoing, as will be discussed. Although the chances for developing a safe affordable and scalable cure in the next few years are remote, there is growing optimism that a concerted international collaborative effort could eventually result in an effective cure.

JOINT SYMPOSIUM SESSION: ANAL CANCER

11.00AM - 12.30PM

PAPER NUMBER: 1213

PLACE OF SCREENING USING CYTOLOGY AND HRA

Palefsky, J

University of California USA

The incidence of anal cancer is increasing by about 2% per year in the general population among both men and women. However, certain groups are known to be at particularly high risk, including men who have sex with men (MSM), HIV-positive men and women and those with other sources of compromised immunity, and women with a history of cervical or vulvar cancer. HPV vaccination with the quadrivalent HPV vaccine has been shown to prevent persistent anal HPV infection with vaccine types and AIN among MSM in randomized controlled trials and vaccination of both women and men is approved in several countries as a primary prevention approach for anal cancer. However, secondary anal cancer prevention approaches need to be considered for those in whom HPV exposure has already occurred. The most direct method to identify the anal cancer precursor, high-grade anal intraepithelial neoplasia (HGAIN) is through high resolution anoscopy (HRA). The prevalence of HGAIN is high enough in some at-risk groups such as HIV-positive MSM that HRA could be considered as the diagnostic method of choice. However, there are insufficient resources to allow this, and we have therefore recommended using anal cytology as a triage method to determine who is sent to HRA, with those with high-grade squamous intraepithelial lesions on cytology having the highest priority. Like cervical cytology screening, anal cytology screening has limited sensitivity, specificity and predictive value in identifying those with HGAIN. Several important questions remain to be addressed including determining the role of adjunctive tests to cytology in the screening algorithm; determining the efficacy of different approaches to clearing HGAIN, and most importantly determining the efficacy of HGAIN treatment in reducing the incidence of anal cancer. Given the known risk of progression to cancer of HPV-associated high-grade lesions and the benefits of treating these lesions at other anatomic sites, the high incidence of anal cancer in at-risk groups, and the low morbidity of office-based treatment, the UCSF approach is to treat HGAIN among these at-risk groups until the results of efficacy studies are available.

THE EPIDEMIOLOGY OF ANAL HUMAN PAPILLOMAVIRUS, PRE-CANCEROUS LESIONS, AND CANCER: IMPLICATIONS FOR ANAL CANCER SCREENING

Andrew Grulich, HIV Epidemiology and Prevention Program, Kirby Institute, UNSW.

As an anogenital cancer caused by HPV, anal cancer has many factors in common with cervical cancer. For cervical cancer, well organized population-based screening programs have led to steep reductions in cervical cancer incidence. The success of cervical cancer screening programs depends on three key factors. First, that screening can accurately detect pre-cancerous changes in cervical cytology, or more recently can detect high-risk types of HPV in the cervix. Second, that the grade of abnormality can be easily confirmed based on biopsy and histological examination taken at colposcopy. Third, that the lesions can be completely removed, often by complete removal of the transformation zone of the cervix. Unfortunately, these three conditions are not met for anal cancer screening.

As anal cancer is uncommon in the general population, screening would be based in high risk populations such as homosexual men. However, in homosexual men, the prevalence of anal HPV is extra-ordinarily high: in a recent meta-analysis high risk HPV prevalence was 74% in the HIV positive and 37% in the HIV negative. The prevalence of the presumed cancer precursor - high grade anal intraepithelial neoplasia – was 29% in the HIV positive and 22% in the HIV negative. Based on the cervical cancer model, all of these men would require ablative therapy. However, based on extremely limited data, rates of progression to anal cancer appear substantially lower than rates of progression of high grade cervical lesions to cervical cancer.

A deeper understanding of the natural history of anal HPV infection and its progression to anal cancer is required to inform an evidence-based anal cancer screening program.

SCREENING HIV POSITIVE HOMOSEXUAL MEN WITH ANNUAL ANAL EXAMINATIONS FOR DETECTION OF EARLY ANAL CANCER

Read T

Melbourne Sexual Health Centre and School of Population Health, University of Melbourne.

Screening HIV positive homosexual men for the anal cancer precursor, high-grade anal intraepithelial neoplasia (HGAIN), is not ready to begin because: the interpretation of anal cytology samples is difficult and HGAIN has a high rate of persistence and recurrence after treatment. A recent metaanalysis put the prevalence of HGAIN in this group at 29% but the incidence of anal squamous cell carcinoma (SCC) was about 78/100,000 per year, so the number needed to treat to prevent one cancer will be high.

The prognosis of anal cancer is influenced by tumour size. Would regular examinations looking for small cancers be a feasible means of reducing anal cancer morbidity and mortality?

A review of medical records from 1992-2010 from the Alfred Hospital in Melbourne, identified 128 cases of anal SCC and 24(19%) were in HIV-positive men. At diagnosis half of tumours (52%) were externally visible, mean estimated tumour size was 36mm and 114/121 tumours (94%) were one centimetre or larger. The most frequent symptoms were bleeding (43%) and pain (36%) and mean duration of symptoms was 22 weeks. There is potential for earlier diagnosis.

In a feasibility study, routine anal examinations (inspection and digital palpation) at 3-6 month intervals, were introduced into the care of a cohort of 102 HIV positive homosexual men aged ≥ 35 years, for one year. Of these men, 97 had two examinations and 85 had three, during the year, 98.7% of respondents said they would probably have the examination next time and 99.2% said they were satisfied with the amount of time spent on their HIV care. Four men were referred to surgeons for exclusion of cancer and one cancer was diagnosed. Two colonoscopies were performed in men who did not have cancer. The average cost of the intervention was calculated to be \$21 per person screened.

Competing interest: Tim Read is site investigator for a Merck HPV vaccine trial.

SHOULD WE BE SCREENING FOR ANAL CANCER? ISSUES TO CONSIDER

Hocking JS¹

Centre for Women's Health, Gender and Society, Melbourne School of Population Health, University of Melbourne.

Screening usually involves the use of a test to detect a condition (disease/infection) in individuals who don't have any signs or symptoms. The intention of screening is to identify the condition early, thus enabling earlier intervention and management with the aim to reduce mortality and suffering. Although screening may lead to an earlier diagnosis, not all screening tests have been shown to benefit the person being screened; overdiagnosis, misdiagnosis and creating a false sense of security are some potential adverse effects of screening.

There are 10 recognised criteria to guide policy makers in decisions about what conditions are suitable for screening. While anal cancer screening fulfills some of these (it is an important health problem), it does not meet several of them. In particular, there are still questions about its natural history (eg: does AIN progress to anal cancer) and there is still considerable debate about the best screening test. Anal cytology (± HRA) and digital rectal examinations are two possible screening options for anal cancer. Further research is needed to establish the performance of these screening tests (sensitivity/specificity) and their acceptability to the target population and the professionals administering the screening. There can be considerable morbidity associated with the treatment of anal lesions, so it is imperative that there are recognised clinical guidelines about how to manage the results of a positive screening test.

Given increasing anal cancer rates and the considerable morbidity and mortality associated with anal cancer, further research is needed to identify the best performing test and to evaluate whether anal cancer screening meets the 10 criteria for a screening program.

JOINT SYMPOSIUM SESSION: HIV IN INDONESIA

11.00AM - 12.30PM

PAPER NUMBER: 1239

CHILDREN ARE THE FUTURE: DESIRE OF PARENTHOOD AMONG HIV-POSITIVE PEOPLE IN WEST JAVA

Irwan Hidayana¹

¹Center of Gender and Sexuality Studies, University of Indonesia

How HIV-positive women deal with reproductive risks in pregnancy and delivery? In the resource-poor setting of Karawang, West Java, these women have to rely on their social networks to access PMTCT (prevention mother-to-child transmission) services. Their decisions reflect the kind of 'ambivalence coupled with pragmatism' (Lock and Kaufert 1998:2). In navigating HIV in pregnancy and delivery, the role of NGOs and support groups is crucial. Attaining motherhood is a way to contest HIV/AIDS related stigma: as HIV-positive women, they shows their ability to construct lives that looked 'normal' to their partners, family and community.

MEN AND PLACE: PRELIMINARY RESULTS FROM THE FIRST LARGE SCALE SOCIAL NETWORK STUDY OF INDONESIAN GAY, BISEXUAL AND MSM ENGAGEMENT WITH SOCIAL AND SEXUAL SITES

Jeffrey Grierson¹, Stephen McNally¹, Irwan Hidayana², Anthony Smith¹

¹ Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, Australia

² Center of Gender and Sexuality Studies, University of Indonesia, Jakarta, Indonesia

Background: This paper reports on the first large scale social network study of gay men, bisexual men and men who have sex with men (MSM) in Indonesia. The overall aims of the study were to comprehensively map the relationship between these men and the venues at which they socialise and to characterise the structures and pathways of these relationships.

Method: Men were recruited from Medan, Jakarta and Bali between February and May 2012. The data were collected via an online questionnaire which included a separate site list for each of the three locations. Participants were recruited both face to face and online. Participants completed the survey either at recruitment using a hand held device or hand-phone, or independently at another time.

Results: A total of 1329 men completed the survey with roughly equal numbers in each setting. Men had a median age of 26 years. 58% identified as gay/homosexual and 40% as bisexual. Around half (48%) had a regular male partner and 23% had a regular female partner. 53% had had an HIV test and 6% reported being HIV positive (12% of those tested). Men reported their usage of sites over the past year, including their reason for visiting and whether they had sex with men they met there. Included in the study were 10 sites in Medan, 13 in Jakarta and 11 in Bali. We report on the structure of these networks in the three settings and the characterization of men who visit them.

This represents the beginning of a collaborative analytic project that will inform prevention and service provision of gay/MSM in Indonesia into the future.

STI/HIV KNOWLEDGE, ATTITUDES AND BEHAVIOR: EVIDENCE FROM THE 2010 TRANSITION TO ADULTHOOD SURVEY OF GREATER JAKARTA

Utomo

Australian National University, aCT, Australia

PROVIDING FRIENDLY AND CONVENIENT MSM CLINIC SERVICES IN BALI: A BREAKTHROUGH IN EXPANDING ACCESS TO STI AND HIV TESTING AND TREATMENT FOR THE BALI MSM COMMUNITY

Authors: <u>Prasetia MYO</u>¹, Yusanto R¹, Lestari A¹, Nurhayati¹, Martiningsih AAA¹, Karya M¹, Wignall, FS²

¹ Bali Medika Clinic, ² Bali PeduliFoundation

Introduction: Many in the Indonesian MSM community do not seek health care services in public STI and VCT clinics because of stigma and bureaucracy. STIs go untreated and HIV undiagnosed until they present with complications or Stage III/IV HIV infections.

Methods: The Bali Medika Clinic, Kuta, Bali with support from the Bali Peduli Foundation initiated convenient, after work-hours, confidential STI and HIV testing and treatment designed specifically for MSM community. A doctor, counselor, nurse and lab technician onsite provide high-quality, nonjudgemental services usually within one hour. HIV, syphilis and simple STI testing are performed along with CD4 testing for those HIV+. All drugs and exams are provided free of charge. An outreach worker uses social media and site visits to recruit and follow-up with clients.

Results: Since opening in September 2012, there have been 1,016 client visits by 396 new patients. Mean age is 27 years. Among 386 clients tested for HIV, 74 (19,2%) were HIV positive. The average CD4 count for 65 individuals tested was 326,35 (median 344, range 26 - 689). 18 patients have started ARV treatment. Of 339 tested for syphilis, 39 (11.5%) were diagnosed with early syphilis and 26 (7.7%) late syphilis. 315 were examined for STIs and 47 (14,9%) had urethritis and 190 (60,3%) had proctitis.

Conclusion: Significant numbers of MSM clients have accessed the Bali Medika Clinic for HIV and STI services within a period of less than a year. Friendly, convenient, community-specific and confidential services appear to have generated the response. The clinic is potential site for sentinel surveillance to monitor HIV prevalence among MSM in Bali given that it attracts clients from across the island.

Disclosure of Interest Statement: The Bali Peduli Foundation and Bali Medika Clinic have received a PIMA, point-of-care, CD4 testing machine and reagents from the Alere Corporation.

HIV/AIDS CONFERENCE – BASIC SCIENCE SESSION: ON THE PATH TO TRANSLATION: ACH2 STUDIES

SPONSORED BY ACH2

11.00AM - 12.30PM

PAPER NUMBER: 1029

DEVELOPMENT OF NUCLEAR IMPORT INHIBITORS AS ANTI-HIV AGENTS

Wagstaff KM1, Sivakumuran H2, Heaton SM1, Harrich D2, Jans DA1

¹ Dept. Biochemistry, Monash University, Clayton, Victoria ² HIV Molecular Virology, Queensland Institute of Medical Research, Brisbane, Queensland

Introduction: Specific viral proteins enter the nucleus of infected cells in order to perform essential functions, as part of the viral lifecycle. The integrase (IN) protein of human immunodeficiency virus (HIV)-1 is of particular interest in this context, due to its integral role in integrating the HIV genome into that of the infected host cell. Most IN-based anti-viral compounds target the IN/DNA interaction, but since IN must first enter the nucleus before it can perform these critical functions, nuclear transport of IN is an attractive target for therapeutic intervention.

Methods: We developed a novel high-throughput screening assay for identifying inhibitors of nuclear import, and in particular IN, based on amplified luminescent proximity homogeneous assay (ALPHAScreen) technology, which is high-throughput, requires low amounts of material, and is efficient and cost-effective.

Results: We use the assay to screen for specific inhibitors of the interaction between IN and its nuclear transport receptor importin α/β successfully identifying several specific inhibitors of the IN/importin α/β interaction. Importantly, we demonstrate that one of the identified compounds, mifepristone, is effective in specifically preventing active nuclear transport of IN in transfected cells, without affecting general cellular nuclear import. The screen also identified broad spectrum importin α/β inhibitors such as ivermectin which may represent useful tools for nuclear transport research in the future. We validate the activity and specificity of mifepristone and ivermectin in inhibiting nuclear protein import in living cells. Finally we demonstrate that both lead compounds display potent anti-viral activity, highlighting the utility of the screening approach and validating nuclear import as a therapeutic target.

Conclusion: Our novel, considered screening approach is able to identify specific inhibitors of the interaction between HIV-1 IN and its nuclear import receptor importin α/β , which serve as lead compounds for a new class of potent anti-viral therapeutics.

A MUTANT TAT PROTEIN PROVIDES STRONG PROTECTION FROM HIV-1 INFECTION IN HUMAN CD4+ T CELLS

Apolloni A1, Sivakumaran H1, Husan-Lin M1, Kershaw M2, Harrich D

¹Department of Cell and Molecular Biology, Queensland Institute of Medical Research, Brisbane, Australia, ²Cancer Immunology Program, Peter MacCallum Cancer Center, East Melbourne, Australia

Here we show potent inhibition of HIV-1 replication in a human T cell line and primary human CD4+ cells by expressing a single antiviral protein. Nullbasic is a mutant form of the HIV-1 Tat protein that was previously shown to strongly inhibit HIV-1 replication in non-hematopoietic cell lines by targeting three steps of HIV-1 replication; reverse transcription, Rev and transactivation of HIV-1 gene expression. Here we investigated gene delivery of Nullbasic using conventional lentiviral and retroviral vectors. While Nullbasic could be delivered by lentiviral vectors to target cells, transduction efficiencies were sharply reduced primarily due to negative effects on reverse transcription mediated by Nullbasic. However Nullbasic did not inhibit transduction of HEK293T cells by an MLV-based retroviral vector. Therefore, MLV-based VLPs were used to transduce and express Nullbasic-EGFP or EGFP in Jurkat cells, a human leukaemia T cell line, and primary human CD4+ cells. Robust HIV-1 infection was observed in parental Jurkat and Jurkat-EGFP cells, but was strongly attenuated in Jurkat-Nullbasic-EGFP cells. Similarly, virus replication in primary CD4+ cells expressing a Nullbasic-ZsGreen-1 fusion protein was inhibited by 10-fold. These experiments demonstrate the potential of Nullbasic as an antiviral agent against HIV-1 infection.

REDUCED EFFECTIVENESS OF THE NRTIS D4T AND AZT IN ASTROCYTES: IMPLCATIONS FOR NEUROCART

<u>Gray L</u> ¹², Tachedjian G ¹², Ellett A ¹, Roche M ¹², Brew B ³, Turville S ⁴, Wesselingh S ⁵, Gorry P ¹²⁶, Churchill M ¹²

¹Burnet Institute, Australia. ²Monash University, Australia. ³St Vincent's Hospital Sydney, Australia. ⁴Kirby Institute, Australia. ⁵South Australia Health and Medical Research Institute, Australia. ⁶University of Melbourne, Australia.

Introduction: HIV-1 penetrates the central nervous system (CNS) and can lead to HIV-associated dementia (HAD). While macrophages and microglia are the major sites of productive HIV-1 infection in the CNS, astrocytes undergo restricted infection. Up to 20% of astrocytes can become infected *in vivo*, resulting in dysfunction, loss of neuronal support and the onset of HAD. Infected astrocytes represent a viral reservoir of long-lived cells, presumably not targeted by antiretrovirals (ARVs). Preventing the establishment of the infected astrocyte pool may be beneficial in delaying and/or preventing HAD and in virus eradication strategies. Here we sought to determine the effectiveness of ARVs used in NeurocART on inhibiting HIV-1 infection of astrocytes.

Methods: ARVs, including those used in NeurocART (ABC, 3TC, d4T, AZT, EFV, ETR, NVP, LPV, RAL, T20, MVC), were assessed for their ability to inhibit infection of CNS-derived cells. We generated single round HIV luciferase reporter viruses pseudotyped with YU2 or VSVg envelope to facilitate efficient virus entry into astrocytes. Virus was added to the SVG astrocyte cell line, primary fetal astrocytes (PFA), MDM, or PBMC, in the presence of titrating amounts of ARVs and luciferase assays were performed. Data were used to generate inhibition curves and to calculate EC_{sc}/EC_{sc} values.

Results: With the exception of d4T/AZT, all ARVs tested inhibited viral infection in SVG, PFA, MDM, and PBMC cells in a dose dependent manner. However, AZT and d4T had reduced anti-HIV-1 potency in PFAs, with EC $_{90}$ values 110- and 187-fold greater than known CSF drug concentrations, respectively.

Conclusion: The reduced effectiveness of d4T and AZT in PFA suggests that NeurocART regimens containing these drugs may achieve suboptimal viral inhibition in astrocytes. These data have potentially important implications for the use of d4T/AZT in NeurocART, and suggest that astrocyte infection may remain untargeted by these regimens, potentially leading to poorer neurological outcomes for patients.

EXPRESSION OF HIV-1 TAT BY AN INTERNAL RIBOSOME ENTRY MECHANISM REVEALS A NOVEL PATHWAY FOR TAT TRANS-ACTIVATION FROM LATENT PROVIRUS

<u>Jacobson J</u>, Mota T, Howard J, Alexander M, Sonza C, Purcell DFJ

Department of Microbiology and Immunology, University of Melbourne, Parkville, Victoria, Australia.

Introduction: Integrated human immunodeficiency virus type 1 (HIV-1) provirus sustains a latent infection in resting CD4+ memory T-cells due to multiple restrictions that prevent viral gene expression. These restrictions include transcriptional interference, where an upstream cellular promoter eclipses the viral promoter, driving transcription of a cellular gene that encases the HIV-1 provirus integrated within an intron. Alternative RNA-splicing may form chimeric cellular-viral mRNAs that include *tat* exon-2. We tested the importance of this by creating plasmid vectors that expressed such chimeric spliced RNAs, and asked if Tat protein could be expressed through an internal ribosome entry site (IRES) translation-control mechanism that may assist in reactivation of productive viral replication.

Methods: *Tat* exon-2, with native upstream stop codons, was placed in various exonic contexts within the human growth hormone (hGH) gene. We transfected TZMbl reporter cells with *tat*-hGH plasmid constructs and *in vitro* transcribed RNAs that lacked a functional 7-methylguanosine (m⁷G) cap.

Results: All chimeric tat-hGH plasmids typically expressed Tat protein at >15% of the positive control, irrespective of the context of the tat reading frame, its start codon or any upstream stop codons. *In vitro* transcribed uncapped and 7-methyladenosine (m^7A)-capped RNA transfections demonstrated efficient IRES-mediated Tat expression, at 10 fold over the negative control. The IRES-mediated expression was not evident when EGFP was used in place of the tat open reading frame.

Conclusion: Including *Tat* exon-2 within a cellular mRNA allows functional Tat protein expression independently of a cellular m7G cap structure. Tat expression proceeded irrespective of the context of adjacent overlapping cellular reading frames. Our data suggests that *tat* exon-2 contains an IRES that provides a novel pathway for Tat expression and may be exploited as a therapeutic target for the clearance of latent provirus.

Disclosure of Interest Statement: This work was supported by NHMRC project grant 1011043) (DP), and ACH2 EOI grant 2011 (DP). Authors have no conflict of interests.

DETERMINING THE MECHANISM BY WHICH HIV BLOCKS INTERFERON INDUCTION IN DENDRITIC CELLS

<u>Harman A</u>, Rambukwelle D, Nasr N, Botting RA, Marsden V, Cunningham AL Centre For Virus Research, Westmead Millennium Institute, Westmead

Background: Dendritic cells (DC), macrophages and T-cells are first cells encounter HIV in the genital tract. DCs are particularly important as they are present in the epithelial layer and are able to efficiently transfer the virus to T-cells. Previously we have shown that HIV is able to directly induce the expression of interferon (IFN) stimulated genes (ISG) in a cell type specific manner in the absence of IFN. The inhibition of the IFN response was mediated by the viral accessory protein Vpr all three cell types, but the mechanism differs. In T-cells, Vpr causes the key interferon inducing transcription factor, interferon regulatory factor 3 (IRF3), to be targeted to the proteasome and degraded. In contrast no IRF3 degradation could be detected in HIV-1 infected DCs or macrophages. However, IRF3 did fail to translocate to the nucleus. Here we investigate the mechanism by which the HIV Vpr protein blocks IRF3 nuclear translocation.

Methods: Monocyte derived dendritic cells (MDDC), and macrophages (MDM) were exposed to HIV-1, HSV-2 or Sendai Virus and processed for QPCR or western blotting.

Results: Strong type I and II induction coupled with IRF3 phosphorylation was observed in MDDCs and MDMs exposed to LPS, HSV-2 and Sendai virus cells but not HIV-1. The IRF3 kinases TBK1 and IKKE as well as MAVS, TRAF3 and TRIF were not targeted to the proteasome. We will also present data on the effect of proteasomal inhibitors on HIV mediated IFN induction

Conclusions: HIV inhibits the nuclear translocation of IRF3 to the nucleus in MDDCs and MDMs, however this is not mediated by targeting IRF3 to the proteasome as in T-cells. We now show that HIV also blocks IRF3 phosphorlyation but that this is not mediated by targeting components of the IRF3 signalling pathway to the proteasome.

MUCOSAL UPTAKE MECHANISMS OF RECOMBINANT HIV-1 FOWL POXVIRUS VACCINES AND SAFETY FOLLOWING INTRANASAL DELIVERY

Trivedi S1, Stambas J2, Sedger L3, Jackson R1, Ranasinghe C1

¹The John Curtin School of Medical Research, The Australian National University, ² CSIRO Australian Animal Health Laboratories / Deakin University, ³ University of Technology Sydney.

Introduction: An effective vaccine against HIV-1 should be able to elicit sustained antiviral mucosal HIV-specific CD8+ T cell immunity. Our group has shown that recombinant fowl poxvirus (rFPV) is an excellent mucosal delivery vector and in a prime-boost immunization setting it can induce excellent high avidity mucosal/systemic CD8+ T cell immunity. But nothing much is known about the mechanism by which rFPV is taken up via the mucosae or how some cytokines that are involved in generating high avidity T cells (IL-4/IL-13) modulate the uptake/antigen presentation at the vaccination site. Furthermore, mucosal delivery of rFPV has not yet been clinically tested. Therefore, in this study we have evaluated the safety and the uptake mechanisms of rFPV following intranasal (i.n.) HIV-1 prime-boost immunization.

Methods: BALB/c, IL-4 and IL-13 gene knockout (KO) mice were immunized i.n. or intramuscular (i.m.) with rFPV co-expressing HIV-1 antigens and green fluorescent protein (FPV-HIV-GFP). At different time intervals GFP fluorescence cells were monitored using FACs analysis and microscopy in different compartments including the brain.

Results: In BALB/c mice i.n. delivery of FPV-HIV-GFP revealed that GFP expression was observed as early as 6h post infection (p.i) in lung, the maximum expression was detected at 12h p.i. and after 96 hrs p.i. no virus was detected. The GFP expression in other compartments and antigen uptake together with other cell markers are currently being investigated in BALB/c wild type and KO mice.

Conclusion: This study will enable us to understand how rFPV is taken up via the nasal mucosa compared to systemic delivery. Importantly, whether rFPV can cross the blood-brain barrier following intranasal immunization and whether it is a safe mucosal delivery vector. This study will also establish "how and why" mucosal immunization can induce effective mucosal CD8+T cell immunity against HIV-1 compared to systemic immunization.

Disclosure of Interest Statement: This work was supported by NHMRC project grant 525431 (CR), Bill and Melinda Gates Foundation GCE Phase I grant (CR) and ACH2 EOI grant 2012 (CR). Authors have no conflict of interests.

EMBRACING INNOVATIVE TECHNOLOGY

TO IMPROVE THE HEALTH OF ABORIGINAL

AND TORRES STRAIT ISLANDER PEOPLE

1.00PM - 1.45PM

PAPER NUMBER: 1019

DEVELOPING MULTIMEDIA RESOURCES IN COLLABORATION WITH YOUNG ABORIGINAL PEOPLE TO IMPROVE SEXUAL HEALTH IN REMOTE AND URBAN AUSTRALIA

Borenstein M, Stark A

¹ Department of Health NT, ² Public Health Nurse Consultant

Introduction: STIs and unplanned pregnancies are the highest in Australia amongst remote Aboriginal youth. These outcomes are often linked to drug and alcohol misuse. Exploring young people's strength and resilience in multimedia resources provides a valuable platform for empowerment. In 2009 a play and workshop exploring sexual health and drug and alcohol use was developed in collaboration with young people, Aboriginal community controlled organisations and a sexual health unit in Alice Springs. The play and workshop were designed to empowering young people through exploring their insights, supporting them to make informed healthy choices.

Methods: An evaluation of the play indicated the project an overwhelming success. Building upon the evidence a DVD and workbooks were produced allowing the empowerment process to be duplicated in a sustainable manner. The resources were released in 2012 and evaluation through feedback surveys began.

Results: Preliminary data indicates the DVD and workbooks are highly valued tools empowering young people to make healthier choices. Initial data showed that 100% of facilitators believed the resource contained clear sexual health messages that would be understood by young people and was a tool they would like to use. Additionally 79% of participants indicated that the resource would support them to make positive choices around sex.

Conclusion: Collaboration is central to the success of empowerment projects. Multimedia resources capture the views and insights of young people in a powerful manner, creating economic tools which are highly portable. Strength based resources capitalise on young people's insights and are powerful compared to tools that simply identify 'problems'. Evaluation is essential to further develop resources and contribute to evidence based best practice.

SMART AND DEADLY! COMMUNITY OWNERSHIP, COLLABORATION, AND CULTURAL RESPECT FOR EFFECTIVE ABORIGINAL SEXUAL HEALTH PROMOTION

Stephens K1, Stelling A1, Whybrow R2, Waples-Crowe P3, Tomnay J1

¹Centre for Excellence in Rural Sexual Health (CERSH), The University of Melbourne, ²Albury Wodonga Aboriginal Health Service (AWAHS), ³Victorian Aboriginal Community Controlled Health Organisation (VACCHO)

Introduction: There are disproportionately high notification rates of sexually transmissible infections for Aboriginal and Torres Strait Islander peoples compared with non- Aboriginal and Torres Strait Islander peoples. There are few relevant sexual health promotion resources for rural Aboriginal young people, created by young people themselves. Cultural considerations for resource development include a sense of shame, delineation between women's and men's business, and the continuing impact of the Stolen Generations and consequent familial issues. Strengths to support sexual health promotion include endorsement from Elders, and strong formal and informal cultural and organisational systems.

Methods: CERSH coordinated and filmed a twelve-month project with the Albury-Wodonga Aboriginal community and twenty Aboriginal and non-Aboriginal organizations. The planning group directed the project using reflective questions such as "what does 'working in partnership' actually mean?" and "how will we ensure that Aboriginal values and ways of knowing are embedded into all project processes?"

Forums for parents, carer's and young Aboriginal people were conducted using drama, humour and yarning as the primary education tools. A series of film-making, drama and dance workshops over eight consecutive weeks were offered to young people to develop health promotion messages. Resource development for workers supporting young Aboriginal pregnant and parenting mums and dads was also included and focused on creative ways of nurturing cultural identity.

Results: The project resulted in three community forums, six *YouTube* clips and two rap songs, currently being disseminated using social media. A documentary DVD was produced to support culturally inclusive practice. It provides a narrative about ethics, community ownership, partnerships, respect and reciprocity.

Conclusion: With sufficient resources, community and professional support, Aboriginal young people are ideally placed to play a central role in resource development to improve sexual health literacy. Adherence to Aboriginal health promotion principles and explicit consideration to inclusive processes can support this work.

THE NSW ABORIGINAL SEXUAL AND REPRODUCTIVE HEALTH PROGRAM: ENGAGING YOUTH THROUGH INNOVATION

Saulo D1, Fernando T2, Milsom J3

 $^1\,Aboriginal\,Health\,and\,Medical\,Research\,Council\,of\,NSW, ^2\,Aboriginal\,Medical\,Service\,Western\,Sydney, ^3\,Bulgarr\,Ngaru$

The NSW Aboriginal sexual and reproductive health program is currently funded by NSW health. The program aims to Increase access for Aboriginal adolescents aged 12 – 19 to sexual and reproductive health programs across NSW. The structure of the program has been developed with education elements with input from 2 state wide support workers and 10 Aboriginal Sexual and Reproductive Health Workers who are currently based at 7 sites across NSW. The program also encompasses a social marketing campaign and an overall strong emphasis on evaluation.

The program recently undertook a mid term review which reflected on work achieved over the past 18 months in order to explore and develop future directions. During the 18 month period, 5511 Aboriginal Youth across NSW were engaged through 31 main local projects including the social marketing campaign.

Sexual and Reproductive Health workers Todd Fernando and Jackie Milsom will show case some of the activities they have undertaken during the last 18 months. Activites include - P-4A-PS3 which is a School based sexual and reproductive health education program, Condom Covers, with local art works, a mid night basketball program and other sports and health collaboration programs.

The Aboriginal Sexual and Reproductive Health Workers around NSW continue develop a wide range of innovative and much needed projects that engage Aboriginal Youth within their communities.

The presentation will demonstrate the importance of partnerships, the use of interactive activities and culturally appropriate programs that engage Aboriginal Youth. All these factors have made the NSW Aboriginal Sexual and Reproductive Health program successful in creating and maintaining awareness surrounding issues relating to the overall Sexual and Reproductive health within NSW.

JOINT SYMPOSIUM SESSION: STI MANAGEMENT

IN INDIGENOUS COMMUNITIES

2.00PM - 3.30PM

PAPER NUMBER: 612

AN OUTBREAK OF INFECTIOUS SYPHILIS AMONGST YOUNG ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE IN NORTH WEST OUEENSLAND

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¹Sexual Health Program, Cairns Public Health Unit, Tropical Regional Services, ²Townsville Sexual Health Service, Oueensland Health

Background: Infectious syphilis notifications in the Aboriginal and Torres Strait Islander population have fallen over the last decade with only 123 Indigenous notifications nationally in 2009. During 2010 increasing notifications in the Mt Isa Health Service District (MIHSD) were observed and by early 2011 an outbreak of infectious syphilis affecting young Indigenous people was established. We describe the outbreak and the response measures.

Methods: A Syphilis Incident Management Team was formed. A communication and engagement plan was developed, additional sexual health staff were deployed and screening activities conducted. Data was extracted from the Syphilis Surveillance System to describe the epidemiology and selected management outcomes.

Results: Between 01/01/2011 and 31/05/2012, 134 infectious syphilis and 3 congenital syphilis cases were notified from the MIHSD. A further 19 cases notified elsewhere are directly linked to MIHSD. Of the 153 cases, 82% are less than 25 years old, 62% are female and 99% are Indigenous. 39 of 70 (56%) cases presenting with symptoms and/or as a contact were correctly treated presumptively. Median time from test date to treatment date for the 83 screen cases was 7 days (mean: 14 days, standard deviation: 29). In May 2012 intensive screening events targetting15-24 year olds in two MIHSD settings identified 17 cases.

Conclusion: Ongoing control measures include continuing improvement in sexual health service delivery, development of innovative approaches to engage youth, and longer term sexual health promotion efforts to reduce risk for Indigenous youth in the region.

CHLAMYDIA TRACHMONATIS, NEISSERIA GONORRHOEA AND TRICHOMONAS VAGINALIS INCIDENCE IN REMOTE AUSTRALIAN ABORIGINAL COMMUNITIES: FINDINGS FROM THE STRIVE TRIAL

Silver B^{1,2}, Ward J^{2,3}, Wand H², Garton L², Hengel B^{2,4}, Taylor Thomson D¹, Knox J², McGregor S², Rumbold A^{1,5}, Fairley C^{6,7}, Maher L², Kaldor J², Guy R² on behalf of the STRIVE Investigators.

- ¹ Menzies School of Health Research, Charles Darwin University, Darwin, Northern Territory
- ² The Kirby Institute, University of New South Wales, Sydney NŚW
- ³ Baker IDÍ, Alice Springs, Northern Territory
- ⁴ Apunipima Cape York Health Council, Cairns, Oueensland
- ⁵ University of Adelaide, Adelaide, South Australia
- ⁶ Melbourne Sexual Health Centre, Carlton, Victoria
- ⁷ School of Population Health, University of Melbourne, Carlton, Victoria

Introduction: Bacterial sexually transmissible infections (STI) are endemic in remote Aboriginal communities. Incidence estimates are important to understand patterns of transmission and the effectiveness of prevention initiatives.

Methods: Laboratory results from over 17,700 patients aged over 16 years attending 65 remote primary health care centres participating in STRIVE between January 2009 and November 2011 were analysed. Nucleic acid amplification tests were used to detect all three STI. Incidence of Chlamydia trachmonatis (CT), Neisseria gonorrhoea (NG) and Trichomonas vaginalis (TV) was calculated based on patients with at least two tests and calculated as the number of incident infections (negative followed by a positive test) divided by person-years (PY) of follow-up.

Results: Based on 7171 repeat tests, CT incidence was 8.6/100 PY (95% CI: 7.6-9.9) in men and 10/100 PY (95% CI: 9.1-11.0) in women. Incidence was highest in 16–19 year olds (23.4 in men and 29.2 in women) decreasing steadily with age to 2.6 in men and 2.9 in women aged 35+ years. From 7439 repeat tests, NG incidence was 10/100 PY (95% CI: 8.9-11.4) and 8/100 PY (95% CI: 7.2-8.9) in women. NG incidence was also highest in 16–19 year olds (26.1 in men and 23.4 in women) decreasing steadily with age to 2.2 in men and 2.3 in women aged 35+ years. TV incidence, calculated on 4946 repeat tests, was 10.6/100 PY (95% CI: 9.6-11.7) in women compared with 2.4/100 PY (95% CI: 2.0-3.1) in men. Incidence in women was highest in the 16–19 year group (19.8), decreasing to 6.6 in 35+ year olds, while there was no apparent trends with age in men.

Conclusion: The high incidence of all three STI found in this study affirm the importance of sustained STI control measures in remote Australia, particularly among people aged 16-19

MEASURING THE IMPACT OF STI AND HIV CONTROL STRATEGIES: EXPERIENCES FROM REMOTE COMMUNITIES

Kaldor J¹

¹The Kirby Institute

Treatable sexually transmitted infections continue to occur at high levels in many remote communities, despite the availability of good tests and treatments. HIV has so far been absent from most communities but is perceived as a constant threat. Primary health services are expected to detect and manage STIs and offer HIV testing but have many competing priorities, so recent approaches have sought to focus on the activities that are likely to produce the greatest clinical and public health benefit. Building on experience in other areas of health, and working closely with service providers, quality improvement processes for sexual health service delivery, including clinical audit, systems assessment, development of action plans and regular feedback of reports, have been developed. Process and outcome indicators have also been devised, supported by upgraded patient information systems, and are now being used in a variety of remote clinical settings. Process indicators include the clinic's self-assessment of its sexual health service delivery quality in a number of domains, and outcome indicators include percent of clinic attenders offered testing for STIs and HIV, time to treatment for those found positive for STIs and proportion of those with a positive test for STIs offered a repeat test at three months. Experience with the use of these indicators is now accumulating through research and programmatic application of quality improvement strategies at over 70 clinical services that have predominantly Aboriginal patient populations.

POINT-OF-CARE TESTS FOR CHLAMYDIA AND GONORRHOEA INFECTIONS IN REMOTE ABORIGINAL COMMUNITIES: THE TEST, TREAT AND GO-THE"TTANGO"TRIAL

Guv R

Kirby Institute, NSW, Australia

Background: Many remote and isolated communities in Australia continue to experience high rates of chlamydia and gonorrhoea infections. In order to interrupt disease transmission and reduce the risk of complications, early diagnosis and treatment is important. However in many remote communities, there are long delays between specimen collection and the provision of treatment, due to both distance from laboratories and difficulties in recalling patients. In late 2012 a randomised controlled trial (RCT) of point-of-care testing for chlamydia and gonorrhoea infections will be implemented in 12 remote communities in Queensland and Western Australia. The trial will assess if a chlamydia and gonorrhoea point-of-care tests can reduce the interval time to treatment and repeat infections. Prior to the RCT a comprehensive laboratory and field evaluation is being undertataken. This presentation will describe preliminary results from these evaluations, and also the design of RCT.

Methods: The laboratory evaluation was conducted in 2011/2012 and compared the performance of a range of candidate point-of-care tests to reference tests using over 200 samples. In mid-late 2012, we conducted a field evaluation in remote communities and compared the performance of a range of candidate point-of-care tests to reference test results using fresh samples, and also obtainfed feedback from health services about the best ways to integrate the point-of-care testing into routine care. This research is being conducted as a partnership between peak Aboriginal organisations, individual Aboriginal Community Controlled Health Services (ACCHS), academic researchers, and laboratories.

Results: The laboratory evaluation demonstrated one point-of-care test (assay 1) to have superior analytical performance (sensitivity and specificity) for detection of CT and NG, compared with other assays. Assay 1 is based on the newest available technology for infectious disease point-of-care testing. Its characteristics will be described in more detail in the presentation. The field evaluation confirmed assay 1 had superior analytical performance using fresh samples for detection of CT and NG compared with other assays, it was easy to use, and health service staff suggested a range of ways to integrate the system into routine care.

Conclusion: The comprehensive evaluations conducted prior to the RCT have proved vital in planning and designing the RCT. If the RCT shows that use of point-of-care tests reduces repeat infections in remote communities, the results will provide compelling and influential findings that should inevitably raise the profile of sexual health point-of-care technology on the policy agenda, and advance diagnostic, clinical and public health practice. The ultimate benefits will be in terms of reductions in the short and long-term adverse consequences of these infections in remote communities.

THE GOANNA PROJECT: CONDOM USE AMONG YOUNG ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

Ms Imogen Green 1 , Prof John Kaldor , Ms Donna Ah Chee 3 , Dr Joanne Bryant 4 , Prof Marian Pitts 5 , Prof Anthony Smith 5 , A/Prof Heather Worth 6 , Mr James Ward 2 , Ms Dina Saulo 7

¹The Kirby Institute, University of New South Wales, ² Baker IDI, ³ National Aboriginal Community Controlled Health Organisation, ⁴ National Centre for HIV Social Research, ⁵ Australian Research Centre for Sex Health and Society, La Trobe University, ⁶ School of Public Health and Community Medicine, University of New South Wales, ⁷Aboriginal Health and Medical Research Council.

Background: Limited information is available in knowledge, risk practices and health service access of sexually transmitted infections (STIs) and blood borne viruses in young Aboriginal and Torres Strait Islander people. The GOANNA project was established with funding from the Australian Research Council and a range of government and community partners as the first national study in this area.

Methods: A cross-sectional, self-administered survey using personal digital assistants was conducted at cultural and sporting events in regional and urban centers in 2011 and 2012.

Results: Overall, questionnaires were collected from 1709 young (16-29) people at 19 events across all 8 Australian jurisdictions. The median age of participants was 21 years (interquartile range:17-25). Overall, 84% of participants reported having sex in their lifetime, and of these 54% reported condom use at last sex. Condom use at last sex was higher in younger age groups (74% in 16-18 year olds vs 54% in 19-24 year olds vs 41% in 25-30 year olds, p<0.01). A higher proportion of males reported condom use at last sex, compared with females (60% vs 53%, p=0.02). Reported condom use at last sex was higher in the presence of high-risk behaviours such as being drunk or high, compared with those not drunk or high (64% vs 53%,p<0.01), and having sex with a new partner compared with a "boyfriend" or "girlfriend" (73% vs 53%,p<0.01). Conversely condom use at last sex was lower in participants who reported STI diagnoses in the past, compared to those who had not (41% vs 56%, p<0.01).

Conclusions: Young people who engage in higher-risk behaviours also report higher rates of condom use. However condom use was lower in those with a history of STIs. Condoms are being used at reasonably high levels with new partners but there is room for continued improvement in access and uptake.

FINANCING THE HIV RESPONSE IN THE REGION

2.00PM - 3.30PM

This symposium will take the form of a facilitated panel discussion which will examine in some detail the impacts and implications on national HIV responses of financial pressures on HIV funding, including the suspension of GFATM Round 11, the shift in programming to incorporate HIV services into broader health systems and the 'value for money'/ results focus of HIV funding as well as the emphasis on allocating resources to most-affected populations.

The symposium will consider these issues from the viewpoints of international agencies, donors, national health ministries and policy and strategic plan advisers. Panel members will include Mr Prasada Rao, the UNAIDS Special Envoy for Asia and the Pacific and Mr Narciso Fernandes, National HIV/AIDS Program Manager at Ministry of Health, Timor Leste.

THEME A SYMPOSIA: CORRELATES OF PROTECTION

AND A VACCINE DESIGN

2.00PM - 3.30PM

PAPER NUMBER: 1107

NEUTRALIZING TARGETS ON HIV

Burton, DR

Dept of Immunology and Microbial Science, Center for HIV/AIDS Vaccine Immunology and Immunogen Discovery, and IAVI Neutralizing Antibody Center, The Scripps Research Institute, La Jolla, CA, USA

Ragon Institute of MGH, MIT and Harvard, Boston, MA, USA

Highly antigenically variable viruses such as HIV present huge problems for vaccine design. Broadly neutralizing antibodies to HIV generated during natural infection can identify weaknesses in the surface structures of the virus. These weaknesses can help guide vaccine and drug design and reveal fascinating aspects of the interplay between two highly mutable systems-the virus and antibody.

No pharmaceutical grants were received in the development of this study.

PROTECTION FROM HIV: POTENTIAL ROLE OF ANTIBODY-DEPENDENT CELLULAR CYTOTOXICITY (ADCC) ANTIBODIES IN PROTECTIVE IMMUNITY

Kent S

University of Melbourne, VIC, Australia

A HIV vaccine is urgently needed but the type(s) of immunity needed to achieve reliable protection are not clear. It has been difficult to induce broadly reactive neutralizing antibodies to date, and narrowly directed neutralizing antibodies were not effective in the AIDSVAX trials. Some CTL-based immune responses appear effective in macaque trials, but at least a limited set of CTL responses induced by an Adenovirus-vector based regimen were not effective in the STEP trial. The RV 144 Canarypox/Env protein boost regimen induces limited neutralizing antibodies and CTL responses, but showed partial efficacy. This regimen induces high levels of binding antibodies to HIV-1 Env and these non-neutralizing antibodies, such as ADCC antibodies, may mediate the partial protective immunity.

HIV-specific ADCC antibodies bind to HIV antigens expressed on the surface of infected cells and bind innate immune cells, such as NK cells, via their Fc portion, which results in killing of the infected cell. Considerable evidence shows that ADCC antibodies in infected subjects can help slow progression and passive transfer studies in macaques show this function is important in controlling virus exposure. Using a novel intracellular cytokine staining approach to identify these antibodies, our group has shown these antibodies can induce NK cells to rapidly kill virus-infected cells. Through detailed mapping of individual ADCC epitopes, we also found these responses frequently force viral escape, suggesting they apply considerable pressure to the virus. Subjects with slow HIV progression disproportionately target specific ADCC epitopes, including non-Env proteins. HIV vaccine regimens that more effectively induce ADCC responses to conserved HIV epitopes should be further explored.

PROMISING HIV-1 VACCINE STRATEGIES TO ENHANCE MUCOSAL IMMUNITY AND CD8 T CELL AVIDITY

Ranasinghe C, Trivedi S, Stambas J, Jackson RJ

Molecular Mucosal Vaccine Immunology Group, Dept Immunology, The John Curtin School of Medical Research, The Australian National University, ACT. School of Medicine, Deakin University, VIC

Introduction: It is now well established that not only the magnitude of cell-mediated immunity but also the 'avidity' or efficacy of the T cells induced, may be important for protection against diseases like HIV-1. Our previous findings have demonstrated that a mucosal (intranasal, i.n.) versus systemic (intramuscular, i.m.) immunisation can influence not only the magnitude but also the avidity of T cell immunity generated to vaccine antigens, where mucosal immunisation was shown to induce CTL of high avidity that offered greater protection against viral challenge. Therefore, we have performed studies to understand "how and why" the vaccine delivery route influences the quality of protective CTL immunity to HIV-1. We have found that mucosal immunisation generated HIV-specific CD8+T cells with lower interleukin (IL)-4 & IL-13 compared to systemic immunisation and IL-13 is detrimental to the functional avidity of these T cells. We have now constructed two unique recombinant HIV-1 vaccines that co-express IL-13 inhibitors, which can "transiently" block IL-13 activity at the vaccination site causing wild-type animals to behave similar to an IL-13-/- animal.

Methods: BALB/c or IL-13-/- gene knock out mice were i.n./i.m. prime boost immunised with fowl pox virus expressing HIV gag/pol and vaccinia virus expressing the same genes, and also vaccines that co-express IL-13 inhibitors. At different time points immunity was evaluated by ELISPOT, intracellular cytokine staining, tetramer staining and cytokine antibody arrays. Mucosal influenza-HIV challenge was used to evaluate protective immunity.

Results: These novel IL-13 inhibitor vaccines were able to induce i) enhanced HIV-specific CD8+T cells with higher functional avidity, with broader cytokine/chemokine profiles and greater protective immunity using a surrogate mucosal HIV-1 challenge, and also ii) excellent multifunctional mucosal CD8+T cell responses, in lung, genito-rectal nodes and Peyer's patch. Data also revealed that i.n. delivery of these vaccines helped recruit large numbers of unique antigen presenting cell subsets to the lung mucosae, ultimately promoting the induction of high avidity CD8+T cells. We believe our novel IL-13 cytokine trap vaccine strategy offers great promise not only for HIV-1, but also against range of chronic infections that require strong sustained high avidity mucosal/systemic immunity for protection.

Disclosure of Interest Statement: This work was supported by NHMRC project grant 525431 (CR), Bill and Melinda Gates Foundation GCE Phase I grant (CR) and ACH2 EOI grant (CR).

IUSTI CLOSING SESSION: WHERE TO FROM HERE?

4.00PM - 5.30PM

PAPER NUMBER: 1204

INDIGENIZING HIV

Pala N

Executive Director, INA (Māori, Indigenous & South Pacific) HIV/AIDS Foundation (INA), Co-Chair, International Indigenous Working Group on HIV & AIDS (IIWGHA)

Issues: Indigenous peoples account for 5% of the world's population and make up one third of the world's poorest people. A number of social health determinants leave Indigenous people vulnerable to threats such as HIV, with this leading to disproportionate rates of HIV compared to non-Indigenous populations. This is particularly marked in those countries where the indigenous populations are not in political power, and among Indigenous men who have sex with men, sex workers, women, people who inject drugs and those suffering from stigma and discrimination.

Description: The impact of HIV in this vulnerable population highlights the lack of research or clinical trials conducted with Indigenous peoples as the primary focus. Studies fail to consider the political, socio-economic and cultural factors with all their complexities, and these are often excluded from comprehensive and effective intervention strategy.

The International Indigenous Working Group on HIV & AIDS (IIWGHA) has brought together people from many countries who are leaders in the HIV field to strategize and build strength in addressing issues related to political, socio-economic and cultural diversity – and to overcome the impact of HIV on Indigenous peoples. Early recognition, activism and advocacy from the 1980s of community organisations have set a path for IIWGHA to continue to uphold the principles of Toronto Charter, and the United Declaration of the Rights of Indigenous Peoples...

Lessons learned: The changing face of HIV creates a new landscape for IIWGHA at an international level as well as for national and local community organisations. The Strategic Plan of IIWGHA highlights the immediate and long-term goals for building strengths and collaboration. Cultural homogenization of Indigenous people into a blended, uniform cultural practice does not allow for the diversity experienced across cultures. IIWGHA incorporates cultural values and practices that continue to allow for each individual Indigenous culture to practise indigenizing HIV through a shared experience.

Next steps: Although IIWGHA has come to this point from 2005, advocacy to have HIV identified as an serious issue still struggles to compete with other historic issues for Indigenous peoples. IIWGHA has been successful in raising the voice of Indigenous peoples at the recent AIDS2012, with a symposia special session, a bridging session, and a strong presence in the Global Village. IIWGHA's next steps are to advocate at the United Nations, at UNAIDS, at global and national levels, and within our own communities.

IS AN AIDS-FREE GENERATION FEASIBLE: SCIENCE VS. REALITY

Duinn TO

National Institute of Allergy and Infectious Diseases, National Institutes of Health, and Center for Global Health, Johns Hopkins University, Baltimore, MD, USA

Currently there are 34.2 million people living with HIV and last year 2.5 million people were newly infected. In 2011 more than 8 million people had access to antiretroviral therapy (ART), but nevertheless, 1.7 million people still died from AIDS-related causes, and over 330,000 children were newly infected with HIV. Global investments for HIV totaled \$16.8 billion in 2011. With these grim statistics, how can one consider an AIDS Free Generation? This goal stems primarily from the remarkable advances that have been made in biomedical interventions in HIV prevention, including male circumcision and the use of antiretroviral drugs (ARVs) for prevention of mother-to-child transmission (PMTCT), and of sexual transmission via microbicides, pre-exposure prophylaxis (PrEP). and treatment of infected persons within discordant couples. In updated data, male circumcision has demonstrated a >70% community effectiveness in reducing HIV incidence. In addition, male circumcision reduces genital HSV and HPV infections in men and their female partners. Similarly, ART during pregnancy and breastfeeding markedly reduces MTCT from 30 to 35% to <1%. With universal coverage of all HIV+ pregnant women, this truly could result in elimination of perinatal HIV. ARV containing microbicides and oral PrEP trials demonstrated reductions in HIV acquisition from 39% to as high as 73%, with the wide variance due to non-adherence to drug regimen. Further enthusiasm was based on the finding that early initiation of ART in HIV-infected individuals substantially reduced sexual transmission of HIV by 96% among virologically linked partners. While these scientific achievements provide a rationale for targeting for an AIDS Free Generation, many obstacles remain to achieve this ultimate goal, including universal access to ARTs, adherence, retention, ARV resistance, lack of resources and community motivation to mention a few. In conclusion, enormous progress has been made in the global AIDS response but further achievements will require universal access. wide-scale implementation, careful monitoring and evaluation, financial and technical resources, and a robust commitment. Only then will we begin to see a substantial impact on slowing the spread of HIV.

ORAL PRESENTATION ABSTRACTS THURSDAY 18 OCTOBER 2012

HIV/AIDS CONFERENCE PLENARY FACTORS IN VIRAL CONTROL

8.30AM - 10.00AM

PAPER NUMBER: 1104

TOWARDS A CURE FOR AIDS: A MONKEY-BASED PERSPECTIVE

Silvestri G

Division of Microbiology & Immunology, Yerkes National Primate Research Center, USA

In the thirty years after the discovery of HIV as the cause of AIDS, tremendous progress has been made in the treatment and prevention of this deadly infection. In particular, the availability of a large number of very potent anti-retroviral drugs has dramatically reduced the mortality and morbidity associated with HIV infection, and has significantly decreased the transmission of the virus within the human population. Despite these important advances, however, the development of an effective AIDS vaccine has remained elusive, and no therapeutic strategy that can eradicate the infection is yet available. This latter issue represents a formidable scientific challenge since the persistent reservoir of latently infected cells that is invariably established during HIV infection is resistant to both conventional anti-retroviral therapy (which targets specific phases of the "productive" virus life cycle) and immune-based interventions (which require expression of viral proteins as target antigens). Conceivably, novel and more more successful approaches to both HIV prevention and therapy will require a better understanding of some fundamental aspects of the interaction between the virus and the host immune system that are still poorly understood.

Several species of non-human primates (NHPs) can be infected with species-specific variants of SIV. Typically, African NHPs such as sooty mangabeys and vervets experience a natural, non-pathogenic infection which is characterized by robust virus replication, low levels of immune activation, and preservation of central memory CD4+ T cells. In contrast, Asian NHPs, such as rhesus and pigtail macaques, that are experimentally infected with SIV experience a progressive infection characterized by CD4+ T cell depletion, high levels of immune activation, and development of simian AIDS. Comparative studies of SIV infection of natural and non-natural hosts have provided very valuable information on the mechanisms responsible for AIDS pathogenesis in HIV-infected humans. More recently, the SIV/NHP model has also been developed and validated for studies of HIV eradication and residual immune activation in the setting of fully suppressive antiretroviral therapy. In this presentation, I will review the opportunities presented by the various NHP models to conduct studies that will improve our understanding of AIDS virology, immunology, and pathogenesis, with specific focus on issues related to the possibility of achieving a functional cure for HIV infection.

WHERE ARE WE IN HIV REDUCTION AMONG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN?

<u>Professor D. Barry Adam</u>, University Professor, Department of Sociology, Anthropology and Criminology, University of Windsor; and Senior Scientist and Director of Prevention Research, Ontario HIV Treatment Network, Canada

The success of ART has generated a good deal of talk that treatment can force the HIV epidemic into retreat, but examination of HIV rates for MSM shows less cause for optimism. Over time, MSM have become increasingly marginal in international conferences and recent studies are showing this marginality extends to funding and other resources dedicated to prevention. This presentation seeks to identify what treatment-asprevention can and cannot do to address the epidemic among MSM and reviews a number of indicators showing challenges that remain. Advancing an HIV reduction research agenda will require: better delineation of networks and micro-cultures, better understandings of the internet and sexual connection, delving into cultures of practical and moral reasoning, the social dynamics of Stall's notion of syndemics, and challenges of developing evidence-based prevention practice.

HIV AND HCV COINFECTION: BREAKING DOWN THE BARRIERS

Matthews G

Kirby Institute, NSW, Australia

Successful treatment of HIV/HCV coinfected individuals has traditionally been hampered by many barriers including poor treatment outcomes, potential ARV interactions, physician and patient reluctance, and issues of cost and equitable access. As treatment for HCV moves into a new era with the rapid development of the Directly Acting Agents, the potential for benefit to HIV/HCV coinfected individuals is great. This plenary will discuss the most current data on DAA based treatment outcomes within this population, including the potential problems that may arise, as well as future directions in therapy and how these may affect barriers to care and access for coinfected individuals.

ARV GUIDELINES SESSION: EARLY ANTIRETROVIRAL TREATMENT

10.30AM - 12.30PM

PAPER NUMBER: 1144

HIV THERAPY: WHEN TO START

Steven G. Deeks, MD

University of California, San Francisco

One of the most unsettled questions of HIV medicine is when to start therapy. Over the past 15 years, the guidelines have shifted, sometimes dramatically and often with limited data. With the recent development of a series of well-tolerated and highly-effective regimens, expert opinion has shifted towards using antiretroviral drug early in the disease process. Randomized clinical trial data largely support the immediate use of therapy in anyone with CD4+ T cell count below 350 cells/mm3, and solid but non-definitive data support the use in people with CD4+T cell counts between 350 and 500 cells/mm3. There are theoretical reasons and some controversial cohort data to suggest the use of therapy in people with higher CD4+T cell counts, leading some guideline panels—particularly those who are based in the USA—to recommend therapy for essentially everyone. The question which clinicians now must address is whether the known and potentially unknown irreversible toxicity associated with active HIV replication during early disease is greater than the toxicity associated with antiretroviral therapy. The emerging data most of which focuses on the long-term consequences of irreversible HIV-mediated harm to immune system—suggests that HIV replication is more harmful that therapy. These considerations, as well as the unquestioned public health benefits of universal access to therapy—support the use of treatment in nearly all motivated persons, unless compelling data suggest therapy poses excess risk.

EARLY ANTIRETROVIRAL THERAPY: MODELLING THE POTENTIAL IMPACT ON THE AUSTRALIAN EPIDEMIC

Wilson DP1, Jansson J1

¹The Kirby Institute, University of New South Wales

Introduction: Early initiation of antiretroviral treatment (ART) for those infected with HIV can prevent onward transmission of infection. However, biological efficacy at an individual-level is insufficient to guide recommendations and knowledge about the expected population-level impact in reducing incidence associated with increases in ART scale-up. This study estimates the potential impact on the Australian epidemic of increased HIV testing and treatment.

Methods: A mathematical model, linked to Australia's National HIV Registry of diagnosed cases, was developed and used to back-project expected times from infection to diagnosis, forward-project population incidence and estimate the average transmission rate between different population groups. The model then simulated increases in treatment rates from 70% of diagnosed cases to 80%, 90% or 95% and increases in testing frequencies by 25%, 50%, 100%, 200%, 300%, and 400% current levels.

Results: It is simulated that noticeable reductions in HIV incidence in Australia are likely by 2015 and subsequent years if there are increases in ART coverage. However, it would be extremely difficult to achieve the targets of the UN Declaration. This is largely due to the relatively high treatment rates in Australia that already exist.

Conclusion: Earlier ART for people living with HIV can be an important population health strategy in Australia for reducing HIV incidence. Despite Australia's relatively high testing and treatment rates, there are components of the treatment cascade in Australia for which considerable improvements can be achieved.

Disclosure of Interest Statement: The authors acknowledge funding from the Australian Government Department of Health and Ageing; the National Association of People Living with HIV/AIDS; and grant numbers FT0991990 and DP1093026 from the Australian Research Council. The views expressed in this publication do not necessarily represent the position of the Australian Government. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales.

THEME D PROFFERED PAPER SESSION:

POSITIVE LIVING DIVERSITY

10.30AM - 12.30PM

PAPER NUMBER 940

UNDERSTANDING MOTIVATIONS OF HEALTH AND LIFESTYLE CHOICES IN PLHIV: QUALITATIVE DATA FROM THE HEALTHMAP PROJECT

McDonald K1, Elliott JH1,2,3, Slavin S4, Pitts M5 for the HealthMap Project Team

¹Department of Infectious Diseases, Monash University; ²Infectious Diseases Unit, Alfred Hospital; ³Centre for Population Health, Burnet Institute; ⁴National Association of People Living with HIV/AIDS; ⁵Australian Centre for Sex, Health and Society, Latrobe University.

Background: People living with HIV (PLHIV) are exposed to an increased risk of several chronic age-related conditions including coronary heart disease. The aim of this study is to inform the design of a complex health self-management intervention for PLHIV that will be assessed using a cluster randomised control trial.

Method: Semi-structured face-to-face interviews were used to explore practices and motivations of participants to maintain and manage their health conditions; including diet, exercise, relationships with clinicians and social support for health maintenance. Current smokers were also asked to detail their thoughts about smoking, desires to quit and any quit attempts. Thirty interviews have been conducted in Victoria and NSW in 2012 and participants range in age from 20-70. Recruitment includes participants who are non-community identified and socially isolated.

Results: A number of themes have emerged from analysis including: motivations to quit smoking; barriers to exercise; and the role of the clinical space to support lifestyle changes. Motivations to quit smoking include financial as well as health gains, however, for some, smoking is pleasurable and part of their identity. People who are working full-time identified time as a major barrier to exercise but many felt an "exercise buddy" would help their commitment. Nearly all participants said their HIV clinician was their most significant health support but most did not discuss desired lifestyle changes with their clinicians. Generally it was perceived that there was insufficient time to deal with additional health concerns.

Conclusion: This paper will explore the motivations and perceived barriers to changing lifestyle practices that are deemed by PLHIV as unhealthy or undesirable. This understanding will inform the design of an intervention to prevent chronic disease outcomes in people living with HIV.

USING A PARTICIPATORY METHODOLOGY TO EXPLORE EXPERIENCES OF HIV TREATMENTS AMONG PLHIV IN THE PACIFIC ISLANDS

Gorman, H',Buko, A², Colati, J³, Itimwemwe, B⁴, <u>Kubunavanua, R⁴</u>, Nayasa, L⁶, Seduadua, M⁷, Senikaucava, T⁸

^{1,5} Pacific Islands AIDS Foundation, ²Ministry of Health, Solomon Islands, ^{3,6,7,8}Fiji Network of People Living with HIV, ⁴
Ministry of Health, HIV Unit, Kiribati

Introduction: The greater involvement of people living with HIV (GIPA) principle is based on the idea that people living with HIV (PLHIV) have valuable lived experience that can help to improve HIV responses. This project aims to integrate the GIPA principle into research by employing a participatory methodology to explore experiences of HIV treatments. This project is a participatory research initiative in that it aims to produce knowledge with and from the perspective of the participants and to benefit Pacific PLHIV.

Methods: PLHIV from the Pacific Islands region were invited to apply to become part of this project. A team of eight PLHIV from four countries were selected to attend a workshop to build their knowledge of HIV treatment, social research and collaboratively develop the research method and tools. The peer researchers decided to employ a qualitative approach through conducting in-depth interviews. They are currently working with project coordinator to interview 60 PLHIV from Fiji, French Polynesia, Guam, Kiribati, Samoa, and the Solomon Islands.

Results: The participatory process has supported the development of the knowledge, skills and confidence of the peer researchers. Yet, there are numerous challenges including the high costs associated with a regional participatory project, distance and on-going communication. This presentation will elaborate on how a participatory methodology has strengthened the quality and increased relevance of the evidence it has produced.

Conclusion: It will also discuss how the process of collaboratively developing the project has been just as important as the evidence that the project aims to generate while acknowledging the limitations to realizing full and equal participation.

This project has been funded by the Pacific Islands HIV and STI Response Fund. Nothing to declare.

POLITICAL DETERMINANTS OF ART AND PMTCT COVERAGE

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¹University of Sydney; ²University of New South Wales; ³ Papua New Guinea Institute for Medical Research

Introduction: From the beginning of the HIV epidemic it has been recognised that leadership is a key factor in the success of HIV prevention and support at the community, national, and global levels. The main aim of this study is to investigate the political determinants of ART and PMTCT) coverage using country-level data, and is a statistical analysis using a large number of databases

Methods: Countries with low to upper middle income were chosen for collection of country-level data on HIV, health burden and resources, socio-demography, human development, gender equality, economy, development and political governance from various sources. Indicators of the quality of political governance and democracy scores and ethno-linguistic fractionalisation were also used in the analyses. A baseline multi-level model was used for the univariate and multivariate analyses of each potential determinant of ART and PMTCT coverage

Results: Countries with higher HIV prevalence had significantly higher levels of PMTCT coverage after adjusting for other factors in the multivariate model. There was a significant association of ART and PMTCT coverage with all indicators of political governance. Control of corruption had a strong association with both outcomes.

Political voice and accountability was also significantly associated with ART coverage.

Conclusion: Indicators of economic development including GDP / capita were not significant perhaps because it is highly correlated with the level of economic development. This is an issue to address, particularly when it comes to accountability and effective use of resources. Political voice and accountability associated with ART coverage can be anticipated in view of the level of activism in the push towards universal ART coverage so that governments that respond to pressure are more likely to step up efforts to improve ART provision.

Disclosure of Interest Statement: This project was funded by the PNG National AIDS Commission Secretariat Large Grants Fund and the University of New South Wales.

INFANTS FEEDING PRACTICES AMONGST HIV-POSITIVE MOTHERS

<u>Fiya V</u>*, Kelly A^{1,2}, Vallely L¹, Kupul M¹, Neo R¹, Ofi PS¹, Ase S¹, Kaldor J³, Mola G⁴, Kariwiga G⁵ and Worth H²

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International HIV Research Group, School of Public Health and Community Medicine, University of New South Wales, Sydney, Australia, ³ Kirby Institute, University of New South Wales, Sydney, Australia, ⁴ University of Papua New Guinea, ⁵ UNICEF. Papua New Guinea

Introduction: The World Health Organization recommends all mothers, regardless of their HIV status practice exclusive breastfeeding for the first six months of an infant's life. In line with these recommendations and to protect, promote and support breastfeeding, the National HIV infant feeding guidelines outline infant feeding options available to mothers in Papua New Guinea (PNG). However, in PNG cultural beliefs regarding feeding practices persist and infant feeding in the context of HIV is complex.

Methods: A qualitative cross-sectional and longitudinal study of 53 HIV-positive pregnant mothers and newly diagnosed mothers was undertaken in two sites in PNG. Mothers were recruited through antenatal clinics and people living with HIV networks; thirty mothers were followed up two or three times. All interviews were conducted by trained researchers, transcribed, translated and coded using Nvivo 9.

Results: The majority of mothers interviewed reported being advised to exclusively breastfeed for six months and to maintain breastfeeding after the introduction of solids/fluids at six months, if they continued to take antiretroviral therapy. However, this is not what women practiced. Preliminary data suggests that while some mothers exclusively breastfed infants to six months, more did not and very few continued breastfeeding beyond six months. Mothers whose previous child died from HIV or who had an HIV negative result for their infant at six weeks had greater difficulty following health workers advice. Numerous mothers reported difficulties negotiating cultural feeding practices recommending mix-feeding from an early age.

Conclusion: While information on exclusive breastfeeding practices appears thorough, continued health education and counseling for mothers with HIV exposed infants is needed. Such information may need to be tailored for mothers who had children prior to the change in policy in 2009. Additional support may be needed to help mothers educate family about the importance of exclusive breastfeeding without risk of unwanted disclosure.

Disclosure of Interest Statement: This study was funded by an Australian Development Research Award (ADRA)

THEME C PROFFERED PAPER SESSION:

HIV IN THE ASIA PACIFIC REGION - SPONSORED BY AUSAID

10.30AM - 12.30PM

PAPER NUMBER: 106

COMMUNITY LEADER'S ATTITUDES TOWARD MALE CIRCUMCISSION FOR HIV PREVENTION IN PAPUA NEW GUINEA

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Introduction: Male circumcision is a potential new public health intervention being considered for HIV prevention in PNG. Community leaders' attitudes play an important role in determining the success of new public health initiatives, however little is known about leaders' views about male circumcision and HIV prevention. This study was conducted to gain an understanding of community leaders' attitudes towards male circumcision and HIV prevention.

Methods: A total of 17 male and 5 female leaders from (i) a university campus and (ii) an oil palm plantation were selected through purposive sampling. Semi-structured interviews were utilized to enquire about leaders' attitudes towards MC and HIV prevention.

Results: Leaders spoke for both the communities where they currently reside and their own local communities in home provinces. Leaders identified circumcision practices that happened as cultural tradition in some areas are now being practiced, and modified, in many other areas of PNG. Opinions expressed by leaders from areas of traditional circumcision include: cultural values, religious practice, identity, manhood, removal of maternal blood and personal hygiene, while leaders from areas with no circumcision tradition expressed: outside influences, peer pressure, social change, educational status, sexual pleasure, handsomeness, penile enlargement and HIV prevention in PNG. Some leaders who opposed male circumcision expressed that it is a new concept, a foreign practice and not part of culture; they also perceived a likely increase of sexual activity, decrease in condom use and were fearful of complications after circumcision.

Conclusion: Community leaders have valued knowledge and considered opinions about male circumcision and should be included in planning, implementation and monitoring of any potential male circumcision for HIV prevention program in PNG.

Disclosure of Interest Statement: This study was partially funded by NHMRC Grant No: 601003 and Pacific Adventist University postgraduate support scheme. No pharmaceutical grants were received in the development of this study.

"SYMPATHY FOR MY PEOPLE": SOCIO-CULTURAL AND INDIVIDUAL DETERMINANTS FOR MOTIVATION OF SEXUAL HEALTH WORKERS IN PAPUA NEW GUINEA AND THEIR IMPLICATIONS FOR MALE CIRCUMCISION AS AN HIV PREVENTION STRATEGY IN PAPUA NEW GUINEA

 $\underline{\text{Tynan }} A_1^1$, Vallely A_2^3 , Kelly A_2^3 , Kupul A_2^3 , Kupul A_2^3 , Kaldor A_2^3 , Kaldor A

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⁵Sexual Health and Disease Control Branch, National Department of Health, Port Moresby, Papua New Guinea.

Introduction: The motivation of health care workers in developing countries has been described as a critical factor in the success of health systems in implementing programs. How the socio-cultural context of PNG affects the values, motivation and actions of health workers (HWs) in the delivery of sexual health services is important for policy development and program planning. With increased interest in male circumcision (MC) as an HIV prevention option in PNG, this study explored the perceptions and motivations of HWs involved in sexual health services in PNG and their implications for the future roll-out of a national MC program.

Methods: Twenty-six in-depth interviews and one focus group discussion were conducted with HWs across a range of health care professions working in sexual health, family planning, vasectomy and MC programs in health facilities in PNG. Qualitative thematic analysis of the transcripts and field notes was undertaken, complemented by documentary analysis.

Results: Social-cultural, individual and organizational factors influencing HW motivation included national pride, concern for community, sense of accomplishment, and commitment to service. HWs perceived themselves as being willing to make sacrifices to deliver successful sexual health services in PNG and as a result often worked outside the boundaries of their role requirements. Strong links to community outweighed organizational ties. Faced with an often dysfunctional work environment, HWs perceived themselves as responsible to compensate for the failed health system.

Conclusion: Successful mobilization of sexual health services requires a strong commitment from key HWs. Understanding the determinants of HW motivation in the context of delivering sexual health services in PNG will assist not only in program planning for MC, but also in informing the effectiveness of existing sexual health services.

Disclosure of Interest Statement: No disclosure of interest

CONCURRENCY OF SEXUAL PARTNERS AND CONDOM USE OF HIGHWAY TRUCK DRIVERS IN PAPUA NEW GUINEA

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Introduction: The HIV epidemic in Papua New Guinea increased annually since 1987, with higher prevalence in urban areas, along transport routes and in areas of rural development. Mapping in 2005 indicated the need to understand truck driver's risk of HIV infection. In 2006 drivers were interviewed during behavioural surveillance surveys (BSS) and findings indicated high numbers of sexual partners and low condom use. In 2010, truck drivers were again interviewed.

Methods: In 2010, a random sample of 257 male highway truck drivers was collected from sixteen sites across eight companies. Face to face survey interviews were conducted using a palm held computer. Truck drivers were over 15 years, working at trucking companies and driving the Highlands and adjoining highways.

Results: There were no statistical associations between the length of time drivers were away and having additional sex partners – just being away from home and mobility fostered concurrent sexual relationships. But duration away impacted on types and complexity of sex partners drivers had.

Truck drivers are showing positive behavioural change, with significant relationships in 2010, between having a transactional or a non-regular partner and using a condom at last sex (p<0.001), and using a condom more often at last sex when having more than one regular partner (p<0.009).

Decreases between 2006 and 2010 in the frequency that truck drivers had non-regular sex partners (28.0 percentage points) and increases in condom use at last sex (49.8 percentage points), decreases in transactional partners (31.5 percentage points), and increases in using condoms consistently with transactional partners (25.7 percentage points).

Conclusions: Despite increased consistency of condom use; an inconsistency of condom use by a quarter to a third of truck drivers, creates a risk of HIV and STI transmission for truck drivers, their monogamous and polygamous marriage partners and their other concurrent sex partners.

Disclosure of Interest Statement: Behavioural surveillance research was conducted by the authors in their work at the National Research Institute in Papua New Guinea.

PREDICTORS OF UNPROTECTED ANAL INTERCOURSE WITH CASUAL PARTNERS AMONGST MEN WHO HAVE SEX WITH MEN & TRANSGENDER IN FIJI

Rawstorne P1, Rasili S2, Vulavou I2, Rokoduru A3, Maharaj P3, Man W4, Worth H1

- ¹ International HIV Research Group, The University of New South Wales, Australia
- ² MENFiji (Males Empowerment Network Fiji), Suva, Fiji
- ³ Pacific HIV and STI Research Centre, Suva, Fiji
- ⁴ Faculty of Health Science, The University of Sydney, Australia

Background: Fiji has a low HIV prevalence, though the number of HIV cases is increasing each year. An integrated bio-behavioural survey (IBBS) conducted in Fiji in 2011 amongst men who have sex with men (MSM) and transgender showed relatively high rates of some STIs. This paper identifies predictors of having any unprotected anal intercourse with casual male partners (UAIC) in the past six months for the purpose of informing policy and health promotion interventions.

Methods: Data were from Fiji's first IBBS amongst males who had ever had sex with another male in Suva and Lautoka, Fiji. 464 participants were recruited, comprising 213 (46%) from Suva and 251 (54%) from Lautoka. Logistic regression was used to analyse a subset of 333 participants who reported UAIC.

Results: The majority of participants were younger than 30 (range: 18-76). About two-thirds were men (63%) and one-third transgender (37%). Most were Fijian (*i taukei*) (77%), then Indo-Fijian (15%). Those reporting UAIC (81%) were more likely than their non-UAIC counterparts to: identify hospitals as a place to get a confidential HIV test, and; want a hypothetical family member with HIV to remain a secret. They were less likely to: have had concurrent partnerships; have been denied promotion at work, and; have ever had an HIV test. Neither gender nor site was associated with UAIC.

Conclusions: Those at most risk of HIV and other STIs appear to be less connected with services that provide sexual health information for males. This can be surmised from the more stigmatised attitude, lesser likelihood of having had an HIV test, and identifying the hospital for HIV testing. The challenge these data pose is to reach the majority who would benefit from being better connected to services that cater to the sexual health needs of males who have sex with males.

THE PERCEPTIONS OF CONDOM AND ITS USES AMONGST TWO HIGHLANDS COMMUNITIES

Nake Trumb R,1 Kelly A 12, Wilson L,1 Mek A1, Aeno H,1 Siki R,1 Moses M,1 Kawa D,1 Kaldor J,3 Vallely A 13

Aim: Throughout PNG, condom use has been widely advocated and promoted for the purposes of preventing HIV/AIDS and STIs, and family planning. Despite the medical benefits of condom use morality continues to frame many people's understandings and perspectives of them. These moral associations frame issues of trust that bear upon choices made about condom use in marital and extra marital relations, and can result in increased exposure to the risks of contracting HIV/AIDS and STIs.

Methods: This was a mixed qualitative community based study in Western Highlands and Eastern Highlands Provinces. Overall, 69 semi-structured interviews and 23 focus group discussions were held with males and females of differing age groups. Participants were recruited using convenient sampling from multiple sites. All interviews were digitally recorded, transcribed and translated from Tok Pisin into English and coded using NVivo 9. All participants provided written informed consent.

Results: The majority of the participants identified condoms as an effective measure to prevent HIV, STIs and family planning. Sexually active young men and women decisions not to use condoms were seen to signal commitment to a long-term relationship and based on romantic notions of love and trust. Of the small number of people who discussed their own negotiation of condom use outside of marriage there appeared to be no gender based distinctions on who initiated condom use. Outside of marriage condom use appears more common for fear of contracting HIV or to avoid pregnancy.

Conclusion: Despite accurate knowledge of the role of condoms in preventing HIV, STI and as a method for family planning, people continue to be influenced by other less tangible notions of trust and love. These notions reinforce a belief of where risk lies, that is outside of notions of love, trust and where HIV risk lies. Public health messages need to address these beliefs and practices.

Disclosure of Interest Statement: This research was carried out by the Social/Behavioural researcher team of the Sexual and Reproductive Health Unit of Papua New Guinea Institute of Medical Research. And it was being funded by the NACs and through collaborating with the UNSW.

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NON-VENUE-BASED FEMALE SEX WORKERS IN CHIANG MAI, THAILAND, REACHED THROUGH ROUTINE HIV SURVEILLANCE FOR THE FIRST TIME, ARE A HIGHLY VULNERABLE HARD-TO-REACH POPULATION AT URGENT NEED FOR TARGETED HIV INTERVENTIONS

Tanpradech S¹, Teeraratkul A¹, Namwat C², Poonkesorn S², Yotruean K³, Manopaiboon C¹, Pattanasin S¹, Wolfe M^{1,4}, Prybylski D^{1,4}

Thailand Ministry of Public Health-U.S. Centers for Disease Control and Prevention Collaboration, Nonthaburi, Thailand, *Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health, Nonthaburi, Thailand, *Chiang Mai Provincial Health Office, Thailand Ministry of Public Health, Nonthaburi, Thailand, *U.S. Centers for Disease Control and Prevention, Center for Global Health, Division of Global HIV/AIDS, Atlanta, United States

Introduction: There has been an apparent increase in the number non-venue-based female sex workers (NV-FSW) in Thailand. A 2007 respondent-driven sampling (RDS) survey demonstrated that NV-FSW had higher HIV risk than venue-based female sex workers (V-FSW) accessed through routine sentinel surveillance (SS) in Bangkok. In 2011 RDS was integrated into routine national surveillance to sample NV-FSW for the first time outside of Bangkok.

Methods: We conducted an RDS survey in Chiang Mai (CM) in 2011 to estimate HIV prevalence and risk behaviors among NV-FSW (N=281). We compared the results from NV-FSW with V-FSW (N=181) sampled through routine SS in 2010 in CM. RDS survey data were analyzed using Respondent-Driven Sampling Analysis Tool (RDSAT). RDSAT-generated weights were exported to STATA to conduct statistical comparisons to the SS sample using χ^2 tests.

Results: NV-FSWs were significantly more likely than their V-FSW counterparts to be single (40.5% vs. 18.8%, P< 0.01), have worked as a sex worker longer (45.7% vs. 23.8%, P<0.01) and have income \leq 10,000 Thai baht (46.5% VS 3%, P<0.01).NV-FSW had significantly higher HIV prevalence (6.7% VS 1%, P<0.01), more regular clients (65.2% vs. 20.6%, P<0.01), were less likely to use condoms with regular clients (90% vs. 100%, P<0.01), had fewer non-regular clients with whom they were less likely to use condoms (93.2% vs. 100%, P=.01), greater reported use of illicit drugs (10.4% vs. 0%, P<0.01), and lower recent use of HIV testing and counseling services (36.4% vs. 91.7%, P<0.01).

Conclusion: In CM, NV-FSW have consistently poorer indicators of HIV risk, and concomitant higher HIV prevalence, than V-FSW. These results show that RDS is effective in identifying a higher-risk segment of FSW in CM that is not captured by routine venue-based SS or venue-based HIV prevention interventions. The urgent development of tailored intervention strategies in CM for NV-FSW is a public health priority.

Disclosure of Interest Statement: No disclosure of interest.

PREVALENCE OF HIV/STIS AND ASSOCIATED FACTORS AMONG MEN WHO HAVE SEX WITH MEN IN AN GIANG, VIETNAM

Pham QD^{1,5}, Nguyen TV¹, Hoang CQ^{1,2}, Cao V¹, Khuu NV¹, Phan HTT³, Mai AH⁴, Tran HN¹, Wilson DP⁵, Zhang L⁵

Pasteur Institute, Ho Chi Minh City, Vietnam; ²Oxford University Clinical Research Unit, Hospital for Tropical Diseases, Ho Chi Minh City, Viet Nam; ³Vietnam Authority of HIV/AIDS Control, Ha Noi, Vietnam; ⁵Provincial Centre for HIV/AIDS and Tuberculosis Control, An Giang, Vietnam; ⁵The Kirby Institute, University of New South Wales, Sydney, Australia.

Introduction: The prevalence of HIV and sexually transmitted infections (STIs) among men who have sex with men (MSM) has increased substantially in Vietnam. This study aimed to estimate the prevalence of HIV, syphilis, urethral gonorrhoea, and urethral chlamydia, and determined correlates of HIV infection among MSM in An Giang, Vietnam

Methods: A group of 381 MSM were recruited in a community-based cross-sectional survey between August-December 2009. Face-to-face interviews were conducted for collecting data on socio-demographics, behaviours, and access to HIV prevention programs. Serological tests for HIV and syphilis and polymerase chain reaction for gonorrhoea/chlamydia were performed. Multivariate regression analyses were used to investigate the correlates of HIV infection.

Results: The prevalence of HIV, syphilis, gonorrhoea, chlamydia, and gonorrhoea/chlamydia were 6.3%, 1.3%, 1.8%, 3.2%, and 4.7%, respectively. HIV prevalence among 63 injecting MSM was significantly higher than that of 318 non-injectors (20.6% vs. 3.5%, p < 0.001). Approximately 40.4% identified as heterosexual and 42.8% had ever had sex with females. The rate of unprotected anal intercourse with another male in the last month was substantially high (75.3%). Injecting drugs (adjusted prevalence ratio [aPR] = 2.88; 95% confidence interval [CI], 1.12-7.42], being transgender (aPR = 4.27; 95% CI, 1.17-15.57), and unprotected sex with a female sex worker (aPR = 4.88; 95% CI, 1.91-12.50) were significantly associated with HIV infection. The infection risk increased with age to a peak of 25 years and then decreased.

Conclusion: Although prevalence levels are lower in An Giang, Vietnam than in some other comparable locations, HIV/STIs prevention and sexual health promotion targeting MSM are highly important in this location.

Disclosure of Interest Statement: This study was funded by the Vietnam HIV/AIDS Preventive Project in An Giang, Vietnam under the 2009 grant 04/HDTN/BQL-AG. No conflict of interest exists

THEME A PROFFERED PAPER SESSION: PATHOGENESIS:

GO TO WOE

10.30AM - 12.30PM

PAPER NUMBER: 1191

T-CELL IMMUNE RESPONSES AND VIRAL FITNESS AS A PATHWAY TO HIV-1 VACCINE DEVELOPMENT

Authors: Ndung'u T1

¹HIV Pathogenesis Programme, Doris Duke Medical Research Institute, University of KwaZulu-Natal, Durban, South Africa **Introduction:** The development of an HIV vaccine remains a global scientific priority. The rational design of an effective vaccine may depend on understanding the mechanisms of viral control in antiretroviral-naïve HIV-1 infection.

Methods: We have used population-based approaches to study HLA-mediated mechanisms of viral control in HIV-1 subtype C infection in Durban, KwaZulu-Natal, South Africa using acutely and chronically infected antiretroviral-naïve individuals.

Results: Our data suggests that HLA-mediated mechanisms of HIV immune control may include the effective immune responses and viral fitness costs that result from virus attempts to evade immune recognition that are difficult to compensate for. Furthermore, limited immunogenicity in acute HIV-1 infection compromises the ability to control the virus during the critical early phase of infection.

Conclusion: Our data suggests that an intrinsic and precise balance between CD8+ T-cell immune responses and viral fitness is needed for HIV-1 immune control. In addition, early limited immunogenicity tips the balance in HIV's favour. These data have implications for rational vaccine design approaches.

Disclosure of Interest Statement: This work is funded by the National Institutes of Health, the Howard Hughes Medical Institute, the International AIDS Vaccine Initiative, the Bill and Melinda Gates Foundation and the South African Department of Science and Technology through the Nation Research Foundation

IMPAIRMENT OF THE EARLY IGG2 ANTIBODY RESPONSE TO PNEUMOCOCCAL POLYSACCHARIDES IN HIV PATIENTS IS ASSOCIATED WITH B-CELL ACTIVATION

Abudulai LN1, Fernandez S1, Post J2, Lloyd A23, French MA1,4

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Background: HIV infection causes depletion and dysfunction of memory B-cells as well as CD4+T-cells. These immune defects lead to impaired antibody responses, including vaccine-induced responses, which do not fully resolve on antiretroviral therapy (ART). Impaired antibody responses to pneumococci are a particular problem. As the IgG antibody response to pneumococcal polysaccharides (PcPs) is predominantly IgG2, we have assessed IgG2 antibody secreting cells (ASCs) after vaccination with PcPs and examined factors that may affect their production.

Methods: HIV patients (n=40), most of whom were receiving ART, and non-HIV controls (n=12) were vaccinated with unconjugated PcPs and blood collected at days 0, 7 and 28. An ELISpot assay was developed to enumerate ASCs producing IgG, IgG1 or IgG2 antibody to PcP serotypes 4, 68, 9V and 14. B-cell differentiation was assessed by enumeration of naive, early transitional, late transitional, activated mature differentiated (AM), resting memory, memory and exhausted tissue-like (ETL) B-cell subpopulations by differential expression of CD3, CD10, CD20, CD21 and CD27. B-cell activation was assessed by expression of TNF-related apoptosis-inducing ligand (TRAIL) or B and T lymphocyte attenuator (BTLA), which decreases with immune activation.

Results: Compared with controls, HIV patients had lower numbers of IgG2+ASCs to PcP serotypes 9V and 14 post-vaccination (p<0.05) and higher proportions of AM and ETL B-cells pre-ART (p=0.02 and p=0.01, respectively). In patients, the number of IgG2+ASCs responding to PcP serotypes 4, 6B and 9V correlated negatively with the proportion of ETL B-cells pre-ART (r>-0.7, p<0.05). There was also a positive correlation with BTLA+B-cells (r>0.6, p<0.05) and a weaker negative correlation with TRAIL+B-cells.

Conclusion: Impairment of the early IgG2 antibody response to PcPs in HIV patients is associated with increased proportions of circulating B-cells that are activated and exhibit an exhausted tissue-like phenotype.

The authors have "Nothing to Disclose".

HIV RNA DYNAMICS IN PLASMA AND CEREBROSPINAL FLUID IN HIV PATIENTS FROM DURBAN SOUTH AFRICA WHO DEVELOP CRYPTOCOCCOSIS-ASSOCIATED IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME (C-IRIS) AFTER INITIATION OF COMBINATION ANTIRETROVIRAL THERAPY (CART)

 $\underline{Kangethe\ R\ T}^1, Chang\ C\ C^{1,2}, Moosa\ M\ Y^3, Omarjee\ S^1, W\ Carr\ W\ H^1, Elliott\ J\ H^4 French\ M\ A^4, Lewin\ S\ R^2, and\ Ndung'u\ T^1.$

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Background: Cryptococcal meningitis (CM), caused by the fungus *C. neoformans* is the second most common HIV-associated opportunistic infection in sub-Saharan Africa with a mortality rate close to 100% if left untreated. Commencement of combination antiretroviral therapy (cART) in patients with HIV-CM co-infection may lead to paradoxical neurological deterioration (ND) as a result of C-IRIS. The pathogenesis and predictors of C-IRIS are poorly understood. We investigated the role of viral load (VL) dynamics in plasma and cerebrospinal fluid (CSF) in the evolution of C-IRIS.

Methods: Stored paired CSF and plasma samples from 91 cART-naive HIV-CM co-infected adult patients collected prior to cART commencement (W00) were available. At the time of ND, patients were classified as probable, possible or not C-IRIS as per predetermined algorithm. Thirty one patients experienced ND, with 23 of these classified as C-IRIS whereas 8 were not. Plasma and CSF samples were collected at the time of ND event. HIV-1 RNA in CSF and plasma was quantified using the COBAS TagMan HIV-1 Test (Roche). Protein CSF levels were also quantified in all participants.

Results: HIV VL was detectable in all CSF and plasma W00 samples. CSF samples had significantly reduced VL compared to plasma (median=63,309 copies/ml, IQR=133,958 vs. median=142,786 copies/ml, IQR=359,674, p=0.0001). The C-IRIS group had a significantly lower CSF VL at W00 compared to those who did not develop C-IRIS (median=84,122, IQR=74,024 vs. median=65,373, IQR=160,970, p=0.032). Protein levels in the CSF (median=0.53, range 0-2.68 g/L) were lower in those who developed C-IRIS compared to those who did not (median=0.92, range 0-14.71 g/L, p= 0.0007). CSF protein levels did not correlate with viral load.

Conclusions: This study suggests that a lower HIV burden and protein level in the CSF prior to cART commencement are predictors of C-IRIS in HIV-CM infected individuals. The underlying mechanisms require further investigation.

Disclosure of Interest Statement: Nothing to declare.

CRITICAL ROLE FOR MONOCYTES IN MEDIATING HIV-SPECIFIC ANTIBODY-DEPENDENT CELLULAR CYTOTOXICITY

M Kramski¹, A Schorcht¹, A Johnston¹, GF Lichtfuss², R De Rose¹, I Stratov¹, AD Kelleher³, MA French⁴, R Center¹, A Jaworowski², <u>5J Kent¹</u>

1 University of Melbourne, 2 Burnet Institute, Melbourne, 3 Kirby Institute, Sydney, 4 University of Western Australia

Background: The role of antibodies (Abs) that mediate antibody-dependent cellular cytotoxicity (ADCC) activity against HIV-1 is of major interest. Considerable evidence supports a role for ADCC activity in the control of HIV-1 infection and in the context of vaccination. One method widely used to assess the role of ADCC is the rapid and fluorometric antibody-dependent cellular cytotoxicity assay (RFADCC) where specific target cell killing by PBMC is traditionally assessed by the loss of intracellular CFSE but retention of membrane dye PKH26 (CFSE-PKH26+), assumed to be derived from CFSE+PKH26+ target cells killed by NK cells. We have revisited this assay to assess the role of effector cells in mediating ADCC.

Methods: We investigated the involvement of the different effector cells in the RFADCC assay by multi-color flow cytometry of gp140-pulsed, CFSE and PKH26 double labeled CEM.NKr-CCR5 cells in the presence of HIV+ plasma or purified IgG samples (n=57) co-cultured with PBMC, purified NK cells, and monocytes from healthy donors. Effector/target cell interaction was visualized using image stream flow cytometry and life cell imaging.

Results: Backgating analysis and phenotyping of CFSE-PKH26+ cells identified CD3-CD14+ monocytes as the major effector cell type acquiring the PKH26 membrane dye. This was confirmed for killing in response to opsonisation with all 57 HIV+ plasma samples tested. The emergence of CFSE-PKH26+ cell population was observed following co-culture with purified monocytes, but not purified NK cells. No significant IFNy production or CD107a degranulation was detected in NK cells in this assay. Image stream flow cytometry and microscopy confirmed a monocyte-specific interaction with target cells. Monocytes acquire PKH26+ cell membrane as the target cell is killed without typical morphological changes associated with phagocytosis, suggesting a monocyte-mediated ADCC process.

Conclusions: Our studies advance the understanding of the cellular events underlying HIV-specific ADCC. Monocytes, not NK cells, are a key cell driving antibody-mediated killing of Env-pulsed CEM.NKr-CCR5 cells. Further studies on the biological importance of HIV-specific monocyte-mediated ADCC are warranted.

PRIMARY HIV-1 INFECTION (PHI) IS ASSOCIATED WITH REDUCED CD4 COUNTS IN TERMINAL ILEUM BIOPSIES BUT NOT OTHER GUT BIOPSY SITES

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Introduction: CD4T lymphocytes in gut-associated lymphoid tissue (GALT) are believed to be particularly susceptible to cytopathic HIV-1 infection due to increased activation and expression of CCR5. Studies have suggested massive depletion of CD4T lymphocytes during primary HIV-1 infection (PHI), based on a reduced proportion in gut biopsies, compared to blood, but no studies have accurately counted CD4 cells in biopsies.

Methods: Seven PHI subjects and 8 chronic HIV-1 infection (CHI) subjects, recruited to the PINT trial of therapy with Raltegravir plus Truvada, as well as 12 healthy adult volunteers, consented to providing ten pinch biopsies from each of 5 sites: rectum, left colon(LC), right colon(RC), terminal ileum(TI) and duodenum, via endoscopy and colonoscopy, at weeks 0, 52 and 130. Single cell suspensions were prepared, CD4+ cells identified by flow cytometry, and the recovered CD4 cell count calculated.

Results: CD4 cell counts from TI biopsies from HIV-negative volunteers were quite variable (median: 233,000; interquartile range: 88,704-583,508), but significantly higher compared to TI biopsies from PHI subjects (median: 65,664; IQR 18,065-88,625; p=0.023) and much higher than during CHI (28,595; IQR 19,111-84,621; p=0.003). However, CD4 cell counts for LC from HIV-negative controls (68,838; IQR: 44,827-196,930) were not significantly different to PHI (76,679; IQR:45,680-104,691), but slightly higher than CHI (32,575; IQR 5,884-71,022; p=0.063). Similarly, CD4 cell counts for RC from HIV-negative controls (124,301; IQR: 45,298-271,064) were not significantly different to PHI (150,920; IQR:76,465-205,928), but much higher than CHI (19,148; IQR 8,568-69,213; p=0.003). After 52 weeks of therapy, there was a trend to increased CD4 cell counts in biopsies for CHI subjects (p=0.11).

Conclusion: PHI does not lead to widespread, dramatic changes in CD4 cell counts in GALT, unlike CHI where low counts were observed. Further work aims to better define the deficit in terminal ileum in terms of CD4 subsets and function.

Disclosure of Interest Statement: This study was supported in part by a research grant from the Investigator-Initiated Studies Program of Merck

THE INFLUENCE OF HIV-1 INFECTION ON THE MIRNA PROFILES OF MONOCYTES

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Introduction: In order to combat HIV-1 it is important to understand the role of host restriction factors in controlling HIV-1. One of these factors, miRNA is an approximately 22nt RNA species involved in post transcriptional gene silencing of messenger RNA transcripts and has been shown to be important in both monocyte function and HIV-1 pathogenesis. However studies linking miRNA, monocytes and HIV-1 are limited. My study aimed to advance knowledge on the effect of HIV-1 infection on the miRNA milieu of monocytes.

Methods: Total RNA (including miRNA) was extracted from three distinct patient groups, chronically infected HIV-1 patients (CHI) (n=8), long term non-progressors (LTNP) (n=8) and healthy controls (HC) (n=8). Differentially expressed miRNA between the three patient groups were then determined through a microarray, before being confirmed via Real Time qPCR. Time course infections were then conducted using HL-60 cells to measure the miRNA changes *in vitro*.

Results: It was found that chronic HIV-1 infection results in a different miRNA profile compared to profiles in both LTNPs and HCs. Two of the differentially expressed miRNA (miR-378 and miR-572) were confirmed via RTqPCR. And it was found that these two miRNA showed a significant correlation with viral load, but not CD4+T cell count, in the HIV-1 infected patients. Preliminary *in vitro* studies have so far confirmed the differential expression of miR-378 upon HIV-1 infection

Conclusion: These results prove that HIV-1 influences the miRNA profile of monocytes in CHI patients. However the different miRNA profile exhibited by the LTNP group (compared to CHI patients) is very interesting as although HIV-1 appears to be driving the differential expression of miRNA these individuals are able to resist these changes. This stability indicates a possible role for miRNA and/or the innate immune system in protecting these individuals.

Disclosure of Interest Statement: No disclosure of interest

COMPARABLE ANTIVIRAL CAPACITY BUT FAVORABLE EXHAUSTION PROFILE OF CD8S FROM ELITE CONTROLLERS COMPARED TO UNTREATED PROGRESSORS

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Background: CD8s ability to suppress viral replication *in vitro* was demonstrated in several studies as one of the best laboratory correlates to HIV control. However, these studies invariably used CD8s which were rested *in vitro* for few days before antiviral capacity examined. This might suggest that the difference between CD8s from elite controllers (EC) and chronic progressors (CP) is not in their inhibition capacity but in their ability to retain cytotoxicity during prolonged incubation. Here we compared cytotoxicity and apoptosis of CD8s immediately after their purification ("fresh CD8s") or 3 days after *in vitro* rest ("old CD8s").

Methods: Samples from 10 EC, 10 CP, 5 HAART treated and 5 HIV negative patients were examined. "Fresh" and "old" CD8s were used as effectors in viral inhibition assays. HIV-specific CD8s were quantified using tetramer staining. Annexin V binding was used to evaluate apoptosis.

Results: Using "old" CD8s inhibition capacity was higher among EC compared to CP (logP24 reduction 1.225 vs 0.238, p=0.044). For both EC and CP inhibition was much stronger using "fresh" CD8s, but no significant difference was found between EC and CP (logP24 reduction: 3.13 vs 3.85, p=0.29). HIV negative subjects showed no inhibition using "fresh" or "old" CD8s. IL-2 partially rescued antiviral capacity of rested CD8s. Loss of HIV-specific CD8s measured by tetramer staining was higher in CP compared to EC with up to 10-fold increase in Annexin V binding.

Conclusions: HIV-specific CD8s from CP are endowed with an unexpectedly strong viral inhibition capacity when examined directly *ex vivo*. CD8s from EC and CP mediated similar HIV suppression directly *ex vivo*, while the superior antiviral activity of CD8s from EC after a 3d incubation was associated with better survival of HIV-specific CD8s. The capacity to survive and exert effector functions over extended periods, rather than the intrinsic antiviral capacity, best distinguishes CD8s from EC and CP.

HIV PREMATURELY INDUCES AGE-RELATED CHANGES TO MONOCYTES IN YOUNG HIV+ MEN

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Introduction: HIV is associated with increased immune activation, inflammation and an increased risk of age-related disease despite suppressive combination antiretroviral therapy (cART). HIV accelerates T cell senescence, but its effect on ageing of innate immune cells is unknown.

Methods: We determined the impact of HIV on age-related changes to monocyte phenotype and function via a cross-sectional study of young HIV $^+$ males (aged <45, median age 38, -/+ cART n=14 and 13 respectively) and age-matched controls (n=20, median age 32). Data were compared to results from aged controls (n=23, median age 72).

Results: A number of age-related changes to monocyte phenotype were observed to occur prematurely in young, HIV+ males irrespective of cART including reduced expression of the M-CSF receptor CD115 (p=0.001 and 0.03 -/+ cART respectively) and CD62L (p=0.04 and 0.03), increased expression of the adhesion molecule CD11b (p<0.0001 and 0.002) and an increased proportion of inflammatory CD16+ monocytes (p=0.003 in -cART only). Similar to aged controls, monocytes from young HIV+ males showed impaired phagocytic function (p=0.007) and heightened basal levels of the proinflammatory cytokine TNF (p=0.003). Monocytes from young HIV+ males had shorter telomeres than healthy controls (p=0.03) but of similar length to the elderly. Young viremic HIV+ men exhibit increased plasma levels of the innate immune activation markers soluble CD163, neopterin and CXCL-10 (p<0.0001 for all). Significantly, these parameters remained elevated in virologically suppressed HIV+ men (p=0.003, 0.0005 and 0.004 respectively), indicating chronic innate immune activation persists despite cART.

Conclusion: HIV infection induces changes to monocyte phenotype and function and chronic innate immune activation in young HIV⁺ males that mimic changes observed in uninfected individuals aged 30 years older, suggesting HIV may accelerate ageing of monocytes. These data have important implications for the premature development of inflammatory, age-related co-morbidities in the HIV⁺ population.

Disclosure of Interest Statement: No disclosure of interest.

HIGH GLYCOLYTIC METABOLISM IN CD4+ T CELLS IS ASSOCIATED WITH ENHANCED SUSCEPTIBILITY TO HIV-1 INFECTION AND APOPTOSIS

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Department of Medicine, Monash University, Melbourne, Australia; ⁵Infectious Diseases Unit, The Alfred, Melbourne, Australia; ⁶University of California, San Francisco, CA, USA, Division of Experimental Medicine, Department of Medicine

Background: Glucose transporter 1 (Glut1) is the major glucose transporter in T cells and its expression is increased on CD4+T cells during chronic HIV-1 infection *in vivo* (Palmer *et al.*, Abstract 1, ASHM, 2012). We evaluated the pathological significance of increased Glut1 expression on glucose metabolism in CD4+T cells from HIV-1-infected subjects.

Method: The cell surface expression of Glut1 and glucose uptake (2-NBDG) was monitored in CD4+T cells by flow cytometry. Hexokinase and glycolytic activity was measured by the intracellular concentrations of Glucose-6-phosphate (G-6-P) and L-lactate, respectively. Intracellular PTEN, pAkt (T308) and pAkt (S473) levels or cell surface expression of OX40 determined PI3Kinase-mTOR activity. Cell apoptosis and death was measured using Annexin V/7AAD kit. *In vitro* HIV-1 infection was performed with the CXCR4-using NL4.3-GFP virus.

Results: PI3K-mTOR activity, basal glucose uptake, G-6-P and L-lactate, were significantly elevated in CD4+Glut1+ vs CD4+Glut1- cells. TCR-activated Glut1 expression on CD4+ T cells was sensitive to specific inhibition of the Class1B PI3Kγ and mTORC1 pathways. These inhibitors also exhibited antiglycolytic properties and suppressed HIV-1 infection of CD4+ T cells in vitro. CD4+Glut1+ T cells from virally supressed HIV-1/cART subjects were approximately 20 times more susceptible to HIV-1 infection than CD4+Glut1- T cells in the absence of external stimuli and growth factors. However infection was primarily restricted to CD4+Glut1+ T cells with high PI3Kinase-mTOR activity. Dying CD4+ T cells or those undergoing apoptosis had very high Glut1 cell surface expression (CD4+Glut1++).

Conclusion: CD4+ T cells from HIV-1 infected patients have increased glucose uptake and glycolytic activity mediated at least in part by the PI3k γ -mTORC1 pathway. Strategies tailored to normalize Glut1 expression or glycolysis in CD4+T cells may offer new avenues to slow HIV-1 disease progression.

No disclosure of interest

ABORIGINAL AND TORRES STRAIT ISLANDER SYMPOSIUM

10.30AM - 12.30PM

PAPER NUMBER: 1041

TRENDS IN NEWLY DIAGNOSED HIV INFECTION IN THE ABORIGINAL AND TORRES STRAIT ISLANDER AND NON-INDIGENOUS POPULATIONS, 1992 - 2010

<u>Ward J.</u> McDonald AM, Wilson, DP and Kaldor JM, for the National Blood Borne Virus and Sexually Transmissible Infections Surveillance Committee

The Kirby Institute, The University of NSW, Sydney, NSW

Introduction: Australian Indigenous peoples are exposed to a number of risk factors for HIV acquisition including high rates of STIs and injecting drug use, and poorer access to health services compared to the non-Indigenous population. National HIV surveillance data was analysed to describe the pattern of HIV infection by Indigenous status for the period 1992-2010.

Methods: Indigenous status at HIV diagnosis was reported to the National HIV Registry through State/Territory health authorities other than Victoria, which commenced in mid 1998, and ACT, which commenced in January 2005. Estimates of the Indigenous population adjusted for undercount of Indigenous status were used for calculation of age standardised rates of HIV diagnosis. The non-Indigenous population excluded people born in high HIV prevalence countries in sub-Saharan Africa and in specific countries in South Fast Asia.

Results: Of 15,135 cases of HIV infection newly diagnosed in Australia, 369 (2.4%) identified as Indigenous, 13,835 (91.4%) as non-Indigenous and Indigenous status was not reported for 931 (6.2%) cases. The Indigenous population rate of HIV diagnosis declined from 5.7 per 100,000 in 1992–1998, to 4.5 in 1999–2004 and to 4.2 in 2005-2010. The non-Indigenous population rate declined from 5.1 in 1992–1998 to 3.8 in 1999–2004 and increased to 4.4 in 2005-2010. Compared to non-Indigenous cases, a significantly higher proportion of Indigenous cases was attributed to heterosexual contact in 1992–1998 (34% vs 11%p <0.001) and 1999 – 2004 (35% vs 14%, p<0.001). A significantly higher proportion of cases among Indigenous people were attributed to injecting drug use in 1999–2004 (19% vs 4%, p<0.001) and in 2005-2010 (19% vs 3%, p<0.001).

Discussion: National HIV surveillance indicates similar population rates of diagnosis by Indigenous status. The substantially higher proportion of Indigenous cases with a history of injecting drug use indicates a need for strengthening preventive interventions in Australia.

No disclosure of interest

SEXUAL PRACTICES, DRUG USE AND HIV PREVALENCE AMONG INDIGENOUS AND NON-INDIGENOUS AUSTRALIAN GAY AND BISEXUAL MEN

Lea T1, Costello M2, Mao L1, Prestage G3, Zablotska I3, Ward J4, Kaldor J3, De Wit J1, Holt M1

¹ National Centre in HIV Social Research, ² Anwernekenhe National Aboriginal and Torres Strait Islander HIV/AIDS Alliance, ³The Kirby Institute, ⁴ Baker IDI Central Australia

Introduction: While half of HIV notifications among Aboriginal and Torres Strait Islander people (Indigenous Australians) are attributed to homosexual transmission, there has been little research examining sexual and drug use risk practices among Indigenous Australian gay and bisexual men.

Methods: Data from the Gay Community Periodic Surveys were analysed, comparing participants who reported being Indigenous Australian or Anglo-Australian men. Questionnaires collected in 2007-2011 in six states and territories were included. We compared the sociodemographic characteristics, sexual risk practices, drug use, HIV testing and HIV status of Indigenous and non-Indigenous men. Using multivariate logistic regression, we assessed whether Indigenous status was independently associated with HIV risk practices (unprotected anal intercourse with casual male partners and injecting drug use).

Results: Responses from 1,278 Indigenous Australian and 10,825 Anglo-Australian men were included. Indigenous participants were significantly younger than their non-Indigenous peers and less likely to identify as gay. While similar proportions of Indigenous and non-Indigenous men reported being HIV-positive (9.6%), Indigenous men were more likely than non-Indigenous men to report unprotected anal intercourse with casual male partners in the previous six months (27.9% vs. 21.5%; adjusted odds ratio [AOR] = 1.29, 95% CI = 1.11-1.49). Indigenous men were also more likely than non-Indigenous men to report the use of a number of specific drugs, and twice as likely to report injecting drug use in the previous six months (8.8% vs. 4.5%; AOR = 1.43, 95% CI = 1.11-1.86).

Conclusion: Despite higher proportions of Indigenous gay and bisexual men reporting sexual and drug use practices that may increase the risk of HIV transmission, there were no differences in reported HIV prevalence between Indigenous and non-Indigenous men. However, the elevated rates of risk practices suggest that Indigenous men should remain a focus for HIV prevention, care and support and the reduction of drug-related harm.

Disclosure of Interest Statement: The National Centre in HIV Social Research and The Kirby Institute receive funding from the Australian Government Department of Health and Ageing. The Anwernekenhe National Aboriginal and Torres Strait Islander HIV/AIDS Alliance receives funding from the AIDS Trust of Australia. The Gay Community Periodic Surveys are funded by state and territory health departments.

SUPPORTING BBV PREVENTION & CAPACITY BUILDING IN RELATION TO ABORIGINAL PEOPLE & INJECTING DRUG USE

Madden A

Australian Injecting & Illicit Drug Users League (AIVL)

This presentation will provide an overview of a program of work that the Australian Injecting & Illicit Drug Users League (AIVL) has been engaged in along with Aboriginal communities since 2003. The main focus and aims of the AIVL program has been to support BBV prevention among Aboriginal people who inject drugs and develop the capacity of both drug user organisations and health services to better respond to and engage with Aboriginal drug users. The presentation will include discussion of specific peer-driven BBV prevention initiatives and AIVL's ongoing work to support key services to respond effectively to the needs of Aboriginal drug users. The process of relationship building and importance of working with NACCHO and the community controlled health sector will also be explored.

IT'S ALL ABOUT RELATIONSHIPS - FORMING AND MAINTAINING A SUCCESSFUL PARTNERSHIP IN CHRONIC DISEASE MANAGEMENT

Gilles MT¹, Mc Guckin R¹, Ward J¹, Edel M¹, Smith P¹

¹Northern and Remote Country Health Service

Introduction: Optimal management of chronic diseases in Aboriginal people is recognised as challenging. A number of reasons for failure to achieve compliance and good outcomes have been cited including inequitable care. This paper seeks to present a model of HIV care in place now for 18 years that has aimed to reduce these inequities. It has achieved good results whilst acknowledging that improvements are still required.

Methods: By means of case studies and data collection this paper seeks to describe and document the holistic care provided for a cohort of HIV positive remote Aboriginal people since 1994. Data was collected with regard to type and number of occasions of service, medication compliance, HIV viral loads, CD4 counts, mortality and pregnancy outcomes.

Results: Over this period only four doctors have provided almost continuous primary care of this cohort. Other key health professional turnover in the service has also been less than might be expected in a remote service. Contact with the some members of the cohort could be as often as daily. Thirteen of the original 19 remain alive. Of these 12 are engaged in the service and half are compliant on antiretroviral medication with undetectable viral loads and satisfactory CD4 counts. Over this time there have been 21 seronegative babies born to 15 HIV Women in the cohort.

Conclusion: Although 100 percent of outcomes were not achieved, a holistic service delivery characterized by the development and continuation of relationships with the service provided has resulted in positive outcomes in the majority of cases. This model of care, although labour intensive, delivers good results and demonstrates that equal outcomes can be achieved when equitable services are provided in a culturally appropriate manner.

Disclosure of Interest Statement: None

AN ESCALATING HIV EPIDEMIC IN ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE IS UNLIKELY, BUT VIGILANCE IS REQUIRED

Popovic G1, Ward J2, Wilson D P1, Kerr C C1, Gray RT1

¹ Kirby institute for infection and immunity in society, Faculty of Medicine, The University of New South Wales ² Baker IDI Heart and Diabetes Institute

Introduction: In Australia, the population rates of HIV diagnosis for Aboriginal and Torres Strait Islander people (Indigenous) and non-Indigenous persons are similar, despite stark contrasts in reported exposure categories and demographics. Among Indigenous HIV cases reported over the last five years, people who inject drugs (IDU) and women make up a far greater portion of all cases. Long standing concerns exist about an escalated epidemic occurring among Indigenous people because of high rates of STI and increasing rates of IDU.

Methods: We used a stochastic mathematical model to investigate HIV transmission in the Australian Indigenous population. Our model was calibrated to Indigenous HIV diagnoses using all available epidemiological, demographic and behavioural data. With this model we forecast the likelihood of an escalating epidemic in this population under various scenarios.

Results: Under current conditions the chance of incidence doubling from 2001-2010 to 2011-2002 is 2.84%. An escalation is more likely if increases in needle sharing by IDU and reductions in condom use occur. A 40% decrease in condom use leads to a 30% chance of a doubling of infections over the next 10 years. Similarly, if sharing rates were to double, our model predicts a doubling of infections for the IDU population with 35% probability compared to 6.1% probability at baseline. Changes in injecting drug user behaviour have flow-on effects to the general population, increasing the risk of a growing HIV epidemic in the overall Indigenous population.

Conclusion: So far there has been no substantial HIV epidemic in Australian Indigenous communities. If current conditions and prevention measures are maintained, our model predicts a small chance of HIV incidence doubling in the next 10 years. However if risk taking behaviours increase, the chance of an escalation in HIV substantially increases. It is therefore vital that Indigenous Australians remain a priority population for HIV interventions.

Disclosure of Interest Statement: No disclosure of interest

MASTERCLASS: HIV MOLECULAR VIROLOGY

1.00PM - 1.45PM

Presenters: Lachlan Gray and Michael Roche, Burnet Institute, Melbourne, VIC, Australia

The aim of this workshop is to provide participants with basic background in HIV virology. It will provide the necessary information to understanding current methods of analysis for HIV function and structure. The workshop aims to demystify the process of HIV virology by providing a comprehensive overview of current and emerging technologies used in the field. Topics to be covered include: viral expression and lifecycle, molecular epidemiology, deep sequencing, mechanisms of immune activation, viral replication, why cure is so difficult and many others.

At the conclusion of this workshop, participants should be equipped with the knowledge necessary to understand and interpret presentations delivered in the basic virology stream of ASHM.

EARLY CAREER MASTERCLASS

1.00PM - 1.45PM

This masterclass is designed to provide a forum for discussion of some of the questions confronting new researchers and graduate students entering HIV research or early in their research careers. Denis Burton, Guido Silvestri and Miranda Xhilaga will provide commentary and advice from their experience in HIV research.

Where are the best places to do post-doctoral research? What do you look for in a post-doc. What are the hot areas in research in HIV? Can you predictably publish your work in nature and science? Where are the sources of funding that you can use both locally and internationally? How do you plan a successful career and maintain funding?

This forum will provide opportunity for questions and discussion to help you determine the opportunities in newer areas of research and the way in which early career researchers can become optimally engaged and plan an enduring career in medical research.

CLINICAL RESEARCH WORKSHOP FOR REGIONAL PRACTITIONERS: HOW TO SUBMIT A SUCCESSFUL ABSTRACT

TO THE MELBOURNE 2014 WORLD AIDS CONFERENCE

1.00PM - 1.45PM

This year ASHM launches a Clinical Research Workshop for clinicians working in the Asia and Pacific Regions. The aim of the workshop is to outline the key components that are required to submit a successful abstract to the 2014 World AIDS Conference in Melbourne. The workshop will be run by researchers and clinicians from the Asia and Pacific regions.

The Clinical Research Workshop is designed to be interactive. The audience will be divided into teams that will build the abstract from how first to think of an idea to research, all the way to pressing the *Submit* button on the Conference website page. Hence the Workshop will take a light-hearted approach to a serious endeavour.

Attendees from the region will be eligible to win the **Door Prize** which is a **FREE Registration to the 2014 World AIDS Conference in Melbourne**. Come along! We look forward to seeing you there!

MASTERCLASS HIV COMMUNITY AND RESEARCHERS

WORKSHOP: GETTING IT TOGETHER

1.00PM - 1.45PM

Drawing from the Australian and New Zealand experience, we have learnt that to build a strong evidence base and ultimately to reduce the impact of HIV, researchers and community organisations need to work collaboratively. This relationship is not always an easy one. To maximise research outcomes relevant to policy and practice, this relationship must be approached with respect for what each brings to the relationship. This workshop will explore two questions:

What are the responsibilities of community members, and the challenges they face, in relation to HIV-related research?

What are the responsibilities of researchers, and the challenges they face, in relation to HIV-related research?

131

THEME A SYMPOSIUM IN HONOUR OF NICHOLAS DEACON:

GENETICS IN HIV DISEASE AND CONTROL

2.00PM - 3.30PM

PAPER NUMBER: 1113

UNDERSTANDING IMMUNE DYSREGULATION IN HIV-1 INFECTION: LESSONS FROM COHORT STUDIES AND CLINICAL TRIALS

Kelleher T12

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Background: Understanding CD4+ T cell function during HIV-1 infection is critical to understanding immunopathogenesis. With eradication on the agenda, the role of therapeutic vaccines and immunotherapeutics in clearing the reservoir is resurgent. A rationale approach requires understanding of the location of the reservoir and the function of CD4+ T cells.

Methods: Immunovirological studies were undertaken in the context of Long term non-progressor and primary infection cohort studies as well as sub-studies of clinical trials.

Results: Rather than being depleted from the repertoire, accumulating data suggest that HIV-specific CD4+ T cells are an ongoing presence until late in the disease, but their function is compromised by the presence of negative regulatory molecules such as CTLA-4 and BLIMP-1. These are differentially expressed in LTNP compared to those with progressive disease, but dysregulation of expression occurs from the earliest stages of the infection. Additionally, over representation of antigen specific Treg may suppress effective HIV responses. The mechanisms underlying these changes are complex but include dysregualtion of microRNAs such as miR-9 and Let-7.

Conclusions: Although defects in CD4+ T cell function were described in hIV-1 infection prior to the description of the virus, the determinants of this dysfunction are still only partially understood.

INTERLEUKIN-7: PHYSIOLOGY. PATHOLOGY AND THERAPY IN HIV INFECTION

Pellearini M¹

1 Walter & Eliza Hall Institute of Medical Research

Summary: Interleukin-7 (IL-7) is a critical non-redundant cytokine required for immune system development and homeostasis. Deficiencies in IL-7 or its cognate receptor (IL-7R) cause severe combined immunodeficiency. Our knowledge of IL-7 biology during immune development has expanded exponentially with the full characterisation of its genetic deficiency. More recently our understanding of how IL-7 functions during lymphopaenia to restore T cell numbers and immune reactivity has been facilitated by the recognition of numerous IL-7 and IL-7R polymorphisms that modulate its activity. These insights provide the framework for understanding how IL-7 impacts on immune reconstitution and disease dynamics during HIV infection. The physiological and supraphysiological attributes of IL-7 are now being exploited in over 15 phase I/Ila/Ilb clinical trials addressing its therapeutic efficacy in chronic infections, particularly HIV, and in oncology and vaccine trials. The relevance of IL-7 in HIV disease and immune reconstitution will be reviewed and the therapeutic prospects of IL-7 will be discussed in light of early clinical trial results.

Disclosure of Interest Statement: Marc Pellegrini receives funding through the NHMRC, the Victorian State Governement Operational Infrastructure Support Program, NHMRC IRIISS, the CASS Foundation and Metcalf Fellowship. He does not receive any pharmaceutical or industry grants.

GENETIC STUDIES ILLUMINATE THE COMPLEX ROLE OF TNF IN SENSORY NEUROPATHY IN HIV PATIENTS

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HIV-associated sensory neuropathy (HIV-SN) affects 34-57% of HIV patients in resource-limited countries. The most common symptom is pain, which affects ~75% of South Africans with HIV-SN and increases the burden of disease. We have confirmed that stavudine increases risk of HIV-SN, and shown that risk is affected by height, age and African ethnicity.

Animal models implicate TNFa in neuropathy. HIV disease increases production of TNFa by activated macrophages, which are present in increased numbers in circulation in all HIV patients. We present confocal microscopic images visualizing CD14⁺ macrophages and TNF production in skin biopsies from HIV patients with active (painful) neuropathy, whilst "burned-out" (numb) neuropathy is characterized by a loss of epidermal nerve fibres.

To clarify the role of TNF, we examined associations with TNF genotypes. Polymorphisms in six genes spanning *TNFA* are inherited *en bloc* as haplotypes and just 32 "TNF block" haplotypes describe >98% of healthy Caucasians and Asians. These are typed in a study of HIV-positive Black South Africans (n=339) tested at the Charlotte Maxeke Academic Johannesburg Hospital, South Africa. Data were compared with Caucasian, Malay and Chinese HIV patients tested in Melbourne, Jakarta and Kuala Lumpur. All patients were screened using the AIDS Clinical Trials Group neuropathy screening tool. Illumina GoldenGate BeadXpress assays were used to genotype candidate single nucleotide polymorphisms (SNPs). The PHASE algorithm was used to statistically infer TNF block haplotypes (denoted FVx).

Three patterns were derived.

Haplotypes FV6,7 associated independently with SN in Chinese (and less clearly Malay and Caucasian) patients, but not in South Africans as they do not carry this haplotype. FV6,7 incorporates TNFA-1031*2, which marks risk of neuropathy in Caucasians and Asians.

FV31 protected against development of SN in the South Africans. When corrected for height and age, this was highly significant (P<0.0001).

SNPs shared by two common haplotypes (FV16 and FV18) associated with SN in South Africans. The haplotype family associated with SN (P=0.03). FV16 associates with many immunopathological diseases and FV18 affects TNFa responses *in vitro*.

The results define three ethnicity-specific TNF immunogenetic profiles that modify SN risk. At a local level, activated macrophages producing TNF may instigate epidermal nerve fibre damage.

Disclosure of Interest Statement: The authors have no conflicts of interest to declare.

THEME B PROFFERED PAPER SESSION: TEST, TREAT, SWITCH 2.00PM = 3.30PM

PAPER NUMBER: 1194

SWITCH STUDIES: THE NEED FOR INFORMED DECISION MAKING AROUND THE RISKS AND BENEFITS

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The increasing efficacy of combination antiretroviral therapy of HIV infection has resulted in an increasing number of trials that involve switching existing therapy to newer agents (or simplifying existing therapy). The primary outcome of about half of these trials, however, is virological non-inferiority, i.e. that virological suppression can be maintained to a similar degree as with current ART. Secondary endpoints such as quality of life, treatment simplicity and toxicity are often of greater interest provided greater virological failure does not occur with new ART.

There are several potential advantages and disadvantages of switching or simplifying ART. Potential advantages include reduced toxicity, pills burden, and cost. One key potential disadvantage is that effective, well-tolerated ART is abandoned. Toxicity, quality of life, costs or other disadvantages of existing ART can only be improved in switch or simplification studies if several key issues are addressed. The particular disadvantage (typically toxicity) of current therapy must be a well-defined entry criterion for the study, with recruitment of sufficient numbers of at-risk participants providing statistical power to yield clinically meaningful results. And the relevant disadvantage(s) of the switch should be measured, analysed and reported. A switch or simplification trial is unethical unless participants can meaningfully benefit from the treatment change, are more likely to benefit than suffer harm, AND are fully informed of all potential risks and benefits, and if the study is powered to assess the key expected benefit, and reports all endpoints.

Disclosure of Conflicts of Interest: No funding support for this study.

Jennifer Hoy's institution has received funding for her participation on Advisory Boards for Gilead Sciences, Merck Sharp & Dohme, Janssen Cilag and ViiV Healthcare, and investigator-initiated research funding from Gilead Sciences and Merck Sharp & Dohme.

Andrew Carr has received research funding from Baxter, GlaxoSmithKline/ViiV Healthcare, Merck and Pfizer; consultancy fees from Bristol-Myers Squibb, Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, and Merck; lecture and travel sponsorships from Abbott, Boehringer-Ingelheim, Bristol-Myers Squibb, Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, and Merck; and has served on advisory boards for Abbott, Bristol-Myers Squibb, Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, Merck and Roche. AC is funded in part by a Practitioner Fellowship of the Australian National Health and Medical Research Council. AC was an investigator in the SWITCHMRK trial.

SWITCH FROM TENOFOVIR TO RALTEGRAVIR IMPROVES LOW BONE MINERAL DENSITY AND MARKERS OF BONE TURNOVER OVER 48 WEEKS

Tong WWY^{1*}, Bloch M^{2*}, Hoy J³, Baker D⁴, Lee FJ¹, Richardson R¹, Carr A¹, for the TROP study team

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Background: Tenofovir can reduce bone mineral density (BMD) and increase bone turnover markers (BTMs), both of which are associated with increased fracture risk. Raltegravir has not been associated with BMD loss.

Methods: In an open-label, non-randomised study, tenofovir was switched to raltegravir in adults also receiving a ritonavir-boosted protease inhibitor (rPI) for ≥6 months, and with spine or hip T-score ≤1.0 and plasma HIV RNA <50 copies/ml for ≥3 months. The primary endpoint was BMD change by dual-energy x-ray absorptiometry. Paired t-test was used to compare continuous variables. Factors associated with BMD increase were assessed using logistic regression.

Results: Thirty-seven patients were enrolled: 97% male; mean age 49 years; 84% white; mean T-scores −1.4 (spine) and −1.3 (total left hip); mean tenofovir treatment duration 3.1 years. BMD increases were significant at week 24. At week 48, spine BMD increased by 3.0% (95% confidence interval [CI] 1.9, 4.0; P<0.0001) and left total hip BMD increased by 2.5% (95% CI 1.6, 3.3; P<0.0001). BTMs (N-telopeptide, osteocalcin, bone alkaline phosphatase) all decreased significantly by week 24 (P≤0.0017). There was no raltegravir-related serious or grade 3-4 adverse event. Raltegravir was ceased in two participants after week 36 (pill burden or adverse event); both resuppressed on raltegravir-based therapy after week 48.

Conclusion: Switching virologically-suppressed HIV-infected adults taking a rPI with low BMD from tenofovir to raltegravir is safe and significantly improves hip and spine BMD and reduces bone turnover over 48 weeks.

Disclosure of Interest Statement:

Winnie Tong and Robyn Richardson declare no conflict of interest.

Mark Bloch has received research funding from Abbott, Bristol-Myers Squibb, ViiV Healthcare, Janssen-Cilag, Merck and Gilead Sciences; travel sponsorships from Janssen-Cilag, ViiV Healthcare, Merck and Gilead Sciences; and has served on advisory boards for Abbott, Bristol-Myers Squibb, Merck, ViiV Healthcare and Gilead Sciences.

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FJ Lee receives research funding from the National Health and Medical Research Council of Australia (Grant Number 1017991); has received a Clinical Immunology Society Fellowship; and travel sponsorships from the Australasian Society of Clinical Immunology and Allergy and the Australasian Society for HIV Medicine.

Andrew Carr has received research funding from Baxter, Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, MSD and Pfizer; consultancy fees from Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, and MSD; lecture and travel sponsorships from Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, and MSD; and has served on advisory boards for Gilead Sciences, GlaxoSmithKline/ViiV Healthcare and MSD.

The study was funded in part by an unrestricted grant from MSD, which had no role in study design or data interpretation.

OPERATIONAL PERFORMANCE OF THE DETERMINE HIV COMBO RAPID TEST WHEN USED TO TEST GAY AND BISEXUAL MEN FOR HIV IN SYDNEY SEXUAL HEALTH CLINICS

Conway DP¹, Holt M², McNulty A^{3,4}, Couldwell DL⁵, Smith DE⁶, Davies SC⁷, Cunningham P^{8,9}, Keen P¹⁰, Guy R¹ on behalf of the Sydney Rapid HIV Test study

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Introduction: Rapid HIV testing is available to gay and other men who have sex with men (MSM) in many countries overseas, but is new in Australia. The Alere Determine HIV Combo assay is the first rapid test containing HIV antibody and antigen components ('fourth generation' test). Australian evaluation data of its operational performance are lacking.

Methods: Since October 2011, MSM requesting HIV testing at four Sydney public sexual health clinics were offered rapid HIV testing using the Determine HIV Combo. Men also had sexually transmissible infection screening and conventional HIV serology done. We calculated rapid test sensitivity, specificity, and positive and negative predictive values (PPV, NPV) by comparing results to reference tests (Abbott Architect HIV Ag/Ab Combo, Biorad Genscreen HIV antigen and HIV Western blot). HIV cases were classified as confirmed according to national case definitions.

Results: Of 850 men tested, two had invalid rapid test results and were excluded from the analysis. Of 848 men remaining; 16 were confirmed as HIV positive by laboratory testing and 15 were rapid test reactive (sensitivity=93.8%, 95%Cl:69.8-99.8). Among 831 men HIV negative by laboratory testing, 12 were rapid test false reactive (nine antibody and three antigen false reactive), giving an overall specificity of 98.6% (95%Cl:97.5-99.3) and NPV of 99.8% (99.1-100). The specificity and NPV for the antibody component was 98.9% (98.0-99.5) and 99.9% (99.3-100) and for the antigen component was 99.6% (99.0-99.9) and 99.8% (99.1-100), respectively. Overall, there were 27 reactive rapid tests, and 15 were confirmed as HIV positive by laboratory testing (PPV=55.6%, 35.3-74.5).

Conclusion: The individual antibody and antigen components showed high specificity. The sensitivity results should be interpreted with caution due to small numbers. The overall PPV demonstrates reactive rapid test results should be conveyed with caution to patients and highlights the potential benefit of introducing a second rapid test.

Disclosure of Interest Statement: The Kirby Institute, National Centre in HIV Social Research and National Association of People Living with HIV/AIDS receive funding from the Australian Government Department of Health and Ageing. The Sydney rapid testing study is supported by a NHMRC Program Grant and DPC is supported by a scholarship from Australian Rotary Health/Sydney CBD Rotary Club and the Kirby Institute. Alere provided the Determine HIV Combo rapid tests used free of charge. Alere did not influence the study design, analysis of data or reporting of results.

ETHNIC/RACIAL AND GENDER DIFFERENCES IN BONE, BODY COMPOSITION AND RENAL FUNCTION IN HIV-INFECTED PEOPLE FROM MIDDLE-INCOME COUNTRIES

Haskelberg H³, Mallon P², Hoy J³, Ferret S⁴, Kumarasamy N⁵, Foulkes S⁶, Phanuphak P⁷, Kamarulzaman A⁸, Delfino M⁹, Emery S¹, Cooper DA^{1,10}, Boyd MA¹ on behalf of the SECOND-LINE study group

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Background: SECOND-LINE is an international randomised clinical trial in people with HIV/AIDS with confirmed virological failure of first-line NNRTI+2N(t)RTI antiretroviral therapy (ART) (n=558). A subset of patients (n=211) enrolled into a dual-energy X-ray absorptiometry (DXA) sub-study conducted at 11 sites in 5 countries (South Africa [n=94], India [n=49], Thailand [n=48], Malaysia [n=13] and Argentina [n=7]).

Methods: Spinal bone mineral density (BMD) (L2-L4) and right total-hip were assessed by site-specific DXA at baseline. In this analysis, we compared baseline BMD, t and z scores, body composition and renal function between ethnicities and stratified by gender, using ANOVA.

Results: Baseline characteristics by sex: Females: n=111 (52%), mean age (SD), 36.9 (7.4) years old, mean BMI 25.3 (5.8), 63% African, 32% Asian, 5% other. Males: n=100 (48%), mean age (SD) 40.3 (7.9) years, mean BMI 21.7 (3.8), 73% Asian, 21% African, 6% other. Cohort: baseline mean (SD) CD4+ T cell count 220 (167) cells/mm³; 81% had plasma HIV RNA <100,000 copies/mL; mean (SD) estimated duration of HIV infection was 6.8 (3.9) years; mean duration of first-line ART regimen (NNRTI+2N(t)RTI) was 4.2 (2.8) years. When compared to Asians, African participants had significantly lower spine Z-score (difference for males -1.4 [95% confidence interval {CI} -2.1 to -0.8], females -1.0 [95% CI -1.53 to -0.53]; both p<0.001), higher total limb fat mass (difference 7 females 6kg [95% CI 4 to 8kg; p<0.001]), and higher eGFR (MDRD) (difference 24.6 mL/min/1.73m² [95% CI 10.5 to 38.8]; for females 42.4 mL/min/1.73m² [95% CI 28.9 to 55.9]; both p<0.003).

Conclusion: Despite a higher BMI and greater limb fat mass, the African cohort had a significantly lower spine bone density compared to Asians after failure of first-line NNRTI+2N(t)NRTI ART. Africans had better baseline renal function compared to Asians. DXA will be repeated at 48 week intervals for 2 years post baseline.

Disclosure of Interest Statement: The Kirby Institute is funded by the Australian Government Department of Health and Ageing.

SKELETAL MUSCLE TOXICITY ASSOCIATED WITH RALTEGRAVIR-BASED COMBINATION ANTI-RETROVIRAL THERAPY IN HIV-INFECTED ADULTS

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¹ Clinical Research Program, Centre for Applied Medical Research, St. Vincent's Hospital, Sydney, Australia ²The Kirby Institute, Faculty of Medicine, University of New South Wales, Sydney, Australia ³ Holdsworth House Medical Practice, Sydney, Australia ⁴ Department of Microbiology and Clinical Infectious Diseases, St. Vincent's Hospital, Sydney, Australia

Introduction: The HIV-1 integrase inhibitor raltegravir is associated with rare cases of rhabdomyolysis, and pooled safety data show increased rates of grade 3-4 creatine kinase (CK) elevation. We compared the frequency of skeletal muscle toxicity in HIV-infected adults receiving raltegravir compared to a control group.

Methods: HIV-positive adults receiving combination anti-retroviral therapy were recruited consecutively, with no restriction placed on statin use or recent exercise for study entry. Acute illness, zidovudine or other integrase inhibitor therapy were exclusion criteria. Participants underwent a physical examination and had blood taken for CK, troponin T and raltegravir trough levels. Vigorous exercise in the 7 days prior to study procedures was recorded via a questionnaire. The primary endpoint was the frequency of skeletal muscle toxicity, defined as either: (1) isolated CK elevation; (2) myalgia without motor weakness; (3) proximal myopathy on physical examination; or (4) rhabdomyolysis.

Results: A total of 318 participants (159 raltegravir, 159 control) were evaluated; ≥1 category of skeletal muscle toxicity was present in 37% of the raltegravir versus 19% of the control group (p<0.01). By toxicity category, there were significant differences in myalgia (19% vs. 3%, respectively; p<0.01) and proximal myopathy (4% vs. 0%, respectively; p=0.03), but similar rates of isolated CK elevation (14% vs. 16%, respectively; p=0.64). Rhabdomyolysis was not reported. In multivariate analysis performed using a logistic regression model, only raltegravir use (odds ratio, 95% confidence interval, p: 2.64, 1.57-4.45, <0.01) and recent exercise (2.26, 1.36-3.77, <0.01) were independently associated with skeletal muscle toxicity. No association was found between any category of skeletal muscle toxicity and duration of raltegravir, or raltegravir levels.

Conclusion: Raltegravir-based therapy is associated with a higher prevalence of symptomatic skeletal muscle toxicity, which does not appear to be concentration or time-dependent. Proximal myopathy may be an uncommon but significant side effect of raltegravir exposure.

Disclosure of Interest Statement:

FJ Lee receives research funding from the National Health and Medical Research Council of Australia, and has received a Clinical Immunology Society Fellowship and travel sponsorships from the Australasian Society of Clinical Immunology and Allergy and the Australasian Society for HIV Medicine.

M Bloch has received research funding from Abbott, Bristol-Myers Squibb, ViiV Healthcare, Janssen-Cilag, Merck and Gilead Sciences; travel sponsorships from Janssen-Cilag, ViiV Healthcare, Merck and Gilead Sciences; consultancy from Merck, and has served on advisory boards for Abbott, Bristol-Myers Squibb, Merck, ViiV Healthcare and Gilead Sciences.

SL Pett has received travel and conference sponsorships from Gilead, Boehringer-Ingelheim and Merck.

A Carr has received research funding from Baxter, the Balnaves Foundation, Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, Merck and Pfizer; consultancy fees from Gilead Sciences, GlaxoSmithKline/ViiV Healthcare and Merck; lecture and travel sponsorships from Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, Merck and Serono; and has served on advisory boards for Gilead Sciences, GlaxoSmithKline/ViiV Healthcare and Merck.

SEROLOGICAL RESPONSE, FAILURE AND SEROREVERSION AFTER TREATMENT FOR INFECTIOUS SYPHILIS IN PEOPLE WITH HIV INFECTION

Post JJ123, Khor CW123, Vollmer-Conna U4, Smith DE2, Robertson PW5

¹Department of Infectious Diseases, Prince of Wales Hospital, Randwick, NSW; ²Albion Street Centre, Prince of Wales Hospital, Surry Hills, NSW; ³Prince of Wales Clinical School, University of New South Wales, Randwick, NSW; ⁴School of Psychiatry, University of New South Wales, Randwick NSW; ³Department of Microbiology, Serology Laboratory, South Eastern Area Laboratory Services (SEALS), Prince of Wales Hospital, Randwick, NSW, Australia.

Introduction: The rate of serologic failure after syphilis treatment in people with HIV has been reported to be as high as 30%. Our aim was determine the response rate to treatment of syphilis in people with HIV co-infection.

Methods: The serologic response after treatment of syphilis where the RPR titre was at least 1:4 was assessed in a retrospective case series from a single HIV treatment centre. Factors predictive of a four-fold fall in RPR titre (serologic response), failure to achieve a four-fold fall at 12 months and complete RPR seroreversion were assessed in multivariate analysis.

Results: 111 subjects experienced 142 episodes of RPR elevation greater than four fold. 97% of evaluable subjects experienced a serologic response at 6 months follow-up and 92% of all subjects had a serological response at some time during follow-up. In univariate analysis the composite factor of multiple sex partners in the three months before assessment and/or the diagnosis of another sexually transmitted infection was associated with a reduced likelihood of serological response (OR 0.93). At twelve months between 12.7-15.9% of subjects had serological failure. In multivariate analysis a higher CD4T cell count (OR 0.63 per 100 CD4T-cells) and RPR titre (OR 0.64 per log₂) were associated with a reduced odds of serological failure and a higher HIV viral load (OR 0.72 per log₁₀) and RPR titre (OR 0.77) were associated with a reduced odds of RPR seroreversion.

Conclusion: The rate of serologic response to syphilis treatment in people with HIV infection and an RPR titre of 4 or greater is high. Sexual risk taking may affect the probability of response, and may represent reinfection. Serologic failure and RPR seroreversion were associated with RPR titre and HIV surrogate markers, suggesting a possible interaction between HIV infection and the long term serologic outcome.

Disclosure of Interest Statement: The University of New South Wales funded this project through an independent learning project.

THEME C PROFFERED PAPER SESSION IN HONOUR OF

LIZ DAX: NEW APPROACHES TO HIV TESTING

2.00PM - 3.30PM

PAPER NUMBER: 465

PATTERNS OF HIV TESTING IN AUSTRALIA 2001-2010: A SYSTEMATIC REVIEW

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Background: Early access to treatment and behaviour change following diagnosis reduces HIV transmission. Regular HIV testing particularly among high risk groups is therefore a key component of HIV prevention. We conducted a systematic review to provide insight regarding trends in HIV testing in Australia.

Methods: Electronic literature databases, reference lists, and conference proceedings were searched for published and unpublished reports of HIV testing in Australia between 2001 and 2010.

Results: Twenty studies of 162 754 people in 36 populations have been included in this review. Thirteen studies reported the total number of people ever tested for HIV infection and the number tested in the previous 12 months, six studies only reported the total ever tested and one study only reported the number tested in the previous 12 months. The mean community based rate of people ever tested for HIV infection was 38.1% (95% CI 37.4-38.7) of Australian adults, 88.2% (95% CI 87.9-88.4) of men who have sex with men (MSM), 88,4% (95% CI 88.1-88.8) of people who inject drugs (PWID), 73.3% (95% CI 72.0-74.5) of people in prison/prison entrants and 50.3% (95% CI 44.4-56.3) of people from high prevalence countries. Information on recent HIV testing found 20.0% (95% CI 18.5-21.5) of Australian adults, 65.9% (95% CI 65.5-66.2) of MSM, 62.7% (95% CI 62.1-63.2) of PWID and 30.8% (95% CI 28.8-32.8) of prison entrants reported a HIV test in the preceding 12 months. Available longitudinal data showed that the rate of HIV testing was increasing in MSM and declining in PWID and people in prison.

Conclusion: HIV testing is well established in the population subgroups at highest risk in Australia. More effort needs to be made to engage people from countries with a generalised epidemic in HIV screening once they have entered Australia. We also lack of evidence relating to HIV testing in the Aboriginal and Torres Strait Islander population.

Disclosure of Interest Statement: The Kirby Institute is funded by the Australian Government Department of Health and Ageing and is affiliated with the Faculty of Medicine, The University of New South Wales. Its work is overseen by the Ministerial Advisory Committee on Blood Borne Viruses and Sexually Transmissible Infections. The Surveillance and Evaluation Program for Public Health at the Kirby Institute is a research associate of the Australian Institute of Health and Welfare.

MIDWIFERY PERCEPTIONS OF ANTENATAL HIV TESTING AND BARRIERS TO UNIVERSAL TESTING

Read PJ12, Ziegler JB3, Shand A4, Brown K5, Konecny P6, McNulty AM1,7

'Sydney Sexual Health Centre, Sydney Hospital [†]The Kirby Institute, University of New South Wales [§]Sydney Children's Hospital, Sydney "Royal Hospital for Women, Sydney "Illuwara Sexual Health Service [§]St George Hospital Sexual Health Service [†]School of Public Health and Community Medicine, University of New South Wales

Introduction: National HIV testing guidelines (2011) advise HIV testing should be recommended to all pregnant women. This study assessed midwives' perceptions of HIV testing, and barriers to universal testing.

Methods: Anonymous online survey of midwives at 5 hospitals in the South Eastern Sydney and Illawara local health districts, New South Wales, during March 2012. Responses are analysed in aggregate to protect site confidentiality.

Results: 61 midwives completed the survey, 34 from an antenatal setting, 21 birthing, 18 postnatal and 21 midwifery group practice (not mutually exclusive). 36/61 (59%) perceive that at least 90% of women seen by a midwife are HIV tested, compared to 29 (48%) when seen by a GP and just 9 (15%) when seen by a private obstetrician (p<0.01).

27/61 (44%) identified the need for pre-test discussion and 23/61 (38%) a lack of written information as very important barriers to testing. Only 5 respondents perceived the absence of risk to be a very important reason not to offer testing.

GP and Midwife education were identified as tools for increasing testing by 56/61 (92%) and 45/61 (74%) midwives respectively.

34/61 (57%) felt HIV tests should be routine for all women in pregnancy, 8 (13%) that it should be recommended to all women, 18 (30%) that it should be offered and 1/61 (2%) prefered risk-based HIV testing (p<0.01).

11/34 (32%) working in antenatal settings felt that lack of time and 17/34 (50%) that a lack of written information were very important barriers to HIV testing compared to just 2/27 (7% p=0.04) and 6/27 (22%, p=0.02) of those not working in antenatal settings respectively.

Conclusion: Midwives perceive the rate of HIV testing to vary among service providers. There remain significant barriers to overcome if universal HIV testing is to be successful. Further education of all groups is identified as integral to this change.

Disclosure of Interest Statement: No conflicts of interest

NEW XPRESS HIV/STI SCREENING CLINIC IMPROVES PATIENT JOURNEY AND CLINIC CAPACITY AT A LARGE SEXUAL HEALTH CLINIC

Knight V1, Ryder N3, Guy R2, Lu H1, Wand H2, McNulty A1.4.

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- 3. Sexual Health and Blood Borne Virus Unit, Department of Health, Northern Territory, Australia.
- 4. School of Public Health and Community Medicine, University of NSW, Kensington, NSW

Introduction: In December 2010 a new 'express' STI/HIV asymptomatic testing service (Xpress) was implemented alongside routine clinics at Sydney Sexual Health Centre. Xpress involved a computer assisted self interview, self-collected genital samples, and HIV/STI bloods collected by an Enrolled Nurse. We evaluated the impact of the service on patient journey, staff costs, and clinical capacity.

Methods: In the first 5-months of Xpress (Xpress period) we calculated the median waiting time, length of stay, staff hours and costs, and utilisation. We compared these attributes to the same months in the previous year (before period).

Results: In the Xpress period 5335 patients were seen (705 in the Xpress clinic, 4630 in routine clinic), 11% more than the 4804 in the before period. 35% were MSM. Staff hours were 13% greater in the Xpress period compared with the before period (3567 vs 3151). The average cost per patient seen in the Xpress period was lower compared to the before period (\$26.79 compared to \$28.48). The median waiting time in the Xpress period was 19 minutes (interquartile range (IQR: 8-36) (10 in Xpress clinic and 17 in routine clinics) compared with 23 in the before period, p<0.01. The median length of stay in the Xpress period was 40 minutes (IQR:27-58) (21 in Xpress clinic and 40 in routine clinics) compared with 43 in the before period, p<0.01. The utilisation rates were 67% in the Xpress period (40% in Xpress clinic and 74% in routine clinics) compared with 76% in the before period, p<0.01.

Conclusion: Evaluation of the first five months of Xpress operation demonstrates it improves the patient journey by reducing the time asymptomatic patients spend at the clinic, and even though Xpress was not fully utilised 11% more patients were seen with minimal additional staffing costs. If fully utilised the Xpress clinic has the potential to increase the total patients seen even further.

No disclosure of interest.

WHICH GAY MEN WOULD USE HOME HIV TESTING?

Ben Bavinton¹, Damian Conway¹, Phillip Keen³, Rebecca Guy¹, Garrett Prestage^{1,2}

- 1. Kirby Institute, University of NSW.
- Australian Research Centre in Sex Health and Society, La Trobe University.
- 3. National Association of People Living with HIV/AIDS

Background: Home testing for HIV is under consideration for approval by the Food and Drug Administration in the United States (US). The availability of the tests in the US is likely to have a very direct impact in Australia, especially among gay men, as they may purchase home testing kits online. Many gay men do not appear to test as frequently as recommended in HIV/STI testing guidelines. Structural and psychological barriers to HIV testing may be reduced by the availability of home testing.

Methods: PASH was an online survey of 2306 Australian gay men recruited during mid-2009.

Results: Among 2076 non HIV-positive men, 82.3% had ever been tested, including 59.2% who had been tested in the previous year. 65.6% indicated that they would be likely to test more if they could do so at home by themselves. In multivariate analysis, being younger (OR 0.98; p=0.001) and less well educated (OR 0.77; p=0.032), non Anglo Australian background (OR 1.35; p=0.018), greater optimism about the benefits of non condom based risk reduction strategies (OR 1.10; p=0.001), and having engaged in unprotected anal intercourse with casual partners in the previous six months (OR 1.53; p=0.004) were independently associated with indicating a prefererence for home testing.

Conclusion: Home testing is an option that many gay men would like to have available to them. This is particularly true of men who may be at increased risk of HIV, including those who may be inclined to use non condom based risk reduction strategies. Further, younger men and other men who might be presumed to have less access to information about HIV also preferred the option of home testing.

DISCLOSURE OF INTEREST STATEMENT: The Kirby Institute and The Australian Research Centre in Sex, Health and Society (ARCSHS) receive funding from the Australian Government Department of Health and Ageing. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales. ARCSHS is affiliated with La Trobe University. No pharmaceutical grants were received in the development of this study.

RAPID HIV TESTING IS ACCEPTABLE AND PREFERRED AMONG GAY MEN ATTENDING SEXUAL HEALTH CLINICS: FINDINGS FROM THE SYDNEY RAPID HIV TEST STUDY

Conway DP¹, Guy R¹, Davies SC², Couldwell DL³, McNulty A^{4,5}, Smith DE⁶, Cunningham P^{7,8}, Keen P⁹, Holt M¹⁰ on behalf of the Sydney Rapid HIV Test Study

¹The Kirby Institute, University of New South Wales, Australia ² North Shore Sexual Health Service, Royal North Shore Hospital, St Leonards, Australia ³ Parramatta Sexual Health Clinic, Centre for Infectious Diseases and Microbiology, Westmead Hospital, Australia ⁴ School of Public Health and Community Medicine, University of New South Wales, Australia ⁴ Albion Street Centre, Surry Hills, Australia ⁵ St Vincent's Centre for Applied Medical Research, University of New South Wales, Australia ⁸ NSW State Reference Laboratory for HIV, St Vincent's Hospital, Darlinghurst, Australia ⁹ The National Association of People Living with HIV/AIDS, Newtown, Australia ¹⁰ National Centre for HIV Social Research, University of New South Wales, Australia

Introduction: Rapid HIV testing is available in many countries overseas, but not yet at the point of care in Australia. We assessed acceptability of the rapid HIV testing process to Australian gay and other men who have sex with men (MSM).

Methods: Since October 2011, MSM requesting HIV testing at four Sydney sexual health clinics were offered rapid testing in this study. A questionnaire was completed by participants before (Part 1) and after (Part 2) they received their rapid test result. Part 1 captured demographics, past testing history and risk behaviour. Part 2 focused on acceptability of the rapid testing process, but was only completed by men with non-reactive rapid test results.

Results: Survey data was available for 685 men who had rapid HIV testing and 659 men (96%) completed both parts of the questionnaire. Of these men, 54% reported rapid testing to be less stressful than conventional testing and 34% reported no difference. Just over half (56%) found rapid testing more comfortable than conventional testing and 24% no difference. Nearly all men were satisfied with the pre-test discussion (97%), results delivery (97%), and the overall process (98%). Most men (92%) would recommend rapid testing to someone else, and 80% wanted a rapid test for their next HIV test. More men who tested at least twice a year wanted rapid testing for their next visit (84%) compared with men who tested less frequently (77%) (χ^2 =4.94, p=0.03). About half the men (51%) were willing to pay for their rapid test (32% would pay \$15-\$20 and 19% would pay \$30 or more).

Conclusion: An overwhelming majority of men were satisfied with rapid HIV testing as conducted in this study and preferred rapid HIV testing to conventional testing. The preference for rapid testing was stronger among men who reported frequent testing for HIV.

Disclosure of Interest Statement: The Kirby Institute, National Centre in HIV Social Research and National Association of People Living with HIV/AIDS receive funding from the Australian Government Department of Health and Ageing. The Sydney rapid testing study is supported by a NHMRC Program Grant and DPC is supported by a scholarship from Australian Rotary Health/Sydney CBD Rotary Club and the Kirby Institute. Alere provided the Determine HIV Combo rapid tests used free of charge. Alere did not influence the study design, analysis of data or reporting of results.

THEME D PROFFERED PAPER SESSION: CULTURE,

PRACTICE AND HIV

2.00PM - 3.30PM

PAPER NUMBER: 51

'RISK' AND 'RESPONSIBILITY' IN THE NARRATIVES OF WOMEN DIAGNOSED WITH HIV

Persson AS

National Centre in HIV Social Research, University of New South Wales

Background: In Australia, most women with HIV were infected through heterosexual sex with their spouse or a casual partner. In media coverage of HIV, women are commonly portrayed as having been deceived by men they trusted, or as victims in criminal cases involving HIV-positive men from high-prevalence countries. Such portrayals invoke conventional notions of gender, and also echo global HIV discourses that position women as exceedingly vulnerable to HIV due to endemic inequality and socioeconomic disempowerment. Less often examined is how Australian women themselves speak about risk and responsibility in relation to their HIV infection.

Methods: This presentation draws on qualitative interviews with 15 women who participated in the *Straightpoz study* (NCHSR) and the *Seroconversion sub-study on heterosexuals recently diagnosed with HIV* (NCHSR/Kirby Institute).

Results: All but three women were infected through sex with a regular or casual male partner, including men who did not disclose their HIV status and men from high-prevalence countries. Yet, few women presented themselves as 'victims' in any straightforward sense, or placed the blame squarely on the men, including where the men had lied or not disclosed HIV. Although several women expressed anger, their accounts revealed a diverse range of themes around sexual risk and responsibility, ranging from a desire to absolve and protect the men concerned to nuanced reflections on the complexities around sexual agency.

Conclusion: Heterosexual women (and men) in Australia have not been exposed to messages of shared responsibility in sexual encounters to the same extent as have gay men. This might partly explain why heterosexuals are overrepresented in criminal prosecutions for HIV-related offences. However, the broader tendency to position women who acquire HIV within a conventional victim discourse obscures the kind of elaborate repertoires of gendered understandings around risk and responsibility that emerged in these studies and that have implications for HIV prevention.

Disclosure of interest: The National Centre in HIV Research is funded by a core grant from the Commonwealth Department of Health and Aging. The research studies drawn on in this presentation are/were funded by various Australian State Departments. The Straightpoz Study was partly funded by the NSW Department of Health. The Seroconversion Study is funded by several Australian State Departments of Health. No pharmaceutical grants were received in the development of these studies.

CULTURAL BELIEFS, SEX AND POLLUTION DURING PREGNANCY AND BREASTFEEDING: IMPLICATIONS FOR THE PREVENTION OF HIV DURING THESE TIMES

Ofi. PS¹, Kelly A¹², Vallely L¹-Fiya V¹, Kupul M¹, Neo R¹, Ase S¹, Kaldor J³, Kariwiga G⁴ Mola G³, and Worth H²¹ ¹Sexual and Reproductive Health Unit, Papua New Guinea Institute of Medical Research, Goroka, PNG, ²International HIV Research Group, School of Public Health and Community Medicine, University of New South Wales, Sydney, Australia, ³Kirby Institute, University of New South Wales, Sydney, Australia, ⁴UNICEF, Port Moresby, PNG, ⁵Department of Obstetrics and Gynaecology, University of Papua New Guinea, Port Moresby, PNG

Introduction: Sexual abstinence during pregnancy and breastfeeding has long been a cultural practice in Papua New Guinea. With modernity and changes in cultural practices this paper examines women's perspectives of the extent of these cultural beliefs and importantly if these cultural beliefs influence sexual practices during pregnancy and breastfeeding.

Methods: A qualitative cross-sectional and longitudinal study of 53 HIV-positive and 13 HIV-negative pregnant women and new mothers, who were involved in prevention of parent to child transmission (PPTCT) programs was conducted in two sites, each with a high HIV burden. Of women with HIV, almost all reported that their husbands were HIV-positive. All interviews were transcribed, translated, thematically analyzed and coded and managed using Nvivo9.

Results: Women in this study discussed cultural beliefs about the importance of sexual abstinence during pregnancy and breastfeeding. In this narrative, the fetus is viewed as already human and in need of protection from polluting acts (sex) and substances (sperm). If a baby is polluted ('spoiled') in utero there is a risk of miscarriage, stillbirth and birth defects. Pollution during breastfeeding included illnesses such as diarrhea in the infant. Despite strong cultural beliefs women were sexually active. Reasons for not abstaining included satisfying husbands in order to prevent them seeking sex elsewhere. Although all of the women in this study had been involved in PPTCT very few, irrespective of HIV status, reported using condoms. Of those that did it was for the protection of the baby from pollution.

Conclusion: Despite strong cultural beliefs regarding the need for sexual abstinence during pregnancy and breastfeeding, women were being sexually active during. For HIV prevention it may be possible to draw on these cultural narratives to increase condom use during these times in order to prevent HIV transmission to women who are negative.

Statement of Declaration: This research was funded through an Australian Development Research Award (ADRA) Grant.

WHAT ROLE CAN A PACIFIC TELEVISION SOAP OPERA PLAY IN THE HIV RESPONSE? CHALLENGING SILENCES TOWARDS THOSE MOST VULNERABLE

Drysdale R L¹ Worth H²

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Introduction: 'Love Patrol' is the Pacific's first TV series, but unique in that it is a specifically designed drama on HIV and STI issues. Immensely popular with audiences throughout the Pacific region, 'Love Patrol' tells the stories of sex workers, men who have sex with men, and people living with HIV, in the context of daily island life. This paper will discuss the unexpected impact of 'Love Patrol': the ways it both sparked a strong identification with the characters and invoked more positive responses toward marginalised people and those living with the virus.

Methods: This study utilised in-depth qualitative interviews with Love Patrol viewers and semi-structured interviews with community leaders and service providers to assess the role of 'Love Patrol' in the response to those affected and infected with HIV. It was conducted between January 2011 – March 2012 in Fiji, Papua New Guinea and Vanuatu. The study explored audience engagement and identification with characters in 'Love Patrol' and the degree to which this engagement challenged pre-existing attitudes and social and cultural norms.

Results: 'Love Patrol' is creating a dialogue within communities on taboo issues and practices, and increasing visibility, tolerance and acceptance of men who have sex with men, sex workers and people living with HIV. The interviewees describe how the characters in 'Love Patrol' made them relect on their own attitudes towards marginalised groups in their local communities. In turn, 'Love Patrol' has also created a sense of legitimacy and empowerment amongst marginalised groups in Fiji, Papua New Guinea and Vanuatu and has increased access to HIV services

Conclusion: 'Love Patrol' has shown that television, when it is highly engaging and culturally proximate, can engender audience identifications with groups who are affected by HIV and can play a significant role in changing attitudes and reducing stigma as part of an HIV response.

EXPERIENCES OF TREATMENT AMONG PLHIV IN THE PACIFIC ISLANDS: A QUALITATIVE PARTICIPATORY STUDY

Gorman, H',Buko, A², Colati, J³, Itimwemwe, B⁴, Kubunavanua, R⁵, <u>Nayasa, L</u>⁶, Seduadua, M⁷, Senikaucava, T⁸

^{1,5} Pacific Islands AIDS Foundation, ²Ministry of Health, Solomon Islands, ^{3,6,7,8}Fiji Network of People Living with HIV, ⁴
Ministry of Health, HIV Unit, Kiribati

Introduction: In the Pacific, life prolonging HIV treatment, including antiretroviral therapy (ART) has become increasingly available to people living with HIV (PLHIV). Yet, many people choose to delay accessing treatment and others fail to adhere to ART for many reasons. Research from other areas of the world indicates that there are several factors that affect uptake, continuance and cessation of ART and that the wider social context in which treatment is provided also influences the health of PLHIV. A key aim of this study is to improve understanding of HIV-positive people's experiences and perspectives of HIV treatments in the Pacific Islands region.

Methods: A participatory methodology has been used to carry out this study, which included training eight PLHIV to collaborate as peer researchers. The team of peer researchers decided to employ a qualitative approach through conducting in-depth interviews, with the aim of interviewing a total of 60 PLHIV from Fiji, French Polynesia, Guam, Kiribati, Samoa, and the Solomon Islands.

Results: This presentation will focus on the preliminary findings of this study, particularly the socio-cultural factors that enable and impede uptake and adherence to HIV treatment. Specifically it will discuss the factors that affect HIV-positive people's uptake, continuance and cessation of HIV treatment by situating their experience within the Pacific Islands context where factors such as use of traditional medicines, alternative therapies, religion, family, cultural traditions and stigma and discrimination affect practices and decisions about treatment.

Conclusion: This presentation will elaborate on how the key findings of this report that are based on the insights and experiences of Pacific PLHIV are useful in developing recommendations for improving uptake and adherence to HIV treatment which support the health and quality of life of PLHIV in the Pacific.

This project has been funded by the Pacific Islands HIV and STI Response Fund. Nothing to declare.

SEXUAL PRACTICES OF MEN WITH REFUGEE BACKGROUNDS FROM THE HORN OF AFRICA IN THE CONTEXT OF HIV/AIDS

<u>Muchoki</u>S N

Australian Research Centre in Sex, Health and Society [ARCSHS], La Trobe University

Introduction: This study explored the ways men with refugee backgrounds from Sudan, Somalia, Eritrea and Ethiopia enact their sexuality within the context of migration and resettlement. The study focused on men because little has been done to explore their sexual experiences and the likely effects of this on their sexual health, and subsequently, that of their sexual partners.

Methods: The study used a qualitative methodology involving seven key informant interviews, four focus group discussions and eighteen individual interviews that were digitally audio-recorded. Data analysis was done concurrently with fieldwork and the NVivo computer program used to facilitate management and thematic analysis of the data.

Results: Participants regarded Australia as providing more opportunities to engage in casual sexual encounters. Some married men who perceived a loss of their status over their wives, engage in extra-marital relationships [within Australia and while travelling overseas] to 'compensate' for their masculinity. Some single men reported engaging in casual and multiple sexual relationships due to the perceived 'freedom' in Australia. Of concern is that some of these men engage in unsafe sexual practices either due to lack of knowledge about HIV/AIDS, or the perception that the disease is not common in Australia. A number of participants reported never to have come across sexual health information related to HIV/AIDS in Australia

Conclusion: With few chances of receiving sex education prior to resettlement, some men with refugee backgrounds resettle to Australia with little knowledge about sexual health and safe-sex practices. This situation, combined with few opportunities to learn about HIV in Australia, means that these men are likely to engage in unsafe sexual practices that could expose them and their sexual partners to HIV/AIDS. There is, therefore, a need to focus on promoting sexual health among this group of migrants by investing in sexual health information and social marketing programs.

Disclosure of Interest Statement: The author would like to acknowledge that this research was made possibly by the support from La Trobe University PhD scholarship.

SPONSORED SATELLITE SYMPOSIUM - WHAT CAN WE

LEARN FROM THE HIV GP WORKFORCE PROJECT?

2.00PM - 3.30PM

The National Health and Medical Research Council has funded the National Centre in HIV Social Research, Flinders University and collaborating partners to conduct qualitative research on the capacity of the general practice workforce to provide ongoing primary care to people living with HIV around Australia. In-depth, semi-structured interviews have been conducted with 24'key informants' representing government, non-government and professional organisations involved in the shaping of HIV care policy, and with 47 clinicians from different caseload and geographical general practice settings across Australia including current and past \$100 prescriber GPs, non-prescribing GPs involved in HIV care, and other clinicians working in high HIV caseload practices. This session will present emerging findings from the research with the aim of finding out the views of ASHM delegates about the implications of this research for policy and clinical practice. This project will inform future planning and strategies around engaging GPs in training and accreditation to prescribe HIV medications, and provide a broader picture of the current and potential future roles of Australian general practice in maintaining and enhancing the health and well-being of people with HIV.

THEME D SYMPOSIUM: ROLE OF CULTURE

4.00PM - 5.30PM

PAPER NUMBER: 1056

EVERYDAY MORAL REASONING IN THE GOVERNMENTALITY OF HIV

<u>Professor D. Barry Adam</u>, University Professor, Department of Sociology, Anthropology and Criminology, University of Windsor; and Senior Scientist and Director of Prevention Research, Ontario HIV Treatment Network, Canada

Everyday HIV prevention and transmission frequently come down to judgments and choices in making sense of potentially risky situations and moving through them in the pursuit of human connection. Examination of these situations, and notions of moral choice brought to bear by participants to order and understand them, have surprisingly little profile in the study of HIV risk. In a field dominated by forms of causal analysis that postulate that risk factors can predict behavioural outcomes, the very human choices and contexts that make "behaviour" meaningful can fall from view. This paper seeks to elucidate the social contexts, rules of thumb, and social presumptions of everyday life that amount to an emergent, practical morality for navigating risk that result in both protection and (unintended) vulnerability.

THE SILENCING OF HISTORY AND THE SILENCING OF SEXUALITY: CHALLENGES IN DOING ORAL HISTORIES OF OLDER GAY MEN IN CHINA

Worth H

Introduction: This paper is a critical appraisal of the methodological and epistemological challenges of doing oral histories about the intimate lives of older gay men. It seeks to understand how we (in the West and in China) think about histories and histories of sexuality.

Methods: This paper uses the work of Michel Foucault as (what he calls) "a toolbox" to understand the generation and use of knowledge about Chinese history and the history of sexuality in China.

Results: Alessandro Portelli argues that oral histories serve the purpose of "preserving the teller from oblivion." While this certainly true, in China, it is history on a grand scale that is often foreclosed. In this situation, oral history is not just about the meanings gay men bring to their own intimate lives but opens China's often turbulent recent history to public scrutiny. For the Chinese researchers and for us, as Western collaborators, the project was a methodological and epistemological challenge. The project challenged assumptions and raised questions about both method and subject. What and how we know about histories (of sexuality, and of politics and social change) is not evident and requires excavation

Conclusion: Doing the oral history project not only profoundly affected the gay men, but it has also had effects on the ways we view China's history. This oral history project has provided epistemological and methodological challenges to understanding research and what it is and what it does.

Disclosure of Interest Statement: This project was funded by AusAID and the University of New South Wales.

PREVENTION AS HYPERBOLE: CULTURE AS CONCUPISCENCE

Dowsett, G

Professor and Acting Director, Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne

The hyperbolic discourse absorbing current HIV debate on 'biomedical technologies and interventions, 'treatment as(is) prevention,' and the 'prevention revolution' reveals yet again the longstanding tendency for HIV politics to swamp the world of practice and encourage us to lose sight of all we have learned in 30 years of pandemic. It is neither novel nor simplistic to point out that no technology exists without or outside human behaviour, and that all human behaviour is socially determined and culturally comprehended. It has been and can only ever be thus. Yet, we see in that hyperbolic discourse not simply a neglect of the behavioural underpinnings of prevention (of any kind), but an enduring and conscious tendency in medical science to ignore the social and cultural when it suits its purposes, among which is sustaining an ascendency as a powerful 'master discourse'. That said, just when we least expect it, the social returns and transforms any technology into a practice (practice = behaviour + meaning). We only have to examine the innovative sexual cultures of gay men the world over during the pandemic, e.g. in the pursuit of 'bareback sex' or the use of 'serosorting' and 'strategic positioning', to see a near future when PREP, PEP, Microbicides (gay men are used to messy sex), instant and/or home HIV testing, and viral load assessments etc., will be used to pursue complex sexual pursuits and rethink sexual possibilities...and these will produce their own mistakes, just as condom did and does. More than ever we need to rethink how we pursue our understandings of this pandemic and how we deploy our knowledge habits, our scientific paradigms, and our research practice.

RESEARCH IN CYBERSPACE: SAME, SAME OR DIFFERENT?

Power J

Research Fellow, The Bouverie Centre, La Trobe University

As the internet is increasingly integrated into everyday life, it has also become a favoured site for social research. The internet, like nothing before it, enables researchers to tap into previously hidden communities. It also affords a level of both intimacy and anonymity that can free research participants to speak more openly about sensitive or risky practices than they might in other forums. In this way the internet has opened new ground for research on sexuality and sexual health. But is the internet just another medium for data collection? Could you transfer a paper and pen survey to the internet and expect the same results? The internet has shaped cultural practices in unique ways. It has opened radical new possibilities for meeting people, and for finding sex or relationships. It has also changed the way many people connect with others to create a sense of community, the way they seek and share information, how they present themselves. and the sides of their personality that they reveal publicly. The cultural norms and expectations that have emerged on and through the internet inform the ways in which people communicate using that medium—the way they receive information and the way they share it. As such, when research is conducted online, it is conducted within the cultural framework of the internet. People share information on an online survey in a way that is consistent with the way they engage with the internet itself and with other people through the internet. There is a very different set of cultural connotations, expectations and experiences associated with using a pen and paper to fill in survey. Research becomes part of the communication cultures and social norms around social interaction of the populations engaged in the study. While research conducted offline may similarly sit within a particular cultural code, we cannot assume that the 'offline cultures' are easily comparable to 'online cultures'. This paper will explore the implications of conducting research online with a specific focus on online research around sexuality and HIV/AIDS

THEME B SYMPOSIUM: LIVING (EVEN FURTHER) ON THE EDGE

4.00PM - 5.30PM

PAPER NUMBER: 1188

BRIDGING THE ABYSS

Lesley Voss

UNPACKING THE BAGGAGE: HIV CARE IN IMMIGRANTS TO AUSTRALIA

Lemoh C

Department of Medicine, The University of Melbourne Centre for Population Health, Burnet Institute Refugee Health Service, Southern Health

Increasing numbers of people living in Australia with HIV are people born abroad. Migrants living with HIV in Australia are a diverse population, presenting various challenges to clinicians. Life history, geographical origin, migration process and socio-economic situation in Australia intersect to influence physical and psychosocial management issues. Some face barriers to the provision of effective care and support, due to HIV-related stigma and intersecting discrimination.

Successful management requires conscious efforts to achieve trust in the therapeutic relationship, awareness of patient perspective and social context, and appreciation of the epidemiology of opportunistic pathogens and co-morbidities in countries of origin and transit. Appropriate assessment and treatment may be hampered by eligibility criteria for government-subsided services and medications: innovative solutions may be required.

Ongoing advocacy is needed to achieve equitable access to medications and support services for all people living with HIV in Australia.

Disclosures: Ordinary Board member, Australian Federation of AIDS Organisations

THE PREVENTION AND MANAGEMENT OF BLOOD BORNE VIRUS AND SEXUALLY TRANSMITTED INFECTIONS IN YOUNG PEOPLE

Hellard M

Burnet Institute, Melbourne, VIC, Australia; Alfred Hospital, Melbourne, VIC, Australia; Monash University, VIC, Australia; Nossal Institute, University of Melbourne, Melbourne, VIC, Australia.

Whilst the majority of HIV infections in Australia occur in gay men there are other key subgroups in our community that remain vulnerable to HIV and other blood borne viruses (BBV) (hepatitis C and hepatitis B) and sexually transmitted infections (STI). Marginalised young people, such as those who inject drugs, are in contact with the justice system, the homeless and those with mental health issues are highly vulnerable and remain at risk of these infections. As well there is a subset of young gay men who are not closely attached to the gay community who may not be reached by standard HIV prevention campaigns.

This paper will highlight the risks experienced by marginalised and vulnerable young people and provide examples of interventions that aim to reduce risk and improve the management of BBVs and STIs in this group. This will include the use of cash incentives to improve vaccination coverage, the role new technologies to engage and interact with young people and the establishment of community based clinics aimed at engaging with this group.

THE "PSYCHIATRICALLY ILL"

Chris Kenedi

- 1. Auckland Hospital, Department of General Medicine and Department of Liaison Psychiatry
- 2. Duke University Medical Center, Durham, North Carolina, USA. Department of Internal Medicine, Department of Psychiatry.

Introduction: A brief introduction to mental health issues that confront patients living with HIV.

This session will present a case study of a typical patient and their comorbidities with an emphasis on how to recognize the issues that are interfering with the patient's clinical care. These include depression, methamphetamine abuse and a sleep disorder as a neuropsychiatric manifestation of HIV.

Disclosure of Interest Statement: No financial interests to disclose.

THEME C PROFFERED PAPER SESSION: HIV EPIDEMIOLOGY

4.00PM - 5.30PM

PAPER NUMBER: 812

'LIVING POSITIVELY': LIVED EXPERIENCES AND INTRAPERSONAL ISSUES OF PERSONS LIVING WITH HIV/AIDS (PLWHA) IN DELHI, INDIA

Dhaor SS1

¹ Department of Social Work, Bhim Rao Ambedker College, University of Delhi, India.

Introduction: HIV diagnosis results in various reactions from the loved ones resulting in change of behavior on the part of the infected. The study explores the lived experiences and intrapersonal issues as a result of positive diagnosis.

Methods: 105 PLWHA(60 males,40 females 05 transgender) were interviewed using semi structured interview schedule. Focus Group Discussions were conducted to understand the deeper issues.

Results: In all 60% were married, 18% were unmarried and 22% were ever-married. Only 22.9% had studied above middle school. After HIV diagnosis, in all 32.3% made no disclosure; of them, 75% feared HIV transmission to partner during sexual intercourse. 62.7% reported reduced sexual activity, 23.5 % reported to be abstaining from sexual activity after HIV diagnosis. There are 12.5 % respondents who lost hope on the diagnosis. A total of 8.6% said that they became sad. 13.3% had fear of death. 4.8% were angry with partner. 9.5% persons were tense about the future of their children and same number 9.5% were shocked to get diagnosed with HIV. 14.3% respondents were feeling guilty of their past behavior. It was interesting to know that 26 (24.8%) persons felt normal at the diagnosis of HIV. 2.9%had suicidal ideation. Besides this, there is internalization of stigma leading to a change in behavior of PLWHA ranging from isolation in 25% of the respondent to another 25% abstaining from sex.24.8% separated utensils.

Conclusion: The diagnosis leads to many kinds of responses which are embedded in the past of the respondents. The ones who were responsible for the infection are sad, guilty and contemplating suicide. The ones not responsible are angry at the partner. Self imposed isolation and punishment is also evident.

TRENDS IN NEWLY DIAGNOSED HIV INFECTION IN AUSTRALIA, 2000 - 2011

 $\underline{\text{McDonald A}} \text{ for the National Blood Borne Virus and Sexually Transmissible Infections Surveillance Committee, The Kirby Institute, UNSW, Sydney, NSW$

Introduction: Antiretroviral treatment for HIV infection is widely and freely available in Australia. However, the annual number of new diagnoses of HIV infection in Australia has steadily increased over the past 12 years.

Methods: Newly diagnosed HIV infection is notifiable in each State/Territory health jurisdiction in Australia. Under national surveillance procedures, cases are forwarded to the National HIV Registry for national collation and analysis. Information routinely sought at notification includes date of HIV diagnosis, country of birth (from 2002), exposure category and CD4 count.

Results: The number of new HIV diagnoses in Australia increased steadily from 766 in 2000 to 1,010 in 2006 (32% increase) and to 1,137 in 2011 (12% increase from 2006), the highest annual number since 1992. New diagnoses increased among males, with a 27% increase in 2000 – 2006 and a 16% increase in 2006 – 2011, whereas the number among females increased by 75% in 2000 – 2006 and remained stable 2006 – 2011. Mean age at HIV diagnosis increased from 37 years in 2000 to 38 years in 2003 – 2011. An increasing number of cases were attributed to sex with men, from 517 cases in 2000 to 675 in 2006 and 801 in 2011. The number of cases whose infection or whose partner's infection was acquired in a high prevalence country increased from around 100 in 2000 – 2005 to 150 in 2006 – 2011. Heterosexual contact, other than those linked to high prevalence countries, accounted for around 70 cases per year in 2000 – 2005 and 100 in 2006 – 2011. The annual number of diagnoses attributed to injecting drug use was less than 40 in 2000 – 2011.

Conclusion: HIV transmission continues to occur in Australia, despite the wide availability of antiretroviral treatment. The extent to which the pattern of HIV infection is affected by patterns of HIV antibody testing is unknown.

No disclosure of interest

HETEROSEXUAL HIV TRANSMISSION WITHIN AUSTRALIA: THE ROLE OF MIGRANT POPULATIONS

Tse T, Popovic G, Wilson D P, Gray R T

The Kirby institute, Faculty of Medicine, The University of New South Wales, Australia

Introduction: Heterosexual diagnoses of HIV have increased steadily in Australia over the last decade with new cases occurring primarily among persons who were born in or have partners from high HIV prevalence countries.

Methods: To understand the changing trends in heterosexual HIV diagnoses we developed a mathematical model of HIV transmission between heterosexuals living in Australia. This model included males and females born in Australia, sub-Saharan Africa, South East Asia and other regions. A Bayesian melding framework was used to calibrate the model to HIV diagnoses data from 2000-2010. Using the model the effect of long-term migration on heterosexual diagnoses and the impact of interventions prioritizing migrant populations was investigated.

Results: The model forecasts that 70.6% (55.2 – 78.5%, 95% Credible Interval) of new HIV infections in 2020 will occur in people born overseas. New infections due to sexual partnerships with persons born in sub-Saharan Africa, South East Asia, other regions and other Australians account for 42.6% (31.2-58%, 95%CI)19.1% (9.3 – 30.1%, 95%CI) 16.8% (4.7 – 21.9%, 95%CI) of 19.2% (14.4 – 28.4%, 95%CI) of cases, respectively. Increases in condom usage and decreases in time until diagnosis and treatment initiation in people from high prevalence countries are forecasted to moderately reduce infections over the next 10 years.

Conclusion: Heterosexual transmission of HIV is growing in Australia with diagnoses predominantly within migrant populations. Interventions prioritizing migrant populations from high prevalence countries and improving access to HIV related health care would be beneficial for these populations and reduce diagnoses of heterosexually acquired HIV.

INFERRING HIV INCIDENCE FROM CD4 AT DIAGNOSIS: FILLING THE SURVEILLANCE GAP

<u>Jansson J¹</u>, Kerr CC¹, Mallitt KA¹, Wu J¹, Gray RT¹, Wilson DP¹ Affiliations: Kirby Institute, The University of NSW, Australia

Background: Australia's HIV epidemic is monitored primarily through trends in numbers of newly diagnosed cases. However, as there may be a considerable delay between infection and diagnosis for many cases, diagnoses may not accurately represent trends in new HIV infections. Here, we present a method for estimating trends in HIV incidence based on back-projection from individuals' CD4 counts at diagnosis.

Methods: We conducted a meta-analysis to determine the distribution of CD4 counts in a healthy population and the rate of CD4 decline due to untreated HIV infection. The CD4 decline rate was used to back-project a probability distribution of time of infection for each individual, based on their CD4 count at or shortly after diagnosis. This gave a probability distribution for the year of infection for each individual. Those distributions were summed to obtain an estimate for population incidence in each year. Incidence estimates were calculated both nationally and by state/territory.

Results: Our projection showed that the number of infections initially rose exponentially and peaked in 1984, with an estimated 1570 infections in that year. In comparison, the annual number of diagnoses peaked at 2307 in 1987. However, there were substantial differences between jurisdictions. New South Wales reached a peak of 986 infections per year in 1985; this was followed by a rapid decline, stabilising to fewer than 400 infections per year by 2005. In contrast, in Queensland there was a rise in infections from 151 in 2000 to 202 in 2005, with trends suggestive of further rises since then.

Conclusion: Overall, the estimated incidence of HIV in Australia has rapidly decreased since 1984, but some jurisdictions have seen increases in recent years. HIV infection rates, and changes in those rates, can be determined more accurately using CD4-based back-projection than using diagnoses data alone.

Disclosure of Interest Statement: This study was funded from the following sources: the Australian Government Department of Health and Ageing; Australian Research Council (DP1093026; FT0991990). The views expressed in this publication do not necessarily represent the position of the Australian Government. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales.

THEME A PROFFERED PAPER SESSION: CELLULAR

MONKEY BUSINESS

4.00PM - 5.30PM

PAPER NUMBER: 223

CHARACTERISATION OF SIMIAN IMMUNODEFICIENCY VIRUS-INFECTED CELLS IN PIGTAIL MACAQUES.

Winnall WR1, Sexton A1, Alcantara S1, Roath S1, De Rose R1, Kent SJ1

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Introduction: Defining which cells become infected with simian immunodeficiency virus (SIV) in vivo should assist in unravelling the pathogenesis of human immunodeficiency virus (HIV)/SIV infection. In vitro experiments demonstrated that HIV/SIV infection of CD4+T cells resulted in down-regulation of CD3 and CD4, however this phenomenon is poorly characterized in vivo.

Methods: Intracellular SIV p27 was detected by flow cytometry in serial blood samples during acute infection. Viral loads were detected by qPCR of the SIV gag gene. Infected cells were characterised by flow cytometry.

Results: The majority (15 of 17) animals had detectable circulating p27+ cells during the peak of acute infection. A large proportion of the p27+ cells were lymphocytes negative for surface CD4 and CD3, and indeed the highest proportions of SIV infected cells were found in the small subset of CD3^{Lo}CD4·CD8· lymphocytes, indicating that infection has lead to down-regulation of these markers in vivo. Furthermore, the relative amount of SIV p27 within lymphocytes (based of mean fluorescence intensity) was higher in CD3^{Lo}CD4· and CD3· infected cells than in CD3+CD4+p27+ populations, consistent with greater viral production in CD4 T cells down-regulating CD3 and CD4 molecules. The CD3·CD4· infected cells expressed T cell markers CD2 and CD5 and were negative for monocyte, natural killer and B cell markers. The majority of infected cells were CD28+CD95+ central memory T cells. Surprisingly, the infected blood lymphocytes were mostly negative for activation markers CD25 and CD69, but most of the infected cells from lymph nodes were activated.

Conclusion: Our results characterise productive SIV-infected lymphocytes in pigtail macaques in vivo. The high proportion of SIV infected lymphocytes that are CD3 CD4 has important implications for the in vivo study of pathogenesis of HIV infection.

Disclosure of Interest Statement: This work was funded by the NHMRC. No pharmaceutical grants were received for this study.

CHARACTERIZATION OF SIV INFECTION OF T FOLLICULAR HELPER CD4 CELLS IN LYMPHOID TISSUES DURING PATHOGENIC INFECTION OF PIGTAIL MACAQUES

Xu Y1, Weatherall C1, Bailey M1, Alcantara S2, De Rose R2, Center R2, Estaquier J34, Wilson K5, Suzuki K6, Corbeil J4, Cooper D16, Kent S2, Kelleher A16, Zaunders J6

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Introduction: T follicular helper cells (Tfh) are a specialized subset of memory CD4+T cells, within germinal centres (GC) of lymphoid tissue, and important for antibody responses. We previously found that pigtail macaque Tfh cells contain SIV-gag DNA at levels comparable to other memory CD4+T cell subsets from lymphoid tissue. In the current study we aimed to study how SIV infects Tfh and its effect on anti-SIV antibody production.

Methods: Pigtail macaques were challenged with pathogenic SIV strains. Tfh cells were identified as PD-1^{high}CD127- memory CD4+ T cells in mononuclear cells prepared from spleen and lymph nodes. Genomic DNA and total RNA were extracted from FACS-sorted macaque Tfh cells. Proviral DNA, viral RNA and host transcripts for Tfh cell markers and various chemokine receptors were quantified by real-time PCR. Anti-SIV antibodies were measured by ELISA.

Results: Tfh cells contained SIV-gag mRNA and spliced tat mRNA in addition to SIV-gag DNA, suggesting productive infection. However, Tfh cell frequencies increased during chronic SIV infection, as did anti-SIV antibody levels. Expression of IL-6R suggests that this cytokine may be important in increased Tfh differentiation. Tfh cells had very low levels of CCR5, CXCR6 and Gpr15 protein and mRNA, suggesting the possibility that precursor cells are infected with SIV, prior to Tfh differentiation. Consistent with this, we sequenced *env* from the viral DNA in each of the memory subsets and found that sequences from Tfh cells and other memory CD4+ T cells were identical during acute SIV infection, while all subsets had similar mutations during chronic infection.

Conclusion: Our results suggest that some activated CD4T cells infected by SIV DNA may be included in increased differentiation into Tfh and entry into GC. This does not affect total anti-SIV antibody levels, but further study is needed to determine the effect on high affinity antibodies.

Disclosure of Interest Statement No disclosure of interest.

RE-CHARACTERIZING ANTIGEN SPECIFIC CD4+ T CELLS USING THE OX40/CD25 ASSAY AND SINGLE-CELL RT-PCR

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Introduction: Studies on antigen specific CD4+ T cells indicate that there is functional and phenotypic heterogeneity within this population, but the extent of this heterogeneity is poorly described. The OX40/CD25 assay allows isolation of live cells responding to a specific antigen, and picks up more than just IFN-y producing Th1 cells, this assay picks up Th2 and Tregs. A methodology using the Ox40 assay together with transcription factor profile on antigen specific CD4+ cells will enable the elucidation of the global T cell response.

Methods: Antigen specific single cells were sorted into 96 well PCR plates for 1st round reverse transcription and multiplex PCR. 2nd round simplex real-time PCR was then carried out using ROCHE UPL probes for the detection of lineage defining transcription factors.

Results: This assay overcomes the limitations of previous assays by allowing identification of transcription factor mRNA in single Ag specific cells with high sensitivity (down to 10fg) and specificity. Patterns of responses can be robustly characterized using <200 cells based on exact binomial calculations. These results are reproducible with a CV of \approx 6%. The patterns of heterogeneity are stable within an individual Ag specific response but vary between different antigens, with the response to CMV having a Th1 predominant profile (35.6%) whereas a response to Tetanus Toxoid had a Th2 biased profile (22%).

Conclusion: Here we describe a novel methodology that allows live isolation of Ag specific cells, together with transcription factor profiling at a single cell level to robustly delineate heterogeneity within an extremely small population of cells.

Disclosure of Interest Statement: This research was funded by NHMRC-Program grant 510488. ADK was supported by an NHMRC Practitioner Fellowship. The Kirby Institute receives funding through the Australian Government Department of Health and Ageing.

MYELOID DENDRITIC CELLS AND HIV LATENCY IN RESTING T-CELLS

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Abbreviations used:

DC -Dendritic cell mDC - Mveloid DC

PBMC -peripheral blood mononuclear cells

LFA-1 - lymphocyte function-associated antigen-1

ICAM - intracellular adhesion molecule

Background: Latently-infected resting CD4+ T-cells are a major barrier to the eradication of HIV infection. These cells are enriched in lymphoid tissue compared to blood. We hypothesized that interactions between DC-resting CD4+T-cell is critical for the establishment and maintenance of HIV latency.

Methods: eFluor670-labeled resting CD4+T-cells were cultured alone or with syngeneic DC for 24h prior to infection with a CCR5-tropic, EGFP-reporter virus. Non-proliferating (eFluor670hi), non-productively-infected (EGFP-) CD4+ T-cells were sorted on day 5 post-infection. Latent infection was re-activated and amplified by co-culturing the sorted cells with mitogen stimulated PBMC.

Results: Infection of resting CD4+T-cells in the presence of myeloid (m)DC significantly increased latent infection of non-proliferating CD4+ T-cells compared to infection of T-cells cultured alone (p=0.0005, n=11). Latent infection was not increased in resting CD4+ T-cells co-cultured with plasmacytoid DC (n=11) or monocyte-derived-dendriticcells (n= 3). Co-culture of mDC with memory (CD45RO+) CD4+ T-cells but not naïve (CD45RO⁻) CD4⁺T-cells resulted in latency (n=6). eFluor670^h EGFP⁻ CD4⁺T-cells that had been co-cultured with mDC showed a significant increase in the expression of CD69 (p=0.01, n=8) and PD-1 (p=0.007, n=10), but no change in HLA-DR or Ki67. Treating the mDC-T-cell co-cultures with antibodies to the chemokines CCL19 and CXCL10 (shown to facilitate latent infection in resting CD4+T-cells); the chemokine receptor CXCR3: or the adhesion molecule LFA-1 led to no change in the frequency of latently-infected CD4+ T-cells (n=5). When mDC-T-cell contact was prevented, by culturing the mDC within transwells above the resting CD4+ T-cells, the number of latently-infected CD4+ T-cells was significantly reduced (n=5).

Conclusions: mDC play a key role in the establishment and/or maintenance of HIV latency in resting memory CD4+T-cells. Our results suggest this is likely to be mediated through DC-T-cell contact via alternative pathways to ICAM-LFA-1 binding.

HIV-SPECIFIC ADCC: ARE WE UNDERESTIMATING ITS POTENTIAL?

<u>Stratov I,</u> Kent S, Kelleher A, Madhavi V, Wren L, Isitman G University of Melbourne, Australia

HIV vaccines based on neutralizing antibodies and cytotoxic T-cells have been unsuccessful. The partial success of the RV144 HIV vaccine trial has focussed attention on binding (non-neutralizing) env antibodies, such as Antibody Dependent Cellular Cytotoxicity (ADCC) antibodies. Studyina lona-term slow progressors (LTSP: CD4 >500 for > 8 years), elite controllers (EC) and highly exposed HIV negative individuals can help identify potent epitopes to be used in vaccine design. Targeting highly conserved regions of the HIV proteome by ADCC should reduce likelihood of escape. We have screened sera from 139 HIV-infected ARV-naïve individuals (including 65 LTSP) and detected responses to non-env proteins such as integrase. As anticipated, escape from pol did not occur over 10 years, suggesting it is an attractive vaccine antigen. We also identified greater breadth of ADCC responses to regulatory proteins rev. tat and vpu (p < 0.01). ADCC-specific Vpu respones, in particular, were detected only in LTSP patients p < 0.05). We also detected strong ADCC responses to whole *env* protein in LTSP patients that were absent when linear overlapping peptides were tested. indicating probable conformational epitopes. Using a panel of env clade proteins, we detected a strong response in an elite controller patient, probably targeting the C1 region of env. Furthermore, we detected env-specific responses in a highly exposed, uninfected individual. Identifying conformational ADCC HIV epitopes and non-env ADCC epitopes to concerved HIV proteins in people relatively resistant to HIV increases the potential of ADCC-based vaccination against HIV. NB Nothing to disclose

CD4+ T CELL METABOLIC PROFILE PREDICTS IMMUNOLOGICAL DETERIORATION DURING CHRONIC HIV-1 INFECTION

Palmer CS12, Gouillou M1, Lam L1, Zhou J1, Maisa A1, Hearps AC13, McCune JM4, Crowe SM135

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Background: It is increasingly evident that glucose metabolism plays a fundamental role in supporting growth, proliferation, survival and effector functions of T cells. However, less is known regarding the effect of chronic viral infections on glucose metabolism by T cells *in vivo*. Glucose transporter-1 (Glut1) is the major glucose transporter and its cell surface expression on lymphocytes is a rate limiting step in glycolysis. We therefore evaluated the impact of HIV-1 infection on Glut1 expression on CD4+ and CD8+T cells.

Method: 45 HIV-1 infected treatment naïve, 35 HIV-1/cART and 25 HIV- controls were studied. Glut1, phenotypic and activation markers (CD38 and HLA-DR) were analysed on fresh blood samples by flow cytometry. Glut1 mRNA expression was determined by qPCR.

Results: Circulating CD4+Glut1+ T cells were significantly increased in HIV-1+ subjects (mean% 5.71 ± 2.81 in HIV- $vs 25.77 \pm 19.4$ in HIV-1+, p<0.0001) and were decreased but remained significantly elevated following combination antiretroviral therapy (cART) (14.66 \pm 11.87 p=0.002). Virtually all CD8+ T cells expressed Glut1 irrespective of HIV-1 status. Glut1 mRNA was also significantly increased in CD4+ T cells from HIV-1 infected patients. The %CD4+Glut1+ T cells correlated inversely with total CD4+ T cell percentage (r=-0.75, p<0.0001, n=80) and CD4 counts (p=0.0002) in HIV-1+ and HIV+/cART subjects combined. In multivariable analysis the frequency of CD4+Glut1+ T cells in HIV-1+ treatment naïve subjects was independently associated with expression of HLA-DR on total CD4+ T cells (p=0.001) and the %CD3+CD4+ T cells (p=0.001). In HIV-1+/cART subjects the frequency of CD4+Glut1+ T cells was independently associated with %CD3+CD4+ T cells (p<0.001) and CD4/CD8 ratio (p=0.001)

Conclusion: Glut1 may indicate CD4+T susceptibility to apoptosis and an early prognostic marker for disease progression. Strategies to normalize Glut1 on CD4+T cells may be explored to aid CD4 cell recovery in non-immunological responders on cART.

No disclosure of interest

THEME B PROFFERED PAPER SESSION: HEART AND MIND

4.00PM - 5.30PM

PAPER NUMBER: 832

CHANGES IN METABOLIC, INFLAMMATORY AND COAGULATION BIOMARKERS AFTER HIV SERO-CONVERSION- THE HEALTH IN MEN (HIM) BIOMARKER SUB-STUDY

Achhra AC, Amin J, Law MG, Grulich AE, Yeung J, Kelleher A and Cooper DA

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Introduction: Biomarkers of inflammation, coagulation, lipids and vitamin-D have been associated with cardiovascular and mortality risk in HIV-infected individuals. Scarce data exist on changes in these markers from pre-to-post HIV-seroconversion.

Methods: The study participants were drawn from the Health In Men, which recruited HIV-negative gay men. Participants with incident HIV infection (n=26) were compared with HIV-negative controls (n=52) matched on age at enrolment, date of visit and reported intravenous drug use. Levels of metabolic (lipids, vitamin-D), inflammatory (C-reactive protein, interleukin-6), and coagulation (D-dimer and fibrinogen) biomarkers were measured at pre- and post-HIV seroconversion visits and corresponding visits for controls. Random effect models were used to compare changes in markers between cases and controls.

Results: The median gap between pre and post seroconversion or matched first and second visits in controls was 12 months. HIV seroconversion was associated with decline in high density lipoprotein (HDL-C) (mean difference in change between cases and controls: -0.14 mmol/L, 95% Confidence interval (CI): -0.22 to -0.01, P=0.035) and non-significant elevation in triglycerides (difference in change: 0.41mmol/L (95%CI: -0.05 to 0.88, P=0.085). There were no significant differences (P>0.05) in changes in other lipids, markers of inflammation, coagulation or vitamin-D.

Conclusion: Decline in HDL-C seems to be the main pro-atherogenic change within 1 to 1.5 years after HIV seroconversion. HIV seroconversion was not associated with profound changes in other lipids, or markers of inflammation, coagulation and Vitamin-D. Longitudinal assessment of these markers in comparable population needs further assessment.

No disclosure of interest.

COMPARISON OF CARDIOVASCULAR RISK SCORE ALGORITHMS AND THEIR ASSOCIATION WITH SUBCLINICAL ATHEROSCLEROSIS IN HIV-POSITIVE AND NEGATIVE INDIVIDUALS

Madigan V¹, Maisa A², Spelman T³, Westhorpe CLV⁴, Cheng W², Dewar EM⁵, Karapanagiotidis S⁵, Dart AM^{4,5,6}, Hoy JF^{1,4}, Crowe SM^{1,2,4}

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Introduction: HIV-positive individuals have increased risk of developing cardiovascular disease (CVD). This study compares the Framingham Risk Score (FRS), Reynolds Risk Score (RRS), and the HIV-specific CVD risk score derived from the Data collection of Adverse Events of Anti-HIV Drugs Study (D:A:D) in HIV-positive individuals and healthy controls to determine their predictive potential for CVD risk using the surrogate marker carotid intima-media thickness (cIMT).

Methods: Cross-sectional study of HIV-positive participants from the Melbourne HIV and Cardiovascular Health (HaCH) study compared to healthy controls. Differences in median FRS, RRS and D:A:D scores between HIV-positive patients and controls and the association between risk scores and cIMT values were analysed.

Results: Whilst we did not detect a significant difference in median cIMT between HIV-positive subjects and controls, there was an association between all three CVD risk algorithms and cIMT in HIV-positive individuals (regression coefficients, D:A:D: 0.017; FRS: 0.008; RRS: 0.013 (all p<0.005)). This significant association between risk score and cIMT was preserved in multivariable analyses for FRS and RRS, but not D:A:D score. Median FRS and RRS were increased in HIV-positive individuals.

Conclusion: This study confirms a relationship between cIMT and increasing CVD risk score in HIV-positive individuals for all three algorithms studied. No algorithm was clearly superior when compared to the others. Higher median risk scores in HIV-positive individuals versus controls without significant difference in median cIMT suggest there is no current increase in subclinical atherosclerosis but may herald future cardiovascular events.

Disclosure of Interest Statement: This work was funded by the Australian Centre for HIV and Hepatitis Research (ACH²). AM is supported by a fellowship within the Postdoctoral Programme of the German Academic Exchange Service (DAAD). SMC is a recipient of an NHMRC Principal Research Fellowship. JFH is on advisory boards of Gilead, Tibotec, Merck, Sharp & Dohme and ViiV. All other authors have declared that no competing interests exist.

DETERMINANTS OF ARTERIAL STIFFNESS AND PERIPHERAL ATHEROSCLEROSIS IN HIV POSITIVE MEN

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'Infection Diseases Unit, The Alfred Hospital, ²Monash University, ³Cardiovascular Medicine Department, The Alfred Hospital, ⁴Baker IDI Heart and Diabetes Institute

Introduction: With contemporary antiretroviral therapy (ART), "non-AIDS" events, particularly those attributable to atherosclerosis, largely determine morbidity and mortality amongst those infected with HIV. Epidemiological studies have suggested that both HIV infection itself and use of ART are risk factors for atherosclerosis. We hypothesised that HIV positive patients would have increased evidence of subclinical atherosclerosis, independent of traditional cardiovascular risk factors.

Methods: Peripheral arterial stiffness and ankle-brachial blood pressure index (ABI) were used as surrogate measures of vascular status and disease. Brachial to ankle pulse wave velocity (baPWV) and ABI were determined in 82 male HIV positive subjects and 76 age-matched male controls. Framingham Risk Scores (FRS) were determined for all participants.

Results: HIV positive subjects had significantly higher FRS (9.8 \pm 6.2 versus 7.5 \pm 7.0, p=0.028) and lower ABI (1.10 \pm 0.10 versus 1.15 \pm 0.10, p=0.001) compared with controls. A significantly higher proportion of abnormal/borderline ABI was seen in HIV positive patients (13(16%) v 2(3%), p=0.005). Forty three percent of the HIV positive group smoked cigarettes compared with 12% of the controls (p<0.0001). There was no difference in baPWV between groups. Pulse wave velocity was significantly and positively correlated with age in both groups whereas ABI was not related in either group. In multivariate analyses the determinants of baPWV were age, presence of diabetes and systolic blood pressure whilst for ABI significant determinants were cigarette smoking and use of lipid-lowering therapy.

Conclusion: HIV infection is associated with peripheral vascular changes, but that the increased prevalence of conventional risk factors in the HIV group, particularly cigarette smoking, is responsible for this association. Measures of ABI, but not baPWV, may have some use to improve cardiovascular risk prediction for HIV subjects.

*Disclosure of Interest Statement:*Funding for this research was provided by the National Health and Medical Research Council (NHMRC) of Australia, the E & D Rogowski Foundation and Monash University Establishment Grant.

EFFECTS ON POST-PRANDIAL LIPIDS AND ARTERIAL STIFFNESS OF RITONAVIR-BOOSTED ATAZANAVIR VERSUS RITONAVIR-BOOSTED DARUNAVIR IN HIV-UNINFECTED ADULTS

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Introduction: Only 50% of the cardiovascular risk associated with protease inhibitor (PI)-based therapy is explained by PI-related fasting dyslipidaemia. Post-prandial dyslipidaemia also predicts cardiovascular risk, and low-dose ritonavir alone causes both fasting and post-prandial lipid derangements in HIV-uninfected adults. No study has evaluated post-prandial lipids with boosted PI therapy. We compared the effects of ritonavir-boosted atazanavir (rAZV) to ritonavir-boosted darunavir (rDRV) on post-prandial plasma lipids of HIV-uninfected adults. We also assessed arterial stiffness, which is associated with coronary artery disease.

Methods: Twenty HIV-uninfected, adult volunteers were randomised 1:1 to open-label rAZV (300/100 mg) once-daily or rDRV (800/100 mg) once-daily for 4 weeks. Individuals with diabetes mellitus, or receiving anti-hypertensive or statin therapy, were excluded. Participants consumed a standardised meal (energy content 5,795 kJ) at baseline and week 4, with blood samples collected at fasting, then hourly for 4 hours post-meal. Arterial stiffness, assessed as the heart-rate corrected augmentation index (Alx-75), was measured by radial artery tonometry. The primary outcomes of interest were the between-group differences in the incremental area under the curve (ΔiAUC) at week 4 for post-prandial lipids and apolipoproteins A1/B.

Results: Between-group \triangle iAUC for post-prandial lipids did not reach statistical significance, but showed trends for a greater mean fall in iAUC with rAZV than rDRV for low-density lipoprotein cholesterol and apolipoproteins A1/B, with a trend for a lesser respective fall in high-density lipoprotein cholesterol. rAZV induced a significantly greater mean post-prandial fall in iAUC for Alx-75 than rDRV (-27.60±11.63 vs 0.08±4.68 h%, p=0.04, respectively). No difference was observed for any other post-prandial parameters between the study arms.

Conclusion: Post-prandial arterial stiffness was greater with rDRV than with rAZV in HIV-uninfected adults, despite non-significant effects on post-prandial lipids. This result may partially explain the PI-induced impact upon cardiovascular risk otherwise not explained by fasting dyslipidaemia.

Disclosure of Interest Statement:

FJ Lee receives research funding from the National Health and Medical Research Council of Australia, and has received a Clinical Immunology Society Fellowship and travel sponsorships from the Australasian Society of Clinical Immunology and Allergy and the Australasian Society for HIV Medicine.

A Carr has received research funding from Baxter, the Balnaves Foundation, Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, Merck and Pfizer; consultancy fees from Gilead Sciences, GlaxoSmithKline/ViiV Healthcare and Merck; lecture and travel sponsorships from Gilead Sciences, GlaxoSmithKline/ViiV Healthcare, Merck and Serono; and has served on advisory boards for Gilead Sciences, GlaxoSmithKline/ViiV Healthcare and Merck.

DYNAMICS OF COGNITIVE CHANGE IN HIV-INFECTED INDIVIDUALS COMMENCING THREE DIFFERENT INITIAL ANTIRETROVIRAL REGIMENS; A RANDOMISED, CONTROLLED STUDY

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Background: Improvements in neurocognitive (NC) function have been associated with commencing antiretroviral therapy in HIV-infected subjects. However the dynamics of such improvements are poorly understood.

Methods: We assessed changes in NC function via a validated computerised battery (CogState™) at baseline and after 24 and 48 weeks in a subset of therapy naive neuro-asymptomatic HIV-infected subjects, randomised to commence three different antiretroviral regimens.

Results: Of 28 subjects enrolled, 9, 8 and 11 were randomly allocated to commence tenofovir/emtricitabine with either efavirenz (arm1), atazanavir/ritonavir (arm2) or zidovudine/abacavir (arm3), respectively. Overall improvements in NC function were observed at week 24 and continued to improve at week 48 (change in z-score for overall cognitive global score of 0.16 and 0.18 at weeks 24 and 48, respectively). Within the NC speed domains, generally greater improvements were observed in arms 2 and 3, compared to arm 1 (change in z-score for composite speed scores at week 24 / 48 of 0.14 / 0.16, -0.29 / -0.24 and -0.12 / -0.31 in arms 1, 2 and 3 respectively, p=0.04 for change at week 48 in arm3 versus arm1). Finally, improvements in executive function occurred later (only observed at week 48) and were driven by improvements in arm3 (z-score change of 0.23, 0.06 and -0.78 in arms 1, 2 and 3 respectively, p=0.02 change in arm3 versus arm1).

Conclusion: Improvements in NC function continue over the first year after initiating antiretroviral therapy in neuro-asymptomatic HIV-infected subjects.

REPRESENTATIONS OF HIV AND AIDS IN THE ARTS AND

THE MEDIA IN AUSTRALIA

5.30PM - 7.15PM

Dennis Altman AM– academic, activist, commentator and author – has been at the forefront of the Australian response to HIV and AIDS since the first glimmers of the then unknown disease began in the early years of the 1980s. Dennis' already internationally recognised contribution to the politics and theory of gay liberation positioned him well to become one of the first Australians to conceptualise the disease as more than illness or virus; rather, he positioned the pandemic as a profoundly social and political phenomenon. In many books and articles, in commentaries and journalism, in activism and advocacy, and in national and international organisations, Dennis' has been a central voice for gay men and other MSM, for PLHIV, and for many other affected communities in Australia and abroad. A major tenet of his strategy in HIV and AIDS work has been arguing for the central role for politics, culture, the Arts and media representations in forming our understandings and expressing our experiences of the pandemic. Today, our panel discussion honouring Dennis Altman's contribution to the fight against HIV and AIDS explores key aspects of the Representations of HIV and AIDS in the Arts and Media in Australia.

Q &A EVENT

7.15PM - 9.30PM

Leadership has been identified by the UN and other agencies as one of the paramount determinants of effective HIV responses. But what exactly is meant by 'leadership'? Who is expected to demonstrate leadership and why is it so important? Or perhaps more importantly, why is it so frustratingly difficult at times? This evening a panel of leaders from across a wide range of disciplines and agencies who have been closely involved with the response to HIV, both internationally and within Australia, will consider these and other questions related to leadership. They may also be challenged to disclose how they would demonstrate leadership in some tricky situations.

The discussion will look at the serious side of leadership but also entertain with a more light-hearted approach to some of these issues.

ORAL PRESENTATION ABSTRACTS FRIDAY 19 OCTOBER 2012

CASE PRESENTATION BREAKFAST

7.00AM - 8.20AM

PAPER NUMBER: 742

HIV AND LISTERIA

Madigan V1, Cameron P1

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A 43-year-old HIV-positive female was admitted to hospital with a three day history of fevers, headache and neck stiffness. Blood and cerebrospinal fluid cultures grew *Listeria monocytogenes*. The patient subsequently developed an abrupt onset of chest pain and signs of heart failure. Cardiac angiography revealed minimal coronary artery disease and cardiac MRI demonstrated a non-ischaemic, inflammatory myocarditis that was attributed to *Listeria*. She was commenced on appropriate antibiotics and recovered well with no residual neurological or cardiac sequalae.

L. monocytogenes is an infrequent cause of foodborne illness but is associated with high morbidity and mortality. Despite clear association between cellular immune deficiency and increased risk of Listeriosis, it is an uncommon opportunistic pathogen in HIV-positive patients. Myocarditis has been reported as a rare complication in Listeriosis, including in HIV-positive patients. Recently cardiac MRI has been shown to assist in the diagnosis of myocarditis and avert the need for invasive diagnostic procedures.

This case highlights the need to think of *Listeria* in the differential diagnosis of meningitis in HIV-positive patients and the possibility of extra-meningeal manifestations with this organism.

Disclosure of Interest Statement: No disclosure of interest.

A COMPLEX CASE OF DISSEMINATED HISTOPLASMOSIS AND IMMUNODEFICIENCY IN A MAN WITH RECENT PRIMARY HIV INFECTION

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¹Infectious Diseases Unit , The Alfred Hospital Melbourne VIC

Globally, histoplasmosis infection remains a common cause of morbidity and mortality amongst patients with AIDS. We present a case of disseminated histoplasmosis in a patient presenting with newly diagnosed HIV and Pneumocystis jirovecii pneumonia (PJP).

A 44 year old Australian born man presented with a two month history of malaise and insidious onset of fevers, dry cough and dyspnoea.

This occurred in the setting of a new diagnosis of syphilis and HIV infection following travel to Vietnam. He had a negative HIV test 18 months before.

On clinical examination he was febrile and hypoxaemic with widespread lymphadenopathy and hepatosplenomegaly. Laboratory findings were of pancytopenia, CD4 count of 168 u/L and a viral load of one million copies/ml.

Initial management was directed at treatment of confirmed PJP. Severe thrombocytopenia limited early histological diagnosis but disseminated histoplasmosis was later identified on bone marrow biopsy.

His subsequent three month long admission was punctuated by repeated intensive care transfers and an extraordinary series of HIV and treatment related complications.

Key diagnoses included disseminated histoplasmosis associated bone marrow failure, Scedosporium prolificans pericardial effusion with tamponade, acute renal failure requiring dialysis, enterococcal bacteraemia and acute drug induced pancreatitis. His overall management was further hampered by pre-existing drug allergies.

In the context of multiple medical complications, drug interactions and HLA B57*01 positivity, his antiretroviral regimen involved salvage agents very early.

Despite a tumultuous course he was ultimately discharged home completely independent and self caring.

This case highlights the potential role of intracellular parasites in the rapid progression of HIV infection and failure of cellular immunity. It further illustrates the challenge of optimising HIV patient outcomes where diagnosis and management depends on a wide range of allied health and subspecialty teams.

No disclosure of interest

SUCCESSFUL USE OF ELTROMBOPAG WITHOUT SPLENECTOMY IN REFRACTORY HIV-RELATED IMMUNE RECONSTITUTION THROMBOCYTOPENIA

Ouach H1,4, Lee L2, Smith B3, Korman T2,4, Woolley I2,4

Departments of Haematology¹, Infectious Diseases² and Pharmacy³, Southern Health and Department of Medicine, Monash University⁴

Background: HIV-associated thrombocytopenia was common prior to the advent of HAART. Antiretroviral therapy is recognised as a successful treatment option for this condition, negating the need for a splenectomy. HIV-associated immune reconstitution related thrombocytopenic purpura (ITP), as a result of immune reconstitution inflammatory syndrome (IRIS) has only been reported once in literature and was successfully treated with cortiocosteroids. We describe a case of corticosteroid treatment refractory HIV-associated ITP.

Case: A 47 year old man presented with recurrent bacterial pneumonia, weight loss, sub-centimetre lymph nodes and thrombocytopenia. He was subsequently diagnosed with HIV with CD4 cell count 123 x10°/L. Two weeks post commencement of HAART, a marked decrease in platelet count was noted to 10 x10°/L. This had minimal or lacked sustained response to multiple courses of prednisolone, intravenous immunoglobulin, azathioprine and hydroxychloroquine despite an improving CD4 count. Eltrombopag, is a new oral thrombopoietin-receptor agonist which has been used successfully in chronic ITP, although use in the HIV setting is still novel. Eltrombopag was trialled in this case refractory to medical therapy and resulted in an increase in platelet counts to 126 x10°/L. The patient's HIV was well controlled with an undetectable viral load and CD4 cell count >400 x10°/L. These parameters continued to remain as such after 6 months of HAART and eltrombopag therapy.

Conclusion: Currently, there is no standard treatment for the management of IRIS in patients with HIV. ITP is complicated as immunosuppressive therapy may increase the risk of opportunistic infections. The promising results from this case through the use of eltrombopag highlights its potential utility in refractory HIV related ITP, which warrants further investigation and study.

Disclosure of Interest Statement: Nothing to declare.

PROGRESSIVE VISUAL LOSS IN A YOUNG MAN WITH LONGSTANDING HIV INFECTION, LIPODYSTROPHY AND SENSORY NEUROPATHY

Raby E1, Dyer JR1

¹ Fremantle Hospital and Health Service

Case presentation: We present the case of a 40-year-old Thai male with progressive bilateral visual loss 10 years following HIV diagnosis. He had first presented in Thailand with severe cerebral infection of undetermined cause in the presence of advanced immunodeficiency (stated CD4 count at diagnosis <10/mL), and initial antiretroviral therapy with efavirenz, stavudine and didanosine had been complicated by early onset NRTI-related sensory peripheral neuropathy. He smoked at least 20 cigarettes per day and admitted to 6-8 standard alcoholic drinks most days. Physical examination revealed bilateral stocking pattern sensory loss, moderate hepatomegaly, and evidence of lipodystrophy, with pronounced central fat accumulation. As no medical information was available from Thailand, nadir CD4 count was unclear, but ranged between 250/mL and 500/mL, with viral load consistently suppressed below 40 copies/mL after initial assessment in our clinic in September 2005, at which time antiretroviral therapy was changed to efavirenz, tenofovir and emtricitabine, then (because of reduction in GFR and evidence of osteoporosis on DEXA scan) to efavirenz, abacavir and lamivudine. Plasma triglycerides were persistently elevated between 5mmol/L and 14mmol/L and gamma-GT as high as 1600U/L, but liver ultrasound was reported as normal. Hepatitis B sAq and hepatitis C antibody were negative. In August 2011 he experienced subacute deterioration of vision, initially involving the right eye, subsequent clinical course and investigations being consistent with bilateral optic neuropathy. Differential diagnosis of visual loss and subsequent clinical course are discussed, with particular reference to the possible relationship of antiretroviral therapy and pre-existing nucleoside druginduced mitochondrial toxicities to the final diagnosis.

Disclosure of Interest Statement: No Disclosure of Interest

HIV/AIDS PLENARY

8.30AM - 10.00AM

PAPER NUMBER: 1118

THE SOCIAL SCIENCE OF HIV: SUSTAINING ADVANCES IN PREVENTION, TREATMENT, AND SOCIAL JUSTICE

Nauven V.K

University of Montreal, Canada

There is growing interest in the potential for biomedical prevention to eradicate HIV epidemics. Male circumcision, pre-exposure prophylaxis ("PrEP"), and mass treatment have all demonstrated promising results with many studies in the pipeline. In this plenary presentation, I will focus on the potential of antiretrovirals to prevent HIV. My talk will be divided into two parts. I will review the rationale and current status of PrEP efforts and identify challenges emerging through ongoing clinical trials. The second, and more extensive, part of the talk will examine the potential of mass treatment for prevention (T4P). I will review the evidence for T4P, and examine current strategies. I will underline the difference between "scale-up" and "test-and-treat" approaches. I will then identify the challenges to both, focussing specifically on (1) hurdles to achieving sufficient coverage (2) impact on health systems (3) role of primary-infection (4) medicalisation of prevention.

181

PAPER NUMBER: 1106 IMPERATIVES FOR HIV CURE

Professor Francoise Barre-Sinoussi

UNDERSTANDING THE SOCIAL CONTEXTS OF FEMALE SEX WORK IN CHINA

Yinayina H

Renmin University of China, China

Female sex workers (FSWs) have been identified as one of the primary at high risk groups for STI/HIV contracting and transmission since the late 1990s. Based on a meta-analysis of ethnographic data we collected from eight studies of FSWs from over twenty red-light districts across China, from 1996 to 2011, this paper aims to provide a comprehensive description of the working situation and the changing of sex work in China over the decade, and discuss how social science knowledge could inform better health promotion work among FSWs in Chinese contexts.

The paper focuses on the concept of occupational health and an 'agency-structure' framework to address the individual, organizational and structural factors surrounding occupational health, and to explore how the complex interactions between structural factors and individual level agency shape FSWs' responses to HIV/STI. FSWs experience many occupational concerns in addition to STI and HIV infection. Perceived occupational risks include violence from the police and clients, fear of pregnancy or infertility, and exposure as a sex worker to relatives and friends. These concerns must be understood within a social framework that combines individual factors such as sex work-related identities, knowledge and practices, and the diversity of sex work; organizational factors such as venue management style, power dynamics between FSWs, managers and male clients, and fluidity of employment; structural level factors including poverty and employment situation, sexual and gender norms, social mobility and two policies that directly regulating sex work: illegal and regularly crackdown actions, and HIV/STI preventions. Interactions among these factors, especially the power dynamics between the key bodies, and agency arising from sex work, contribute to the social construction of sex work and influence FSW vulnerabilities. Changes within and surround sex work in recent decades, under the background of a rapidly transitional society and a sexual revolution, are also observed. These include higher social mobility and doing sex work in transnational spaces, increasing violence, increasing overlap between drug use and sex work, deceasing price, more diverse gender involvement in sexual services, emerging grassroots groups to empower FSW, and meanwhile harsher crackdown actions since 2010.

Understanding the diverse and complex situation of sex work in China could better inform HIV/STI prevention work to target the 'most at risk' groups. Recognizing the actual risks faced by FSW in daily life which is beyond HIV and STI could result in more tailored and efficient health communications; positioning occupational health in a broader framework consisting of different levels of social factors, and emphasizing the agency of workers and the power dynamics that surround them, are crucial for effective HIV/STI prevention.

THEME C SYMPOSIUM – COMBINATION PREVENTION

10.30AM - 12.30PM

The last two years have seen major developments in the political commitment to and scientific evidence for the fight against HIV. The 2011 UN Political Declaration on HIV/ AIDS outlined bold targets to be reached by 2015, including a dramatic increase in the number of people on HIV treatment and a 50% reduction in the sexual transmission of HIV. Australia is better placed than most countries to meet these targets (and perhaps exceed them), given its relatively small and concentrated HIV epidemic. Since the emergence of the epidemic, we have taken courageous action and decisions to confront HIV. The biomedical and health promotion tools now available, coupled with an enabling environment and supportive partnership, provide us with a unique opportunity for a dramatic reduction in HIV infections in Australia. How we address the UN targets and monitor our progress are, of course, important topics of debate. The speakers in this session, drawn from community organisations, government, health promotion and research, will outline the opportunities and challenges in revolutionising or evolving Australia's response to HIV. A facilitated discussion will follow.

DEVELOPMENTS IN PREVENTION SCIENCE AND OPPORTUNITIES FOR ACTION IN AUSTRALIA'S RESPONSE

Andrew Grulich

Kirby Institute, NSW, Australia

After decades in which the only effective means of prevention of sexual transmission of HIV was condom use, the last three years has seen a revolution in our understanding of what works in HIV prevention. For Australia's predominantly homosexual epidemic, the most relevant advances have been studies showing high levels of reduction of HIV transmission for adherent users of pre-exposure prophylaxis (PrEP) and HIV treatment as prevention (TasP). These anti-retroviral based methods offer an extraordinary opportunity to decrease HIV transmission, but only if substantial changes occur in Australia's HIV prevention approach. These methods are centrally dependent on easier access to HIV testing to allow frequent testing. For PrEP, frequent testing of HIV seronegatives is necessary to ensure no breakthough infections occur. For TasP to be effective at the population level, much earlier diagnosis of HIV, and earlier initiation of treatment, will be required.§ These new prevention technologies are not 100% effective, so continued focus on condom-based risk reduction will be necessary.

HIV IN AUSTRALIA - REVOLUTION! EVOLUTION! DISILLUSION?

Bill Whittaker¹

'National Association of People Living with HIV/AIDS (NAPWA), Sydney, Australia. Email of presenting author: bwhittaker@tpq.com.au

The global fight against HIV/AIDS has reached a defining moment. We now have the knowledge and the means to drive down new HIV infection rates, accelerate progress in reducing illness and deaths from HIV and for the first time contemplate an "AIDS free generation".

Over 12 months ago, Australia played a leading role in gaining endorsement of all countries to a bold new global plan to end AIDS – the 2011 United Nations Political Declaration on HIV/AIDS. This plan coupled with ground-breaking advances in HIV prevention and treatment, can transform the global response to HIV. To make the most of these unique opportunities, Australia needs the kind of leadership and community resolve seen at other key moments in the epidemic's history. What have we done so far? Are we meeting the challenge?

REVOLUTION OR EVOLUTION? SOME REFLECTIONS ON TREATMENT AS PREVENTION

Colin Batrouney

¹ Victorian AIDS Council / Gay Men's Health Centre

The prevention revolution provides us with the promise of a powerful augmentation to our current prevention strategies. However, with no clear consensus from the medical fraternity and a number of concerns raised in the community sector, implementation will present us with a number of formidable challenges. This presentation will outline some of those challenges from the point of view of a health promotion practitioner.

DELIVERING THE HIV-PREVENTION REVOLUTION: CRITICAL BEHAVIORAL CHALLENGES AND IMPLICATIONS FOR HEALTH PROMOTION

De Wit J

National Centre in HIV Social research, The University of New South Wales, Sydney

In recent years, the momentum for HIV prevention has increased substantially, for various reasons. There is currently in particular much excitement about the extended uses of antiretroviral treatment of HIV for prevention purposes. Commentators are however increasingly noticing that any possible impact of 'treatment-as-prevention' and other biomedical approaches will continue to depend strongly on the behaviours of affected individuals and communities, as well as of health care providers. Drawing on data from recent and ongoing studies conducted in Australia, this presentation will highlight the role of behaviours that are critical to the success of an HIV-prevention revolution: condom use and other risk reduction strategies, testing regularly for HIV and other STI, and initiating, continuing and adhering to antiretroviral treatment. Based on a distinct social psychology perspective, this presentation will not only document rates and trends, but especially illustrate barriers and facilitators to guide innovative behaviour change approaches in health promotion.

THEME B PROFFERED PAPER SESSION:

THE CLINIC: SHOULD ONE SIZE FIT ALL?

10.30AM - 12.30PM

PAPER NUMBER: 978

PERCEPTIONS OF UNMET NEEDS OF PEOPLE LIVING WITH HIV IN AUSTRALIA

Elliott JH¹, Batterham R², Fairley CF³, Slavin S⁴, Pitts M⁵, Crooks L⁶, Kidd M⁷, Hoy J¹, Vujovic O¹, Roney J¹, Watson J⁴, Battersby M⁷, Moore R⁸, Roth N⁸, Baker D⁶, Post J¹⁰, Lewin SR¹, Osborne R⁴ for the HealthMap Project Team

¹Infectious Diseases Unit, Alfred Hospital and Department of Infectious Diseases, Monash University; ²Public Health Innovation, Deakin University; ³Melbourne Sexual Health Centre and University of Melbourne; ⁴National Association of People Living with HIV/AIDS, ⁵Australian Research Centre in Sex, Health and Society, La Trobe University; ⁶Australiasian Society for HIV Medicine; ⁷Flinders University; ⁸Northside Clinic; ⁹Prahran Market Clinic; ¹⁰Prince of Wales Hospital and University of New South Wales

Background: The needs of people living with HIV in Australia are changing as life expectancy and average age increase. As part of the formative stages of the HealthMap project we sought to understand the current needs of people living with HIV.

Methods: We conducted a survey of people living with HIV and HIV care providers, recruited via high HIV case load clinics in Melbourne and Sydney and online promotions and via an email to ASHM members, respectively. Statements describing needs were generated during three workshops with people living with HIV and HIV care providers. Participants were asked to rate statements on 5-point scales by importance and the degree to which the stated need is currently met.

Results: Three hundred people living with HIV participated, of whom 270 (90%) were male, 235 (78%) identified as gay and the average age was 46 years. The majority of the 107 participating care providers were doctors (44; 41%) or nurses (35; 33%). For people living with HIV, high quality clinical services were the most important need and the need most consistently met. For both groups the needs with the largest perceived gap between importance and the degree to which they are currently being met were related to stigma and discrimination in the general community and in nursing homes, issues of autonomy and choice and financial issues. People living with HIV also highlighted research and services for older people living with HIV, whilst providers emphasised healthcare communication and organisation.

Conclusion: In this survey people living with HIV and their healthcare providers expressed concordant beliefs that issues of stigma, discrimination, autonomy, choice and financial status are key unmet needs for people living with HIV in Australia. These data provide a framework for current HIV policy and research priorities in Australia.

Disclosure of Interest: The HealthMap project is funded by the National Health and Medical Research Council.

CONDOM USE IN THE GENERAL POPULATION OF PAPUA NEW GUINEA: FINDINGS FROM SELECTED SITES IN PAPUA NEW GUINEA

 $\underline{\mbox{Maibani-Michie GL}}, \mbox{Wand H}^2, \mbox{Kelly A}^{1,3}, \mbox{Gavin Edward G}^1, \mbox{Ralai A}^4, \mbox{Ryan C}^{1,5}, \mbox{ Kaldor J}^2 \mbox{ and Siba P}^1 \mbox{ on behalf of the PASHIP research team.}$

'Sexual and Reproductive Health Unit, Papua New Guinea (PNG) Institute of Medical Research, Goroka, PNG, 'The Kirby Institute, University of New South Wales, Sydney, Australia, 'International HIV Research Group, School of Public Health and Community Medicine, UNSW, 'Tingim Laip Port Moresby Office, NCD, PNG, 'The Burnet Institute, Melbourne, Australia.

Background: The use of condom can prevent the risk of HIV and other sexually transmitted infections. This cross sectional population based study was conducted to assess socio-demographic factors, in addition to knowledge attitudes and practices of the condom use among sexually active men and women in Papua New Guinea (PNG) aged 15-59 years.

Methods: A population-based household survey was conducted in 15 selected sites across 6 provinces using a standardized interviewer administered questionnaire. The analysis is based on 861 sexually active adult men and women who reported sexual act the last 12 months using Pearson chi-square for test of association.

Results: Only 12% of the study population reported using a condom in their last sex act. Condom use did not differ by gender (P=0.239). Those who reported using condoms in their last sexual act were slightly younger (median age: 32 (interquartile range (IQR): 28-42 versus 36 (IQR: 30-43, P=0.04), less likely to be married (83% versus 96%, P<0.001) and more likely to know the places to buy condoms (79% versus 96%, P<0.001). Knowledge of STI symptoms such as genital discharge was slightly higher among those who used condoms during the last sexual episode (48% versus 30, P=0.06). Main reason reported for not using a condom was trusting partner. Condom use at last sex was significantly associated with identifying friends and family planning clinics as the places to access condoms.

Conclusion: In PNG condom use in the general population is very low. It appears that beliefs about trust, love and marriage continue to prevail as barriers to condom use. Personal dislike and condom unavailability were two other most common barriers. Further study is required to add to this evidence based knowledge to ascertain encouragement to increase condom up-date in this population.

Disclosure of Interest Statement: This study was funded by AusAID.

DETERMINANTS OF ACCESS TO ANTIRETROVIRAL THERAPY AND TREATMENT OUTCOMES FOR PEOPLE LIVING WITH HIV IN VIETNAM

Tran DA12, Shakeshaft A1, Ngo AD3, Mallitt KA2, Wilson D2, Doran C4, Zhang L2, Nguyen NT5

National Drug Alcohol Research Centre ²Kirby Institute, the University of New South Wales, Sydney, Australia ²The University of South Australia ²The University of Newcastle, Australia ²Center for Promotion of Advancement of Society, Netnam

Background: This study explores patient characteristics that are significantly associated with very late antiretroviral therapy (ART) initiation (CD4 count ≤ 100 cells/mm³) and examine the association between these characteristics and the baseline CD4 count with treatment outcomes, CD4 recovery, and mortality. Data were obtained from clinical records of 2,198 HIV/AIDS patients aged 18 years or older who initiated ART between January 2005 and December 2009 in 13 outpatient clinics across 6 provinces in Vietnam.

Methods: Multi-variate logistic regression was used to measure the relationships between patient characteristics and the baseline CD4 count, and between these variables with treatment outcomes. Cox proportional hazards regression was undertaken to calculate the probability of mortality and the probability of achieving a CD4 count of greater than 350 cells/mm³ after six months of ART initiation.

Results: Very late ART initiation was significantly associated with being male, becoming HIV infected through injecting drugs, and having opportunistic infections at ART initiation. Patients with timely ART access had a lower risk of developing opportunistic infections, higher chance of improving body mass index (BMI), lower chance of being at the WHO stage IV. Very late ART initiation, lower baseline BMI, and later WHO stage at the start of treatment were significantly associated with death, while being female, having timely access to ART, and having no treatment interruption were significant predictors of CD4 recovery.

Conclusions: Timely testing patients for HIV, increasing use of CD4 count testing services, and starting ART earlier are essential to reduce mortality and improve treatment outcomes.

Disclosure of Interest Statement: Nothing to declare

STRUCTURAL BARRIERS TO TIMELY INITIATION OF ANTIRETROVIRAL TREATMENT IN VIETNAM: FINDINGS FROM SIX OUTPATIENT CLINICS

Tran DA12, Shakeshaft A1, Ngo AD3, Mallitt KA2, Wilson D2, Rule J2, Doran C4, Zhang L2, Nguyen NT5

¹National Drug Alcohol Research Centre

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5Center for Promotion of Advancement of Society, Vietnam

Background: In Vietnam, premature AIDS-related mortality is commonly associated with late initiation to antiretroviral therapy (ART). This study explores possible reasons for late ART initiation among HIV-positive people from their perspective and that of health care providers.

Methods: The study was undertaken in six clinics from five provinces, representing different geographical regions in Vietnam. Baseline CD4 counts were collected from patient records and divided into three groups: very late initiators (≤100 cells/mm³ CD4), late (100-200 cells/mm³) and timely initiators (200-350 cells/mm³).

Results: Of 934 patients, 62% started ART very late and 11% initiated timely treatment. The proportion of patients for whom a CD4 count test was performed within six months of their HIV diagnosis ranged from 22% to 72%. The proportion of patients referred to ART clinics by voluntary testing and counselling centres ranged from 1% to 35%. Thirty in-depth interviews with patients who started ART and 15 focus group discussions with HIV service providers were conducted and thematic analysis of the content performed. Structural barriers to timely ART initiation were poor linkage between HIV testing and HIV care and treatment services, lack of patient confidentiality and a shortage of HIV/ AIDS specialists.

Conclusion: If Vietnam is to start ART at ≤350 cells/mm³ CD4 for all patients as recommended by WHO, the connection between voluntary counselling and testing service and ART clinics must be improved in order to encourage timely ART initiation. Expansion and decentralization of HIV/AIDS services to allow implementation at the community level, increased task sharing between doctors and nurses to overcome limited human resources, and improved patient confidentiality would all be likely to increase timely access to HIV treatment services for more patients.

Disclosure of Interest Statement: Nothing to declare

UPTAKE OF ANTIRETROVIRAL TREATMENT IN AUSTRALIA: S100 PRESCRIBERS' PERSPECTIVE

Mao L1, Adam P1, Crooks L2, Wright E23, Post J24, Slavin S5, Kidd M6, de Wit J1

- ¹National Centre in HIV Social Research, University of New South Wales
- ²Australasian Society for HIV Medicine
- ³Alfred Hospital, Melbourne
- ⁴Prince of Wales Hospital, Sydney
- 5National Association of People Living with HIV/AIDS
- ⁶Health Sciences, Flinders University

Background: Antiretroviral treatment (ART) can contribute to a reduction in HIV transmission, which has sparked much support for a 'treatment-as-prevention' approach globally. Furthermore, with increasing evidence of clinical benefits of earlier ART initiation, US guidelines now recommend ART for all treatment-naïve people after an HIV diagnosis. Others, including the Australian panel, are more cautious. The aim of this study is to explore the views and experiences regarding ART initiation of prescribers in Australia.

Methods: A brief online survey was conducted nationally amongst all ART/s100 prescribers, through an initial email invitation and two subsequent reminders from ASHM. The survey was open for one month, during which 108 prescribers (56.5% male; mean age 48.1 years) self-completed the survey.

Results: The sample broadly represented s100 prescribers in Australia, with about 40% general practitioners, a quarter sexual health physicians, and one-fifth hospital-based infectious diseases clinicians. Nearly half practised in NSW (48.2%) and a further quarter practised in VIC (25.0%). About 60% of the participants had been treating HIV-positive patients for more than 10 years. Participants estimated that 70%-80% of all their HIV-positive patients were on ART. Over half of the participants agreed very strongly that clinical benefits to individual patients were their primary concern in recommending ART initiation, rather than population prevention benefits. In general, about 68.5% of prescribers most strongly recommend ART initiation before CD4 count drops below 350 cells/mm³ and a further 22.2% most strongly recommend ART initiation before CD4 count drops below 500 cells/mm³.

Conclusions: To encourage discussion and agreement on appropriate timing of ART initiation between treatment-naïve people with a recent HIV diagnosis and s100 prescribers, it is important to understand clinicians' concerns about and prescribing practices around ART initiation.

Disclosure statement: The National Centre in HIV Social Research receives funding from the Australian Government Department of Health and Ageing, The s100 prescribers' surveys are funded by the National Health & Medical Research Council Project Grant (APP1021790).

SCALE-UP OF PROVIDER-INITIATED HIV TESTING AND COUNSELING FOR TUBERCULOSIS PATIENTS IN HO CHI MINH CITY, VIETNAM, 2006-2011

Dung NH1, Thai LH2, Yen NTB1, Thinh T3, Ngoc DV3, McConnell M2, Whitehead S4

¹Pham Ngoc Thach Hospital, Ho Chi Minh City, Vietnam; ²U.S. Centers for Disease Control and Prevention, Vietnam; ³ Ho Chi Minh City Provincial AIDS Committee; ⁴U.S. CDC Southeast Asia Regional Office, Bangkok, Thailand

Introduction: The World Health Organization recommends provider-initiated HIV testing and counseling (PITC) for all TB patients. In Ho Chi Minh City (HCMC), PITC was firstly implemented in 7 TB sites in 2006 and expanded to 27 TB sites in 2009, with counseling and serological testing offered by TB program staff.

Methods: We analyzed HIV testing and referral data from routine quarterly reports from July 2006 – September 2011 at 27 TB sites in HCMC, including 24 district TB units, 1 TB outpatient department, and 2 TB clinical wards that implemented PITC.

Results: Among 63,916 registered TB patients, 7,008 (11%) were already known to be HIV-infected. Of 56,908 TB patients with unknown HIV status, 55,493 (98%) received HIV counseling and 52,626 (95%) of these agreed to testing. A new diagnosis of HIV was made for 2,666 patients and the overall HIV prevalence in TB patients was 15%. Of the 9,674 HIV-infected TB patients, 72% were successfully referred to HIV care; of these, 54% had a documented CD4 cell count, 75% received co-trimoxazole preventive therapy (CPT), and 33% received antiretroviral therapy (ART) during TB treatment. There were significant trends (P<0.001) for HIV-infected TB patients in proportions of successful HIV care referral (18% in 2006, 91% in 2008, 89% in 2011), CD4 cell count documentation (13% in 2006, 64% in 2008, 77% in 2011), CPT (15% in 2006, 94% in 2008, 96% in 2011), and ART (9% in 2006. 36% in 2008. 58% in 2011).

Conclusion: These findings demonstrate the acceptance of PITC and support the need to expand PITC to TB settings in Vietnam as a routine program. Despite improvement in trends over time, low rates of ART indicate that barriers remain and more efforts are needed to provide standard HIV care and treatment.

Disclosure of Interest Statement: No disclosure of interest

VIRAL LOAD OUTCOMES AFTER 12 MONTHS ANTIRETROVIRAL THERAPY IN LOW TO MIDDLE INCOME COUNTRIES: A SYSTEMATIC REVIEW

James McMahon*12, Julian Elliott1,3,4, Rachel Kubiak2, Michael Jordan25

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Background: There is limited data reviewing virologic outcomes after initiating ART in low-middle income countries (LMICs). As the potential for viral load testing increases there is a specific need for program managers and researchers working in the field of ART provision to have an up to date understanding of virologic outcomes in LMICs

Methods: We systematically searched for studies in LMICs via MEDLINE (2003-2011) and HIV conference abstracts (2009-2011) that reported a proportion of individuals with virological suppression (or failure) by a single viral load test 12-months after ART initiation. Summary estimates were determined for on-treatment (OT) and intention-to-treat (ITT) populations for HIV RNA 1000 copies/mL, 300-500 copies/mL and ≤200 copies/mL. We calculated summary medians and interquartile range or weighted mean and standard deviation for non-normally and normally distributed data, respectively, with proportions weighted by the inverse of variance.

Results: 279 papers and 410 abstracts were identified, of which 49 studies comprising 48 cohorts (n=30,016) met inclusion criteria. No studies reported at thresholds >1000 copies/mL. The majority of studies reported at the 300-500 copies/mL threshold where summary estimates were 86.6 \pm **8.1%** virological suppression OT (32 cohorts), and 71.2 \pm **6.3%** suppression by ITT (21 cohorts). OT analyses at thresholds >300 copies/mL resulted in 84-87% virological suppression and 83% suppression when \leq 200 copies/mL. ITT analyses showed increasing proportions suppressed as HIV RNA thresholds increased (60% at \leq 200 copies/mL, 71% at 300-500 copies/mL, 79% at 1000 copies/mL).

Conclusions: Normative levels of virological suppression in LMICs compare favorably to high income countries. These summary estimates provide ART program managers with a benchmark for comparison of program outcomes, for ART program target setting and for predictive modeling. The current international target of \geq 70% virological suppression after 12-months ART at a 1000 copies/mL threshold (ITT) may need to be revised upwards.

Disclosure of Interest Statement: No pharmaceutical grants were received in the development of this study.

THE SIGNIFICANCE OF HIV 'BLIPS'IN DIVERSE SETTINGS: IS IT ALWAYS THE SAME? ANALYSIS OF THE TREAT ASIA HIV OBSERVATIONAL DATABASE (TAHOD) AND THE AUSTRALIAN HIV OBSERVATIONAL DATABASE (AHOD)

Kanapathipillai R^{1,2}, McManus H³, Kamarulzaman K⁴, Lian LP⁵. Templeton DJ^{3,6}, Law M³, Woolley I¹

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Background: Magnitude and frequency of blips in resource-constrained settings, where there is less frequent monitoring using viral loads, has not previously been assessed.

Methods: TAHOD and AHOD patients with virological control following commencement of cART were included. Blips were defined as detectable VL preceded and followed by undetectable VL (≤50 copies/mL). Virological failure (VF) was defined as two consecutive VL >50 copies/ml. Cox proportional hazard models of time to first blip and time to first VF after entry, were developed. Sensitivity analyses were performed to assess the significance of varying magnitudes of blips.

Results: A total of 5070 patients (AHOD n=2577 and TAHOD n=2493) were included; 979 (19%) experienced blips. 890 (90.9%) participants were male, mean CD4 at cART initiation was 268.1 and 148.6 cells/mm³ in high- and middle/low-income settings respectively. 837 (24%) and 142 (9%) of high- and middle/low-income participants respectively experienced blips. VL testing occurred at a median 180, 174.5 and 91 days in low-, medium-, and high-income sites respectively. HCV co-infection was associated with an increased HR 1.54 (p=<0.01) of time to VF. cART containing NRTI+PI (HR 1.56, p=<0.01), 3+NRTI/no PI/no NNRTI (HR 2.46, p=<0.01), and other regimens (HR 3.15, p=<0.01) were associated with significantly increased HR of time to VF, compared to most frequently used first-line regimen (3+NRTI+NNRTI/no PI). 297 of 1149 (26%) patients were switched to an alternate regimen in the setting of a blip. Neither income level by site (p=0.07), nor prior blips, irrespective of magnitude (p=0.59), were significant predictors of VF in multivariate analysis.

Conclusion: Despite a larger proportion of blips occurring in low/middle-income settings, no significant difference was found when compared to high-income settings regarding magnitude or frequency of blips as predictors of VF. A substantial number of participants were switched to alternative regimens in the setting of a blip.

Disclosure of Interest Statement: The TREAT Asia HIV Observational Database and the Australian HIV Observational Database are part of the Asia Pacific HIV Observational Database and are initiatives of TREAT Asia, a program of amfAR, The Foundation for AIDS Research, with support from the following institutes of the U.S. National Institutes of Health (NIH): National Institute of Allergy and Infectious Diseases (NIAID), National Institute of Child Health and Human Development (NICHD), the Office of the Director (OD), and the National Cancer Institute (NCI), as part of the International Epidemiologic Databases to Evaluate AIDS (IeDEA) (grant no. U01A1069907). Additional support is provided by the Dutch Ministry of Foreign Affairs through a partnership with Stichting Aids Fonds. The Australian HIV Observational Database is also funded by unconditional grants from Merck Sharp & Dohme; Gilead; Bristol-Myers Squibb; Boehringer Ingelheim; Roche; Pfizer; GlaxoSmithKline; Janssen-Cilag. The Kirby Institute for Infection and Immunity in society is funded by the Australian Government Department of Health and Ageing, and is affiliated with the Faculty of Medicine, The University of New South Wales. The content of this publication is solely the responsibility of the authors and does not necessarily represent the official views of any of the institutions mentioned above.

AGEING & LONG-TERM CD4 CELL COUNT TRENDS IN HIV-POSITIVE PATIENTS WITH 5 YEARS OR MORE COMBINATION ANTIRETROVIRAL THERAPY EXPERIENCE

 $\underline{Wright\ ST^1}$, Petoumenos P¹, Boyd M¹², Carr A², Downing S³, O'Connor CC^{4,5,6}, Grotowski M⁷, Law MG¹, on behalf of the Australian HIV Observational Database.

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Background/Objectives: The aim of this analysis is to describe the long-term changes in CD4 cell counts beyond 5 years of combination antiretroviral therapy (cART). If natural ageing leads to a long-term decline in the immune system via low-grade chronic immune activation/inflammation, then one might expect to see an earlier decline in CD4 counts in older HIV-positive patients with increasing duration of cART.

Design/Methods: Retrospective and prospective data were examined from long-term virologically stable HIV-positive adults from the Australian HIV Observational Database. We estimated mean CD4 cell counts changes following the completion of 5 years of cART using linear mixed models. Interactions were explored between age at cART initiation, duration of cART and Year-5 CD4 cell count.

Results: A total of 37,916 CD4 measurements were observed for 892 patients over a combined total of 9,753 patient years. Younger patients (<35 years) at cART initiation had estimated mean(95% confidence intervals) annual change in CD4 counts by Year-5 CD4 count strata (<500, 501-750 and >750 cells/ μ L) of 21(14 to 28), 18(11 to 25) and 4(-3 to 11) cells/ μ L/year respectively. Patients >50 years at cART initiation had estimated annual mean changes of 14(7 to 21), 3(-5 to 11) and -6(-17 to 4) cells/ μ L/year by Year-5 CD4 count strata respectively. Of the CD4 cell count rates of change estimated, none were indicative of long-term declines in CD4 cell counts.

Conclusions: Our results suggest that duration of cART and increasing age does not result in decreasing mean changes in CD4 cell counts for long-term virologically suppressed patients, indicating that sustained levels of immune recovery following 5 years of treatment are achievable under long-term cART, at least up to 15 years.

Sources of Support: The Australian HIV Observational Database is funded as part of the Asia Pacific HIV Observational Database, a program of The Foundation for AIDS Research, amfAR, and is supported in part by a grant from the U.S. National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID) (Grant No. U01-Al069907) and by unconditional grants from Merck Sharp & Dohme; Gilead; Bristol-Myers Squibb; Boehringer Ingelheim; Roche; Pfizer; GlaxoSmithKline; Janssen-Cilag. The Kirby Institute (formally the National Centre in HIV Epidemiology and Clinical Research) is funded by The Australian Government Department of Health and Ageing, and is affiliated with the Faculty of Medicine, The University of New South Wales. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

THEME D PROFFERED PAPER SESSION:

MANAGING RISK IN ASIA AND THE PACIFIC

10.30AM - 12.30PM

PAPER NUMBER: 316

CONDOM USE DURING VAGINAL AND ANAL INTERCOURSE AMONGST FEMALE SEX WORKERS IN PORT MORESBY, PAPUA NEW GUINEA

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¹ Papua New Guinea Institute of Medical Research (PNG IMR), Goroka, Eastern Highlands Province (EHP), PNG ² International HIV Research Group, School of Public Health and Community Medicine, The University of New South Wales, Sydney, Australia

Introduction: Condom use during vaginal intercourse has received the greatest attention in relation to female sex worker (FSW) risk. High rates of heterosexual anal intercourse globally amongst this population suggests that in addition to condoms during vaginal intercourse, detailed attention is required to understand condom use during anal intercourse.

Methods: Drawn from a respondent driven sample of sex workers in Port Moresby, this analysis is based on 411 FSW who had any vaginal or anal intercourse with clients in the six months prior to the survey. Pearson and McNemar chi-square tests of association were used to investigate differences in rates of condom use for different types of sexual behaviour and within each partner type.

Results: 51.1% reported both anal and vaginal intercourse with clients in the last 6mths. Less formal education, younger age at sex work initiation, and greater number of clients per week were significantly related to having anal intercourse with clients. FSW were significantly more likely to report anal intercourse with their regular/casual partners if they engaged in anal intercourse with clients. FSW who had anal intercourse with clients were significantly more likely to have used a condom at the last vaginal intercourse with all partner types than those who did not have anal intercourse. Also, amongst women who practiced both vaginal and anal intercourse, condom use was very similar for vaginal and anal intercourse with all three-partner types (i clients, casual partners and regular partners).

Conclusion: FSW who engage in anal intercourse are more diligent about their condom use compared with those FSW who do not have anal intercourse. Further research is needed to examine how and why women's condom use practices became so consistent for both types of intercourse, as well as to understand the reasons and circumstances for engaging in anal intercourse with clients.

Disclosure of Interest Statement: This study was funded by an AusAID grant.

BETTER ON-BOARD: HIV PREVENTION NEEDS OF WOMEN WHO SELL SEX TO SEAFARERS IN TARAWA, KIRIBATI

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Introduction: Ainen Matawa is the name given to i-Kiribati women who board foreign fishing vessels to sell sex. As foreign seafarers frequently come from, or pass through, countries with higher HIV prevalence than Kiribati, ainen matawa are considered vulnerable to HIV. To be effective, Kiribati's prevention programmes must be grounded in an understanding of the everyday realities and concerns of ainen matawa.

Methods: In February 2010, 25 in-depth interviews were conducted with *ainen matawa* in Tarawa. Interviews enquired into daily life, motivations for and experiences of on-board sexual relationships, and condom use.

Results: Ainen matawa typically engage in sequential rather than multiple concurrent relationships. Korean seafarers are popular clients because they prefer one woman and are kind and protective. Women can live on the boats with their Korean clients for months. Condoms are typically used for the first week, but condom use ceases as 'trust' is established.

Conclusion: Peer outreach (including on-board) activities need to be strengthened, peers upskilled, and condom use and other HIV prevention strategies developed specifically for *ainen matawa*. These strategies must take account of the duration and specific character of the client relationship, and would benefit from insight into the lives and motivations of seafarer clients.

Disclosure of Interest Statement: No disclosure of interest / interest to disclose.

HARVAT: SEX WORK INVOLVEMENT AND ASSOCIATED OCCUPATIONAL RISKS AMONG SELECTED TRANSGENDER WOMEN IN CEBU CITY, PHILIPPINES

Cortes R N¹

¹ Philippine NGO Council on Population, Health and Welfare, Inc.

Introduction: The expansion of sex work (or *harvat* in Cebu) in the Philippines has surfaced transgender (TG) escorts and online-based sex workers (SWs), who are generally exposed to health risks such as sexually transmitted infections (STIs), HIV/AIDS. Recent Philippine Integrated HIV Behavioral and Serological Surveillance (IHBSS) 2011 showed Cebu City having the second highest HIV prevalence among men who have sex with men (MSM) (i.e. 4.7 percent); which TG women are included. Due to the lack of social recognition of TG women, combined with the stigmatization of SWs, this leads to discrimination, violence and health risks among TG women SWs. Hence, it is important to look at their gender identity and self-description; context and nature of sex work involvement; and their perceived/experienced occupational risks.

Methods: The method used was face-to-face in-depth interviews with fifteen (15) TG women SWs in Cebu City as identified by the researcher. Content analysis was used for qualitative analysis of transcribed interviews.

Results: The findings revealed that TG women SWs do not necessarily identify themselves as TG but see themselves as women expressed in different modalities, but commonly undergoing body modifications (i.e. hormone pills, collagen injections). Economic benefits and sexual enjoyment gained are the main motivations for TG women SWs, which is related to greater preference for foreigner clients and "versatile" sexual role. Escorting has the most economic benefits, followed by online chatting and online *harvat*. Lastly, there were lesser experiences of occupational risks (i.e. health, abuse, legal) than what they perceived.

Conclusion: The study concludes that perceived/experienced risks associated with sex work are not merely occupational, but are also behavioral and gender-based. As such, sexual behaviour and not their occupation as SWs make TG women at risk to STIs, HIV/ AIDS. Hence, HIV education and prevention strategies should be client-specific to address health needs of the general TG women population.

Disclosure of Interest Statement: The study was done without funding support from the current affiliated organization (Philippine NGO Council on Population, Health and Welfare, Inc.) of the author. The study was a thesis presented to the Faculty of the Health Social Science Graduate Program, Behavioral Sciences Department, College of Liberal Arts of De La Salle University – Manila, as a final requirement for the author's completion of the degree of Master of Health Social Science. The study was completed, reviewed and passed the university's standards in August 2011, and full ownership of the study remains with the author.

SEX WORKER ADVOCACY FOR INCLUSION IN ETHICAL SOCIAL AND BEHAVIOURAL RESEARCH: "IT IS OUR RIGHT! INCLUDE AND ENABLE US TO ADVOCATE AGAINST ANY ACTIVITY THAT TRANSPORTS VULNERABILITY AND RISK TO OUR COMMUNITY"

Angkis Lay L1, Lopes M. A1,2,

¹ Scarlet Timor Collective, ² Fundasaun Timor Harii (FTH)

Introduction: Scarlet Timor Collective formed in 2009 within the HIV Consortium partnership with Scarlet Alliance. \$carlet Timor is a member of the National AIDS Commission (KLNS-NAC), Country Coordination Mechanism (CCM), Asia Pacific Network of Sex Workers (APNSW) and Confederation of Trade Unions (KSTL) HIV/AIDS Taskforce. Scarlet Timor advocates for policy that enables equality, justice, social, political, cultural, health and economic benefits to sex workers lives.

Methods: Scarlet Timor conducted meetings documenting positive and negative experiences of sex workers who voluntarily contributed to BSS surveys (with MSM, FSW and Uniformed Personnel) and MoH IBBS research. Sex workers identified the methodology created safety risks, and findings were stigmatizing or poorly interpreted. Scarlet Timor raised issues with national stakeholders and attended evaluation meetings with researchers and MoH officials.

Results: Sex worker advocacy to develop and implement research is a key to ethical social and behavioural research. Sex worker's participation in designing methodology for non discriminatory IBBS is vital and merits attention for future research. Researchers have a responsibility to ensure sex workers are consulted and should seek participation of community programs and approval from our diverse population before conducting country specific research. Peer driven methodology, implementation and review are principles of ethical quality research.

Conclusion: Scarlet Timor contributes positively to sex workers lives by respecting sexual diversity and strengthening capacity to advocate and to reduce risk to our lives. Sex workers in Timor Leste are raising issues via internal and external partnerships, entering formal channels, achieving visibility, opportunity and participation in ongoing monitoring and evaluation of national research programs and policy.

Sex worker advocacy within Scarlet Timor Collective and sex worker and MSM service delivery program's of Fundasaun Timor Harii (FTH) is high. Sex worker peer-to-peer capacity building, collective direction and networking with key national stakeholders is empowering and paramount to addressing stigma, discrimination and HIV.

Disclosure of Interest Statement: "No disclosure of interest".

ALCOHOL, DRUGS AND HIV: CONDOM USE WHEN DRUNK OR STONED AND EMERGING INJECTING DRUG USE IN PAPUA NEW GUINEA

Amos, A 1, Buchanan, H 2

 1 HIV and Public Health Program, The National Research Institute, PNG, 2 HIV and Public Health Program, The National Research Institute, PNG

Introduction: The HIV epidemic in Papua New Guinea has increased annually since 1987. Mode of transmission is primarily reported as unprotected heterosexual sex. Much conjecture about the impact of alcohol and drugs on condom use and the prevalence of injecting drug use is often made. Findings from BSS on condom use when drunk or stoned, and emerging drug injecting and reuse of needles from behavioural surveillance creates the opportunity for a more evidence based response to HIV.

Methods: Between 2008 and 2010, 3011 (1859M, 1152F) behavioural surveillance surveys were collected using random and respondent driven sampling with: petroleum development workers; coffee and tea plantation workers; Agri-industry plantation workers; truck drivers; youth; women exchanging sex, and STI and ANC (antenatal) clinic clients. Interviews were conducted using face to face interviews with a paper survey or palm held computer, or through an audio-assisted self administered paper survey. All interviewed were over the age of 15.

Results: Alcohol consumption ranged across samples from 38.7% of tea and coffee plantation workers to 94.6% of women exchanging sex (WES). Among drinkers, unsafe sex when drunk ranged from 8.8% (Agri-industry workers) to 88.6% (WES). Drug use ranged from 14.4% of truck drivers to 53.6% of male youth. Not using a condom when stoned ranged from 5.7% (Agri-industry workers) to 89.7% (WES). Interviewees from five of the eight samples (STI clients, truck drivers, WES, petroleum development and youth) reported injecting drugs, ranging from 2.7% to 25.7%. By sample, from a third to all who injected had reused needles and syringes the last time they injected.

Conclusions: Research findings from PNG contribute to understanding the variability across samples of the relationships between alcohol and drug use and risk of HIV infection through not using a condom when drunk or stoned or the reuse of needles when injecting.

Disclosure of Interest Statement: Behavioural surveillance research was conducted by the authors in their work at the National Research Institute in Papua New Guinea.

EXPERIENCES OF VIOLENCE, COERCION, EMOTIONAL SUPPORT AND FAMILIAL ACCEPTANCE AMONG MSM AND TRANSGENDER POPULATIONS: TOWARDS AN EFFECTIVE AND FOCUSED ADVOCACY RESPONSE IN THE PREVENTION OF HIV IN TIMOR-LESTE

Jose H.A., Belo Ximenes A

Fundasaun Timor Hari'i (FTH), supported by the ISEAN-Hivos Regional GFATM project

Background: In March-April 2012, Fundasaun Timor Hari'i (FTH), a local HIV prevention NGO, conducted research among men who have sex with men (MSM) and transgender (TG) communities in Timor-Leste to inform the strategic direction of a future support and advocacy network. The resulting nationwide study is the most comprehensive social research conducted among these populations in the country, and provides new insights into the communities to develop an effective advocacy response.

Methods: Respondent-driven sampling and direct referrals were used to identify the 56 MSM and TG study respondents. Structured interviews were conducted in the sample covering all of Timor-Leste's 13 districts.

Results: The majority of respondents had experienced verbal abuse. About 30 to 36 per cent had experienced physical abuse and/or coercion attributed to their being MSM or TG. Coercion ranged from violent sexual assault to attempts to 'turn' respondents 'straight' through performing masculine tasks. About one-fifth of respondents also reported familial exclusion.

In spite of their experience of abuse and familial exclusion, the interviews revealed that some MSM and TGs have a well-defined place in family life, performing key associated roles and tasks such as cooking, caring for children or the elderly, and running events like wedding ceremonies. Additionally, over half of respondents said they had somebody in their family who had supported them as an MSM or TG.

Conclusion: Contrary to widespread conceptions, some MSM and TG have an established place in Timorese family life. While one-fifth of respondents reported familial exclusion, over half indicated some family support. This indicates the complexities of societies which are generally considered conservative, and the importance community-level research when developing localised HIV responses. Programs addressing the needs of MSM and TG communities in Timor-Leste must consider their specific context of stigma and discrimination and may also work with MSM and TGs' family members to increase effectiveness.

Disclosure of Interest Statement: This study was funded by the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) through the ISEAN-Hivos regional GFATM project. FTH is a sub-recipient of the Timor-Leste HIV GFATM grant under principle recipient the Timor-Leste Ministry of Health.

THEME A PROFFERED PAPER SESSION: HIV TRANSMISSION

AND MOLECULAR PATHOGENESIS

10.30AM - 12.30PM

PAPER NUMBER: 1035

PHENOTYPING AND IMMUNOGENICITY OF HIV-1 ENV FROM MSM TRANSMISSION STRAINS

Reddy S¹, Center RJ¹, Sterjovski J², Ellett A², Lee B³, Suzuki K⁴, Zaunders J^{4,5}, Gray L², Roche M², Cooper DA^{4,5}, Kelleher A^{4,5}, Gorry PR^{1,2}, Purcell DEJ¹

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Introduction: A stringent HIV-1 strain selection occurs during viral transmission at the sexual mucosae. Here we examined the envelope glycoproteins (Env) from five male-to-male Clade B clonal founder strains transmitted from the viral swarm and tested these as gp140 trimer immunogens in a mouse vaccination experiment to assess if PSC Env better elicits broadly neutralising antibodies.

Methods: We used PCR amplification to clone Env gp160 from five patients diagnosed in the first days after transmission prior to seroconversion, after which antibody responses begin directing Env evolution. We vaccinated mice with two priming doses of 100μg plasmid DNA expressing Env gp160 and boosted three times with 10μg of gp140 trimer mixed with incomplete Freund's adjuvant.

Results: Five PSC Env from MSM transmissions selected for fewer potential N-linked glycosylation sites (PNGS) were all CCR5-tropic and CD4 dependent, but required high cellular levels of CD4 for entry in the affinofile assay. They had strong infectivity for T-cells but poor macrophage infectivity. PSC Env gp140 trimers bound sCD4 at moderate efficiency but also displayed some sCD4-induced epitopes. Several broad neutralizing monoclonal antibodies (mNAb) including b12, 2F5 and 447-52D, bound strongly to PSC gp140, but glycan specific 2G12 did not. The serum from groups of mice (n=8) vaccinated with PSC Env gp140 yielded high titre lgG (10⁵) with strong Env avidity, and modest titres of lgM (10³) and lgA (10³). After 21 weeks the sera from vaccinated mice neutralized a broad array of strains including some Env from Tier 2 and 3.

Conclusion: Founder virus efficiently infects T-cells expressing high levels of CD4, but is poorly macrophage-tropic. PSC strain Env had a lower affinity for sCD4, was readily neutralized by b12 mNAb to the CD4 binding pocket, and can elicit broad neutralizing antibodies after an extended duration of immune maturation. This study helps define the antibody responses required to prevent transmission to the initial referred T-cell target.

Disclosure of Interest Statement: This work was supported by NHMRC program grant 510488 (DP), and ACH2 EOI grant 2009 (DP). Authors have no conflict of interests.

NEUROTROPIC HIV-1 VARIANTS HAVE ALTERATIONS IN THEIR ENV GLYCOPROTEINS, WHICH ALTER THE WAY THEY ENGAGE BOTH CD4 AND CCR5

Salimi H¹⁻², Gray L¹⁻², Roche M¹⁻², Webb N³, Chikere K³, Ellett A¹, Sterjovski J¹, Duncan R¹, Wesselingh SL⁴, Ramsland PA^{1,2,5}, Lee B³, Churchill MJ^{1,2}, Gorry PR^{1,2,5}

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Background: HIV-1 infected macrophages and microglia in the brain are a barrier for anti-retroviral therapies. Neurotropic HIV-1 strains are highly macrophage tropic, but the molecular mechanisms underlying efficient macrophage entry are incompletely understood. Here, we identified and characterized novel virus-cell interactions by neurotropic HIV-1 strains that contribute to persistence of HIV-1 in the CNS.

Methods: Env Pseudotypes were subjected to the 293-Affinofile affinity-profiling system and mathematical modeling to quantify gp120 envelope (Env)-CD4/CCR5 interactions of HIV-1 variants (n=12 Envs) isolated from brains and lymph nodes (LN) of HIV-1-infected subjects (n=3 subjects). Macrophage entry was determined using entry assays with monocyte-derived macrophages. Env conformations were characterized by gp120 binding/neutralization studies with conformation-dependent monoclonal antibodies. The determinants of Env-CCR5 engagement were mapped using entry assays in cells expressing alternative CCR5 mutants. Three-dimensional gp120 structural models were used to identify novel molecular interactions.

Results: All the brain-derived Envs were highly macrophage-tropic whereas none of the LN-derived Envs could enter macrophages to measurable levels. Affinity profiling and CCR5 mutagenesis studies, together with sequence analysis of gp120 and structural modeling, showed that efficient macrophage entry was strongly associated not only with an enhanced interaction between gp120 and CD4, but also with an altered mechanism of engagement between CD4-bound gp120 and CCR5 occurring in tandem. This altered CCR5 engagement was characterized by greater exposure of CD4-induced epitopes in gp120, and increased dependence on the CCR5 N-terminus and on charged elements within the CCR5 extracellular loops.

Discussion: Persistence of neurotropic HIV-1 in the CNS is associated with gp120 configurations that alter the way in which HIV-1 interacts with both of its entry receptors. This most likely optimizes HIV-1 infectivity for macrophage-lineage cells, which are the principal cellular reservoirs of virus in the brain. These findings better define the neurotropic phenotype of HIV-1 variants derived from the brain and contribute to our understanding of HIV-1 persistence in the CNS.

Nothing to declare

STRUCTURAL AND FUNCTIONAL ANALYSIS OF THE SPL7013 DENDRIMER ACTION AGAINST HIV ENV

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Introduction: A female-initiated strategy for prevention of HIV infection during sexual contact is the use of microbicides, which are designed to reduce HIV transmission and/ or other STIs by topical application. Early microbicide compounds failed to prevent HIV in phase III clinical trials. Subsequent investigation of their mode of action showed that those compounds lacked specificity and were less effective against CCR5-tropic (R5) than CXCR4-tropic (X4) HIV strains. Lack of chemical and structural homogeneity could also have precluded specific interactions with viral proteins. We are investigating the mechanism of action of an antiviral entry inhibitor, SPL7013 (VivaGel®), as a microbicide against HIV. SPL7013 is a dendrimer molecule (16.5 kDa) that has shown anti-HIV activity against both X4 and R5 strains in initial studies.

Methods: We have previously reported extensive molecular modeling studies, which suggested putative interaction sites for dendrimer on HIV env. Using surface plasmon resonance (SPR) and small angle x-ray scattering (SAXS), we experimentally tested these models by investigating the molecular detail of SPL7013 interactions with HIV env proteins.

Results: We have shown that SPL7013 has a distinct conformation in solution and can interact with HIV env protein, gp120, in both R5 and X4 strains. In preliminary studies, SPL7013 also shows greater binding affinity for HIV env ($K_D \sim 1-5\mu M$) than the host cell receptor, CD4 ($K_D \sim 100\mu M$), unlike linear polyanions such as PRO2000. Structural changes in HIV env on SPL7013 binding were also assessed in solution and complemented by mutational analysis to determine the specificity of the interaction.

Conclusion: Our structural and functional analysis suggests that the mechanism of action of SPL7013 can be attributed to its direct interaction with HIV env and its conformational mobility in solution.

Disclosure of Interest Statement: GT has received funding in the last 5 years from Starpharma Pty Ltd for undertaking clinical trials and consultancy.

ELUCIDATING UNIQUE MOLECULAR MECHANISMS INVOLVED IN HIV SUBTYPE C PATHOGENICITY

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Introduction: The majority of HIV pathogenesis studies involve subtype B HIV (B-HIV) with little known about C-HIV, despite being the predominant subtype. The pathogenesis of C-HIV is distinct, and likely to involve unique genetic, structural and functional changes in the C-HIV envelope glycoproteins (Env). We aim to investigate novel env-receptor interactions we predict to be important in C-HIV pathogenesis.

Methods: We established a unique cohort of 21 clinically well-characterised anti-retroviral therapy naive subjects from Zimbabwe who progressed from chronic to advanced stages of disease over a 3 year period. Functional C-HIV Envs (n=323) were cloned longitudinally from subjects' plasma at 3 timepoints and sequenced in their entirety. The ability of luciferase reporter viruses pseudotyped with each Env to use primary (CCR5 and/or CXCR4) and alternative (CCR3, CCR8, FPRL-1) co-receptors for HIV-1 entry was determined.

Results: All Envs were confirmed by phylogenetic analysis to be C-HIV. The majority of Envs (91%) used CCR5 for cellular entry with surprisingly infrequent CXCR4 usage later in disease progression. Two subjects used CXCR4 at later timepoints, with one subject completely switching from CCR5 to CXCR4 usage. This subject displayed strong CCR5 and FPRL-1 usage earlier in disease pathogenesis and switched to CXCR4 and intermediate CCR3 usage at late timepoints with, and no residual CCR5 usage. Additionally, there was a large degree of discordance between *in-vitro* co-receptor phenotype and the predicted phenotype based on Env V3 sequence.

Conclusion: In contrast to B-HIV, only a small proportion of C-HIV subjects altered co-receptor usage in advanced stages of infection, with only one subject completely switching from CCR5 to CXCR4 usage. Additionally, the predicted phenotypic analysis was not concurrent with *in-vitro* co-receptor usage. Thus, underscoring the importance of functional phenotype assays for choice of anti-retroviral therapy, especially when deciding whether CCR5 antagonists should be used for treating C-HIV infection.

Disclosure of Interest Statement: "No disclosure of interest"

EVALUATION OF HISTONE DEACETYLASE INHIBITORS (HDACI) ACTIVITY USING PATIENT-DERIVED HIV LONG TERMINAL REPEAT (LTR) SEQUENCES IN CELL LINES: A NOVEL METHOD TO SCREEN FOR DRUGS THAT REVERSE LATENCY

<u>Lu HK^{1,2}</u>, Gray L^{2,3}, Ellenberg P^{1,2}, Wightman F^{1,2}, Cameron PU^{1,2,6}, Wesselingh S^{2,4}, Churchill M^{1,2,5}, Lewin SR^{1,2,6}

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Background: Histone deacetylases inhibitors (HDACi) can induce viral production in latently infected T-cell lines through activation of transcription from the LTR. Little is known about the activity of HDACi in other cellular reservoirs or in different primary HIV isolates. We aimed to determine the activity of HDACi in different cell types using integrated LTR sequences derived from latently infected memory T-cells from patients on antiretroviral therapy (ART).

Methods: Integrated HIV LTRs were amplified using triple-nested Alu-PCR from memory CD4+T-cells. NL4-3 or patient-derived LTRs were cloned into the plasmid pCEP4, which forms an episomal chromatin. The transcriptional activity of the luciferase gene is under the control of the LTR. Constructs were transfected into Jurkat (T-cells), SVG (astrocyte) and Hela (epithelial) cell lines. The activity of various HDACi on LTR transcription was measured by quantification of luciferase activity.

Results: Using a wild-type NL4-3-pCEP construct, we transfected Hela, SVG and Jurkat cell lines and analysed the ability of HDACi to stimulate viral transcription. In Hela, the most potent HDACi were panobinostat (0.05 μ M), suberoylanilide hydroxamic acid (2 μ M), entinostat (10 μ M) and Givinostat (1 μ M) (all induced >100-fold increase in luciferase activity); followed by belinostat (0.5 μ M) and trichostatin-A (0.2 μ M) (both induced 10-100fold increase in luciferase activity). An increase in luciferase activity in Jurkat and SVG cells were also observed, but at lower levels for all HDACi. LTR isolates from memory CD4+T cells from two patients isolated pre-ART and post-ART were successfully amplified, sequenced, cloned and transfected into Hela. With the exception of one unique LTR from one patient post-ART, all HDACi significantly increased the luciferase activity of patient-derived LTRs similar to that seen with NL4-3 LTR.

Conclusions: HDACi activate transcription of patient-derived HIV LTRs in Hela with minimal cytotoxicity. This novel system allows rapid screening of drugs that potentially activate HIV transcription from patient-derived LTRs in different target cells.

This work is supported by the NHMRC grant (#1009533)

I have "nothing to disclose"

Svdnev, Australia

THE USE OF FILOPODIAL NETWORKS BY HIV

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Introduction: Paramount to the success of persistent viral infection is the ability of viruses to navigate hostile environments en route to future targets. In response to such obstacles, many viruses have developed the ability of establishing actin rich-membrane bridges to aid in future infections.

Methods: Herein through a combination of dynamic imaging, shRNA knockdown and small molecule inhibition, we have observed how viral high-jacking of the actin/membrane network facilitates one of the most efficient forms of HIV spread.

Results: Within infected DC, viral egress is coupled to viral filopodia formation, with more than 90% of filopodia bearing immature HIV on their tips at extensions of 10 to 20 μm . Live imaging showed HIV filopodia routinely pivoting at their base, and projecting HIV virions at $\mu m.sec(-1)$ along repetitive arc trajectories. HIV filopodial dynamics lead to up to 800 DC to CD4 T cell contacts per hour, with selection of T cells culminating in multiple filopodial tethering and converging to envelope the CD4 T-cell membrane with budding HIV particles. Long viral filopodial formation was dependent on the formin diaphanous 2 (Diaph2), and not a dominant Arp2/3 filopodial pathway often associated with pathogenic actin polymerization. Rather Arp2/3 depletion was key to filopodial dynamics rather than influencing filopodial lengths. Manipulation of HIV Nef reduced HIV transfer 25-fold by reducing viral filopodia frequency, supporting the potency of DC HIV transfer was dependent on viral filopodia abundance.

Conclusion: Thus our observations show HIV corrupts DC to CD4T cell interactions by physically embedding at the leading edge contacts of long DC filopodial networks. No disclosure of interest

OVEREXPRESSION OF PRMT6 DOES NOT SUPPRESS HIV-1 TAT TRANSACTIVATION IN CELLS NATURALLY LACKING PRMT6

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PRMT6 can methylate the HIV-1 Tat, Rev and nucleocapsid proteins in a manner that diminishes each of their functions in in vitro assays, and increases the stability of Tat in human cells. In this study, we explored the relationship between PRMT6 and HIV-1 Tat by determining the domains in each protein required for interaction. Through domain mapping and immunoprecipitation experiments, we determined that both the amino and carboxyl termini of PRMT6, and the activation domain within Tat are essential for interaction. We next used the A549 human alveolar adenocarcinoma cell line, which naturally expresses undetectable levels of PRMT6, as a model for testing the effects of PRMT6 on Tat stability, transactivation, and HIV-1 replication. As previously observed, steady state levels of Tat were increased by the ectopic expression of PRMT6.

However, no downregulation of Tat transactivation function was observed, even with over 300-fold molar express of PRMT6 plasmid. We also observed no negative effect on HIV-1 infectivity when A549 producer cells overexpressed PRMT6. While this cellular model failed to recapitulate the negative effects of PRMT6 on Tat's primary function or HIV-1 infectivity, arginine methylation of Tat by PRMT6 may impact on other pathogenic effects attributed to Tat during HIV-1 infection.

DYNAMIC REGULATION OF IL-4 RECEPTOR (IL-4R) FOLLOWING VIRAL INFECTIONS AND MODULATION OF CD8+T CELL AVIDITY

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Introduction: CD8⁺T cells are important in controlling chronic virus infections such as human immunodeficiency virus-1. We have previously reported that following HIV-1 vaccination cytokines interleukin (IL)-4 and IL-13 are important regulators of HIV-specific CD8⁺T cell quality or avidity. Unfortunately, how these cytokines regulate T cell avidity is not well understood. Threfore, in this study we have evaluated whether the expression levels of receptors for IL-4/IL-13 on CD8⁺T cells following viral infections play a role in modulating CD8⁺T cell avidity.

Methods: Various flow cytometry based assays following infection of mice with range of viruses were used to examine the IL-4/IL-13 signaling receptors' expression levels and functional aspects on CD8⁺T cells.

Results: Data indicate that cell surface IL-4Ra expression was significantly reduced on CD8+T cells in a time-dependent manner as a consequence of T cell activation following viral infections (e.g. influenza, fowlpox and vaccinia virus (VV)). Infection of gene-knock out mice for IL-4, IL-13, interferon (IFN)-g or signal transducer and activator of transcription 6 (STAT6) with VV confirmed that IL-4, IL-13 and STAT6 were required to maintain optimal cell surface IL-4Ra expression on naïve CD8+T cells, but not effector CD8+T cells. When BALB/c mice were infected with recombinant vaccinia virus expressing IL-4 (i.e. over-expression of IL-4 in the cell milieu *in vivo*), this induced an up-regulation of IL-4Ra expression on naïve and effector CD8+T cells in a STAT6 dependent manner. Higher IL-4Ra expression levels on naïve and/or VV-specific effector CD8+T cells in these experiments correlated with the dampening of effector CD8+T cell avidity and poly-functionality (i.e. numbers of CD8+IFN-g+TNF-a+ cells).

Conclusion: Our data indicate that regulation of IL-4Ra expression levels on CD8⁺T cells modulate virus-specific CD8⁺T cell avidity. This can be exploited when designing future HIV-1 vaccines.

Disclosure of Interest Statement: This work was supported by NHMRC project grant 525431 (CR) and development grant APP1000703 (CR) and ACH2 EOI 2010 (CR). Authors have no conflict of interests.

B VIRUS C INFECTION IN HIV-POSITIVE PATIENTS IN INDONESIA WITH AND WITHOUT HCV CO-INFECTION

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Introduction: GB virus C (GBV-C), a lymphotrophic human virus and convincingly unrelated with any diseases, has been reported to give beneficial effects in HIV-positive individuals. However, the presence of GBV-C in HIV-positive individuals in Indonesia was unknown. Since the prevalence of GBV-C was higher in the patients with anti-HCV positive, the transmission of GBV-C and HCV could be by the same method. Thus, this study was aimed to investigate the prevalence of GBV-C in HIV-positive patients with and without HCV co-infection in Indonesia.

Methods: Sera as well as clinical and demographic data were collected from patients with HIV visiting Dr. Sardjito Hospital, Yogyakarta, Indonesia, between April and July 2010, and had been stored at -30 to -80°C. There were 125 patients, age ranges between 21 to 60 years (median, 31 years), including 77 (61.6%) males, 35 (28%) females, 13 (10.4%) transvestites. Detection of GBV-C RNA was done by RT-PCR and sequencing. Genotyping was performed by phylogenetic analysis based on 5`-UTR sequences.

Results: The prevalence of GBV-C among HIV-positive patients based on 5'UTR region was 111 of 125 (88.8%) including 39 of 48 (81.3%) and 72 of 77 (93.5%) in patients with and without HCV co-infection, respectively. GBV-C isolates could be classified into genotype 2a, 3, and 6 in respectively 59%, 13%, and 28% patients. Genotype 3 was associated significantly with younger age (P=0.001). Genotype 6 was associated with ALT \geq 40 (P=0.021). Injection drug use and anti-HCV antibody positive were associated significantly with genotype 3 and 6.

Conclusion: This study elucidated that the clinical characteristics and transmission route were different depending on GBV-C genotyping.

Grant sponsor: Japanese Initiative for Global Research Network on Infectious Diseases (J-GRID); Grant sponsor: Ministry of Education, Culture, Sports, Science, and Technology of Japan.

The authors have no conflicts of interest to declare.

extensive molecular modeling studies, which suggested putative interaction sites for dendrimer on HIV env. Using surface plasmon resonance (SPR) and small angle x-

THEME B ORAL POSTER SESSION:

MODERN MANAGEMENT OF HIV

10.30AM - 11.50AM

PAPER NUMBER: 967

INVESTIGATION OF CELLULAR MARKERS LINKING ABACAVIR AND CARDIOVASCULAR EVENTS. GENE EXPRESSION PROFILES IN STEAL PARTICIPANTS

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¹Department of Infectious Diseases, Monash University, Infectious Diseases Unit, Alfred Hosptial, ²Westmead Millenium Institute, ³Baker IDI, ⁴ Centre for virology Burnet Institute

Introduction: The use of abacavir in antiretroviral therapy has been limited by hypersensitivity reactions in those with HLA-B*5701 and by findings of an increased risk of cardiovascular events in several studies including STEAL (Martin et al PID 2009) where abacavir increased cardiovascular risk (HR 7.7) but was not associated with changes in serum biomarkers for cardiovascular risk. We therefore examined PBMC subpopulations from a subset of STEAL participants switching to abacavir to determine if the use of abacavir was associated with a change in cellular markers including gene expression known to be associated with cardiovascular risk.

Methods: STEAL was a prospective study of randomized NRTI switch in virally suppressed patients (n=357). Of these, 178 switched to TDF-FTC and 179 switched to ABC-3TC. Cyopreserved PBMC collected at baseline and at 24 weeks were obtained from 15 of the patients initiating ABC. Cells were sorted by flow cytometry into populations of CD14+ monocytes, CD3+CD2+T cells, CD2+CD3-NK/CD19+B cells and a DC enriched populations (CD2-,3-,19-,14-, DR+). RNA was extracted from each population amplified and gene expression assessed using Illumina HT12 human gene array for the monocyte and B/NK cell populations.

Results: No significant changes could be demonstrated between week 0 and week 24 in either population. Analysis of the PBMC by flow cytometry showed no significant differences in expression of the platelet marker CD41a on monocytes, lymphocytes or platelets, and no differences in numbers of endothelial presursors expressing CD133 or VGEFR. Proportion of lymphocytes and myeloid subpopulations were similar at the two time points.

Conclusion: These results are consistent with previous studies of serum biomarkers in these participants and suggest there are no specific cellular biomarkers in cellular innate immune system that are differentially activated during abacavir therapy.

Disclosure of Interest Statement: No disclosure of interest.

AN AUDIT OF CARDIOVASCULAR RISK AS PREDICTED BY HIV SPECIFIC AND NON-SPECIFIC RISK EQUATIONS IN HIV INFECTED MEN

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Background: With increased awareness of cardiovascular disease (CVD) for people living with HIV, there has been an increased focus on CVD prevention. Two methods of CVD risk assessment were compared in 2 cohort studies in a tertiary HIV clinic setting.

Methods: The Framingham (FRS) and the HIV specific D:A:D CVD risk scores were calculated for two cohorts of patients examined in the same clinic at two time points: 1998 and 2010, and the CVD risk scores for the 1998 cohort were compared with observed CVD events during 5 and 10 year follow-up.

Results: For the 1998 cohort of 113 HIV positive men, the median (IQR) 5 year CVD risk was 3.4% (1.5-5.9) using the Framingham equation and 1.9% (1.2-3.5) using the D:A:D score. The median (IQR) 10 year FRS of 8.2% (4.5-13.0) would have predicted 9.3 cardiac events in the 113 person cohort in the following 10 years. The 5 year FRS would have predicted 3.8 cardiac events and D:A:D score 2.2 events in the following 5 years. During 5 years follow-up of the 113 person cohort, 3 CVD events occurred and over 10 years, 13 events occurred. In the 2010 cohort, (n=100) there was only a slight trend towards higher CVD risk scores compared with 1998: median (IQR) 5 and 10 year FRS was 6.1% (3-9.7) and 9.9% (5.7-9.9) respectively and D:A:D score was 4.3% (2.4-8.3) despite being a significantly older population (1998 mean age 42.1±8.8 vs 2010: 51.8±8.7 p-value <0.0001). This stable CVD risk in setting of older age, was largely driven by reduction in smoking and better lipid control.

Conclusion: 10 year FRS under-predicted clinical events, while the 5 year FRS and D:A:D scores provided more accurate prediction of clinical events. Despite an ageing HIV population, CVD risk scores are relatively stable in this cohort of men.

Disclosure of Interest Statement: Funding was provided by Gilead Science: J Price has previously received funding from Bristol Myers Squibb.

COMPLEMENTARY MEDICINES USE IN HIV POSITIVE PEOPLE: A NATIONAL SURVEY

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Background: Complementary medicine (CM) use by HIV-positive people in Australia has not been studied in the last decade, since the introduction of newer combination antiretroviral therapy (cART) regimens. The primary aim of this study is to identify patterns of CM use by HIV-positive people taking cART. Secondary aims are to identify information sources, reasons for use and prevalence of adverse reactions to CMs.

Methods: Over 1000 HIV-positive people attending one of 9 participating hospital or sexual health centre sites around Australia are recruited by pharmacists to complete a survey designed to meet the aims of the study.

Results: Provisional results from 545 people (91% response rate) attending sites in Victoria and NSW reveal that 54% have used CM products in the last 12 months. Among these, multivitamins (71%), fish oils (54%), vitamins D and C (38%, 26%), green tea (24%), vitamin B group (24%), protein and probiotic supplements (23%, 22%) are most popular. Most (79%) take these daily and 60% feel they are effective or effective enough.

Most people (78%) have told their doctor about CM use; 38% have told their pharmacist. Medical doctors are the most common information source (54%), followed by the internet, friends, and pharmacists (34%, 23%, 21%). Reasons for use include: to improve general health (62%), improve immune function (54%), increase energy (48%), reduce stress (23%), increase strength (20%), and address cART side effects (20%).

Of those using CM products, 9% suspect they have experienced a side effect to a CM product (n=28), most classifying this reaction as mild (56%;n=14) or moderate (40%;n=10).

Conclusion: Provisional results indicate that CM use is popular amongst this group. Usage patterns and reasons for use differ slightly from those of the general population. Final conclusions will be available when data collection is complete.

Disclosure of Interest Statement: Nothing to declare

HIV TREATMENTS UPTAKE AMONG PEOPLE LIVING WITH HIV IN AUSTRALIA: HEALTH PROMOTION AND POLICY RESPONSES TO REDUCE BARRIERS TO TREATMENTS UPTAKE

Keen P1, Watson, J1

¹ National Association of People Living with HIV/AIDS.

Introduction: Since 2006, the median CD4+ cell count at HIV diagnosis has been sitting at around 400 (cells/µl) or higher. Data from the Australian HIV Observational Database for the same period shows that the median CD4+ cell count at treatment initiation was just 294 (cells/µl). This suggests that many people living with HIV (PLHIV) are delaying treatment initiation beyond the point strongly recommended by current guidelines. Additionally, there are thousands of PLHIV who have not taken up or have discontinued treatment. Estimates vary, but between 20% and 48% of Australian PLHIV are currently not treating. Studies among PLHIV and prescribers have documented various psychological and structural barriers to treatment.

Methods: Data on the proportion of Australian PLHIV on HIV treatments, and the relationship between CD4+ count and HIV treatment decisions were compared with antiretroviral treatment guidelines. Data on psychological barriers to HIV treatments among PLHIV and HIV s100 prescribers were reviewed. Structural barriers such as s100 drug dispensing arrangements and the impact of cost barriers on treatments adherence were also reviewed.

Results: Data gathered from PLHIV and HIV s100 prescribers on attitudes towards HIV treatment have identified various psychological and structural barriers to treatment uptake. There are indications that many PLHIV may not be aware of new scientific understandings regarding the benefits of early initiation and/or improvements in therapy. NAPWA's 'Start the Conversation' campaign aimed to improve treatment uptake by encouraging PLHIV to talk to their doctors about the benefits of HIV treatments for themselves and their partners.

Conclusion: Further social marketing initiatives to address psychological barriers among PLHIV and doctors to uptake of HIV treatments are needed, along with advocacy for policy changes to reduce structural barriers to HIV treatments access.

Disclosure of Interest Statement: The National Association of People Living with HIV/AIDS (NAPWA) receives funding from the Australian Government Department of Health and Ageing. NAPWA received an unrestricted education grant from Gilead Sciences, which was used to develop an HIV treatments campaign for PLHIV.

INCLUDING SYPHILIS TESTING AS PART OF STANDARD HIV MANAGEMENT CHECKS IN PRIMARY CARE CAN INCREASE SYPHILIS TESTING RATES AMONG GAY MEN LIVING WITH HIV IN SYDNEY, AUSTRALIA

Callander, D1, Baker, D2, Chen, M34, Guy, R1,

¹The Kirby Institute of Infection and Immunity in Society, University of New South Wales ²East Sydney Doctors ³Melbourne School of Population Health, University of Melbourne ⁴Melbourne Sexual Health Centre, The Alfred Hospital

Introduction: Since early 2000, the number of reported syphilis diagnoses in Australia has increased steadily each year, with more than 90% in gay men and half of these among men with HIV. In response, during 2006 a large urban primary health care clinic in Sydney introduced syphilis testing during routine HIV monitoring checks to increase testing in this population. We evaluated the impact and sustainability of this strategy.

Methods: A before-and-after evaluation was conducted using retrospective laboratory data for the period of 2005 to 2010. We calculated the mean syphilis tests per man per year, the proportion having none, those with 3 or more syphilis tests per year, and the proportion of HIV viral load tests with a syphilis test occurring on the same day. Using Chi-square or rank sum tests we compared these outcomes in the 12-month period before (2005) and after (2007) the intervention. To gauge sustainability we also compared 2007 to subsequent years. Only men having 1 or more viral load test were included in these analyses.

Results: The mean number of syphilis tests annually per person increased from 1.14 in 2005 to 2.32 in 2007 (p<0.01). Same-day syphilis testing increased from 50% in 2005 to 88% in 2007 (p<0.01). The proportion of men having 3 or more syphilis tests per year increased from 10% in 2005, to 41% in 2007 (p<0.01). The proportion having no syphilis tests per year decreased from 28% in 2005, to 3% in 2007 (p<0.01). There was no significant change in these four outcomes in the following years (2008 – 2010).

Conclusion: This evaluation demonstrates that a simple intervention successfully increased and sustained syphilis screening uptake and frequency in HIV-positive gay men. These findings position this strategy as a valuable tool for any clinical practice seeing gay men with HIV.

Disclosure of Interest Statement: No disclosure of interest

PROVIRAL DNA TESTING OF HIV TROPISM IN THE MARAVIROC SWITCH COLLABORATIVE STUDY (MARCH) - RESULTS OF THE QULAITY ASSURANCE/QUALITY CONTROL (QA/QC) PROGRAMME

<u>Tu E¹</u>, Swenson L², Land S³, Kelleher A^{1,4}, Kaye S⁵, Kaiser R⁶, Pett SL^{1,4}, Silk D¹, Berthon-Jones N¹, Emery S¹, Harrigan PR² for the MARCH Study Laboratory Group.

¹The Kirby Institute, University of New South Wales, Sydney, NSW, Australia; ²BC Centre for Excellence in HIV/AIDS, Vancouver, British Colombia, Canada; ³NRL, Fitzroy, Victoria, Australia; ⁴Centre for Applied Medical Research (AMR), St Vincent's Hospital, Sydney, NSW, Australia; ³Imperial College London, Norfolk Place, London, United Kingdom; ⁴Institut für Virologie, der Universität zu Köln, Cologne, Germany.

Introduction: MARCH is a maraviroc switch study in virologically suppressed subjects on stable PI-based therapy. HIV-1 tropism is determined using population-based sequencing of proviral-DNA in aviremic patients. Before initiating the clinical trial, we wished to compare test results from multiple labs using actual clinical samples and implement a proviral-DNA tropism QA/QC programme to ensure competency in multiple MARCH laboratories.

Methods: MARCH QA/QC has three pre-study Phases assessing V3-loop sequencing and tropism determination via geno2pheno algorithm. FPR-threshold, originally 20%, was lowered to 10% (Phase 2/3) after re-analysis of Phase 2 results and emergent data favouring FPR 10%. Phase 1: interpretation of 10 chromatograms; "pass" was 100% concordance with reference laboratory. Phase 2: 20 DNA samples from HIV-positive volunteers (VL<50cp/mL (n=18); 10/15 X4-tropic on phenotypic testing). All samples were sequenced in triplicate; and the lowest FPR of any replicate determined overall tropism. Phase 2/3: two clonal and 10 Phase 2 samples. Laboratories (n=13) passed if ≤2 R5 and ≤1 X4 were miscalled vs. consensus.

Results: All 13 laboratories met 100% acceptable performance in Phase 1. For several samples, Phase 2 triplicate testing revealed marked DNA variability (FPR range 0-96.7%). Therefore the tropism result for each volunteer was determined by a consensus approach i.e. the lowest FPR reported by each laboratory for that sample was used to generate a median FPR. Of the 13 laboratories, 7 passed Phase 2 and 6 miscalled X4/R5 samples. For Phase 2/3, 8/13 laboratories passed and 5/13 laboratories required further investigation.

Conclusion: Use of samples from volunteers who for the most part matched participants likely to enroll in MARCH, revealed high variability of proviral-DNA for tropism determination. This variability would have been missed had a single or duplicate sequencing approach been used and highlights the importance of intensive QA/QC of tropism labs before embarking on clinical studies.

Disclosure of Interest Statement: Funding for the MARCH study received from Pfizer/ViiV Healthcare. Three members of the MARCH study protocol steering committee are employees of either Pfizer or ViiV Healthcare, Simon Portsmouth, Fraser Drummond, Fric LeFevre.

ASSESSING SITE PERFORMANCE IN ENCORE1 STUDY, A MULTINATIONAL CLINICAL TRIAL

<u>Dazo C</u>¹, Puls RL¹, Carey D¹, Donaldson A¹, Lin E¹, Taylor J¹, Pussadee K², Delfino M³, Abela C³, Peeraporn K², Clarke A², Losso M³, Emery S¹ for the Encore 1 Study Group.

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Introduction: The quality of clinical trial data is often determined by study design and setup. Poor site selection and delayed start-up can result in suboptimal data quality, resulting in reduced efficiency and effectiveness of clinical trials. Reviewing site performance and setting standards can facilitate better management and identify areas for improvement. We investigated site performance in the initiation phase of Encore1, a large international multicentre, randomized, double-blind, placebo-controlled clinical trial that randomized 636 patients at 38 clinical sites across 13 countries in Australia, Africa, Asia, Europe and Latin America.

Methods: Using a descriptive analysis, we examined time from protocol release to ethics and regulatory submission, approval and first participant recruitment. Randomization timelines and recruitment were also examined. Data are presented by region.

Results: The overall median was 166 (range, 23-324) and 282 (87-461) days from final protocol release to ethics and regulatory approval respectively. Within regions, time to approval ranged from 43 (23-115) days in Africa to 391 (358-461) days in Latin America. Time from protocol release to first randomization ranged from a median 310 (303-448) in Australia to 482 (475-503) days in Latin America. The overall median timeframe was 7 (0-144) days from site opening to first participant recruited and ranged from 3 (2-18) to 18 (1-93) days in African and European sites respectively. The actual number of patients recruited was lower than pre-study estimates in Australia (44.7%) and Latin America (16.0%), with higher recruitment than estimated in Europe (115%), Asia (120%) and Africa (185%).

Conclusion: Lower than expected recruitment in Latin America was due to delayed approvals resulting in patients reallocated to African sites. Recruitment in Israel was greater than expected, enhancing European totals. Measuring site set-up parameters and recruitment performance allows the study teams develop an overall appreciation of regional performance and assist in planning future studies to make more efficient use of available resources.

Disclosure of Interest Statement: The Kirby Institute is funded by the Australian Government Department of Health and Ageing. Encore1 funding agency: Bill & Melinda Gates Foundation, PO Box 23350, Seattle, Washington 98102, USA

HIV SHARED CARE – WHO CARES?

1.00PM - 1.45PM

ASHM NSW SPONSORED SATELLITE SESSION

Life expectancy and quality of life for most people living with HIV / AIDS (PLWHA) are approaching those of the general community. But there remain barriers to improving outcomes for our patients particularly around the burden of chronic disease.

About half of all HIV patient management occurs in general practice (GP) settings. However, most PLWHAs will see a number of health care providers including GPs, immunologists, infectious disease specialists and sexual health doctors. Traditionally information is exchanged by referral letters but this may not result in the best health outcomes.

Shared care has been defined as the joint participation of primary care physicians and specialty care physicians in the planned delivery of care informed by an adequate education program and information exchange over and above routine referral notices . This symposium is a snap shot of some of some of the exciting developments in shared care around Australia. We hope that by attending these short presentations and the panel discussion that you can contribute to the debate around improving patient care.

MASTERCLASS: IMMUNOLOGY SCIENCE

THE ANTIBODY RESPONSE TO HIV INFECTION

Zaunders J

CD4 T cells are classically defined as helper T cells. This is a historical nomenclature, based on the original finding that T cells, later shown to be CD4 T cells, helped B cells to make antibodies. The diagnosis of HIV infection depends on the patient making antibodies to HIV, but these antibodies are not effective in controlling HIV infection. It is believed that lack of control occurs because the antibodies are unable to neutralize the virus from entering new CD4 target cells. More recently, a specialized subset of CD4 T cells, termed T follicular helper cells, were found in lymph nodes that mediate help for B cells. These follicular helper cells are now the subject of intense study. A better understanding of how they can help B cells to make neutralizing antibodies will be essential to developing a vaccine to HIV.

THE EFFECTOR IMMUNE RESPONSE TO VIRAL INFECTION

Fernandez S

This presentation will focus on the immune cells responsible for 3 key effector responses that are active over the time course of a viral infection; plasmacytoid dendritic cells, natural killer cells and cytotoxic T lymphocytes. Participants in this session will gain an understanding of the mechanisms of action of these responses and areas of application in current HIV clinical research. Specific questions will include;

How do these effector cells recognise virally infected target cells?

What are the mechanisms by which these effector cells inhibit viral replication or kill virally infected cells?

How does a virus (such as HIV) subvert the immune response?

CURE SYMPOSIUM

2.00PM - 3.30PM

PAPER NUMBER: 1208

SELECTING POTENTIAL HIV ERADICATION AGENTS FOR CLINICAL TESTING

Romas Gelezunias

CLINICAL TRIALS FOR HIV CURE: WHAT'S BEING DONE AND WHAT CHALLENGES LIE AHEAD

Lewin SR1,2,3

- ¹ Infectious Diseases Unit, Alfred Hospital
- ² Department of Medicine, Monash University
- ³ Centre for Virology, Burnet Institute

Achieving either a functional cure (long-term control of HIV in the absence of cART) or a sterilizing cure (elimination of all HIV-infected cells) remains a major scientific challenge. Several studies have now demonstrated that treatment intensification with additional antiretrovirals (ARVs) appears to have little impact on latent reservoirs.

One potential approach to eliminate latently infected cells is to promote viral production in these cells. If this is done in a patient cART, subsequent rounds of viral replication will be inhibited and the infected cell will die. Multiple compounds including histone deacetylase inhibitors and methylation inhibitors; cytokines such as IL-7; or other activating agents including prostratin, disulfiram and anti-PD-1, show promising results in reversing latency in vitro when used either alone or in combination. It remains unclear if activating virus production from a latently infected cells leads to cell death and additional strategies, such as vaccination, may still be needed to eliminate infected cells.

A recent clinical trial of the HDACi vorinostat (n=8) demonstrated an increase in cell associated HIV RNA in resting CD4+T-cells after a single dose of drug which is the first demonstration that latency can be perturbed in vivo. We are currently completing a study of 14 days of vorinostat (n=20) in patients on suppressive cART. Overall the drug was well tolerated and all patients have completed 14 days of drug. An increase in cell associated HIV RNA in CD4+T-cells has also been observed in some patients.

Other approaches currently being investigated include therapeutic vaccination, strategies to reduce immune activation and gene therapy of CD4+T-cells or stem cells to reduce expression of the HIV co-receptor CCR5 and/or silence HIV transcription.

Unique issues related to HIV studies such as study design, timing of sampling, study endpoints, virological assays and community involvement will be discussed.

ASSESSING HIV PERSISTENCE: A VITAL STEP FOR HIV ERADICATION

Sarah Palmer¹

'Swedish Institute for Communicable Disease Control and Karolinska Institutet, Stockholm, Sweden. Email of presenting author: sarah.palmer@smi.se

Background: With promising developments for the possible eradication of HIV, it will be crucial to have assays in place which can monitor and determine the effectiveness of such treatments. In particular, such assays will need to either determine the complete elimination of HIV or the existence of only replication-incompetent viral remnants.

Methods: Currently there are a number of sensitive assays available to researchers and clinicians which measure and assess HIV RNA and DNA across a range of tissues and cells, some of which have been used to determine the presence of persistent HIV in individuals undergoing curative strategies such as the Berlin patient.

Results: Application of these assays on samples from the Berlin patient revealed mixed results. Some detected viral RNA in the plasma and viral DNA in a small number of cells isolated from the gut. Assays analyzing the cerebral spinal fluid did not detect HIV RNA or DNA. In addition, no replication-competent virus was propagated from any of the cells drawn from this patient.

Conclusion: In spite of comprehensive use of sensitive assays, it remains difficult to definitively determine the eradication of HIV. However, a question arises as to whether a cure requires the total absence of HIV RNA and DNA. If not, more sensitive assays will be needed to differentiate between replication competent and non-replicating virus. Looking ahead, to determine the effectiveness of curative strategies, our field will need to develop a more standardized assay system which is sensitive, efficient, less costly, and adoptable in local settings.

Disclosure of Interest Statement: No pharmaceutical grants were received in the development of this study.

ETHICS AND ISSUES IN CURE RESEARCH – AN HIV POSITIVE PERSPECTIVE

Bill Whittaker¹

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THEME B SYMPOSIUM: LIVING LONG TERM WITH HIV – A CRITICAL LOOK AT THE EVIDENCE REGARDING

PATHOGENESIS, CLINICAL FEATURES AND MANAGEMENT

2.00pm - 3.30pm

The aim of this symposium is to look at the evidence regarding pathogenesis, clinical features and management of renal, bone, cardiac and neurological non-AIDS comorbidities in virologically suppressed HIV+ populations living long-term with HIV. Further, the symposium will review the conceptual understanding necessary to determine whether we are witnessing disease acceleration, an increased incidence, or an increased risk of non-AIDS diseases in middle-aged treated HIV+ populations.

THEME C PROFFERED PAPER SESSION: ANTIRETROVIRAL-

BASED PREVENTION

2.00PM - 3.30PM

PAPER NUMBER: 576

THE EMERGING USE OF HIV ANTIRETROVIRAL MEDICATIONS AS PRE-EXPOSURE PROPHYLAXIS OF HIV (PREP) AMONG GAY MEN IN AUSTRALIA

Zablotska I1, Prestage G1, Grulich A.1, Mao L.2, de Wit J2, Holt M2

¹ The Kirby Institute, University of New South Wales ² National Centre in HIV Social Research, University of New South Wales

Background: In the year following the iPrEx trial results we assessed the emerging informal use of antiretroviral drugs (ARVs) as HIV pre-exposure prophylaxis (PrEP) among gay men in Australia.

Methods: Using 2011 data from Gay Community Periodic Surveys, we assessed the use of ARVs as PrEP in the six months prior to survey and the association of PrEP use with sociodemographic factors, sexual practices and drug use. Associations were estimated using multivariate logistic regression.

Results: Out of 3,677 sexually active, not HIV positive men, 2.5% reported taking ARVs before unprotected sex in the six months before survey. PrEP use did not significantly differ across Australian jurisdictions but appeared higher in Queensland, and among men of non-European and Australian Indigenous backgrounds. The likelihood of PrEP use was significantly increased if the following behaviour was also reported: more than one sex partner within six months; unprotected anal intercourse with casual and regular partners (UAIC and UAIR) (Adj,OR=2.36; 95%Ci: 1.24-4.48); UAIC only (Adj. OR=2.71; 95%Ci: 1.44-5.07); injecting drugs at least monthly (Adj,OR=2.56; 95%Cl: 1.03-6.36); using 'party' drugs, either occasionally (Adj,OR=2.23; 95%Cl: 1.33-3.73) or regularly (Adj,OR=5.34; 95%Cl: 2.99-9.56), and group sex while using party drugs, occasionally (Adj,OR=2.42; 95%Cl: 1.29-4.53) or regularly (Adj,OR=5.31; 95%Cl: 2.62-10.76). Among men in regular relationships, PrEP use depended on HIV serostatus of the partner – negative, positive or unknown (1.9%, 1.7% and 4.7%, respectively).

Conclusion: Our findings illustrate sporadic use of PrEP, particularly by men who report UAIC and use drugs for sex. The contexts of this informal PrEP use are poorly understood, but indicate attempts to reduce HIV risk during potentially high-risk practices. However, such use of ARVs may be ineffective. We therefore recommend the development of prescribing guidelines, training of health practitioners and community education to provide an alternative to the non-prescribed use of ARVs for HIV prevention.

Disclosure statement: The Kirby Institute and The National Centre in HIV Social Research receive funding from the Australian Government Department of Health and Ageing. The Gay Community Periodic Surveys are funded by state and territory health departments.

IMPACT OF TREATMENT BASED HIV INTERVENTIONS IN NSW

Gray RT, Wilson D F

The Kirby institute, Faculty of Medicine, The University of New South Wales, Australia

Introduction: The recent success of trials of biomedical interventions based on the use of anti-retroviral therapies (ART) has led to rapid changes and developments in public health policy. This has led to mid-term revisions of Australia's national HIV strategy with state based strategies also being revised.

Methods: We used a previously developed model to investigate the impact of treatment based interventions on the HIV epidemic in NSW. This model was specifically designed to reflect the demographic, behavioural and clinical characteristics of gay men in NSW and accurately reflect HIV epidemiology. We adapted the model to specifically assess the impact of interventions focused on men at risk of HIV or those with acute HIV involving increases in testing, the early initiation of treatment, and using ART as pre-exposure prophylaxis (PrEP).

Results: Substantial reductions in infections can be obtained even if only a small proportion of men are prioritized. Focusing testing and early treatment on men who have over 50 partners every 6 months and those with acute HIV can result in an 11.1% and 9.0% reduction in infections, respectively, over the next 10 years. If the proportion of all HIV positive men on ART increases by 10% or if a large proportion of at-risk HIV-negative men take PrEP with high adherence then large reductions in infections can occur.

Conclusion: The implementation of HIV interventions based on ART can be highly effective when prioritized to men who are at the most risk of transmitting or acquiring HIV. Combining increases in HIV testing, early initiation of treatment and PrEP interventions together can result in large reductions in HIV incidence in NSW Gay men.

WHAT FACTORS ARE ASSOCIATED WITH PLANNED SEX AMONG HIGH-RISK GAY AND BISEXUAL MEN IN AUSTRALIA?

Example: Murphy DAL2, De Wit JBF2, Holt M1, Callander D2, Ellard J2, Rosengarten M3, Kippax SC4

¹ National Centre in HIV Social Research, The University of New South Wales, ² Australian Federation of AIDS Organisations, ³ Goldsmiths, University of London, ⁴ Social Policy Research Centre, The University of New South Wales

Introduction: Daily pre-exposure prophylaxis (PrEP) is efficacious in preventing HIV acquisition. Current studies are examining whether protection can also be achieved through intermittent and event-based dosing. We sought to determine whether event-based PrEP is feasible by ascertaining whether anal sex is planned in advance among high-risk HIV-negative gay and bisexual men.

Methods:Data was collected via an online self-complete questionnaire in April/May 2011. Participants reported on anal sex in the previous seven days, and on days that anal sex occurred whether it had been planned 24 hours in advance. This analysis includes 422 HIV-negative men who had any unprotected anal sex with potentially discordant partners. The mean age was 32.5 years; 83.2% reported sex with regular partners and 87.2% with casual partners in the previous sex months; and 33.4% reported >10 different partners.

Results:Men reported sex on a mean of 1.7 days, and over one-third (39.3%) did not report any anal sex in the previous week. Of the men who reported any anal sex 51.5% had sex on only one or two days. The proportion of sex that was planned was only one-third of all sex in the previous week. Planning did not vary according to day of the week.

More anal sex in previous week associated with: having a current regular partner; and more sex partners in the previous six months. Frequency of sex in previous week was independently associated with planned sex on more days but not associated with total proportion of planned sex. No factors (sociodemographic or attitudinal) were associated with a greater proportion of sex planning among HIV-negative men at higher risk of HIV acquisition.

Conclusion: Event-based PrEP may be feasible only on a minority of occasions if it is required 24 hours prior to sexual exposure.

Disclosure of Interest Statement: No conflict of interest

WHAT DO HIV-POSITIVE AND HIV-NEGATIVE GAY AND BISEXUAL MEN THINK ABOUT PRE-EXPOSURE PROPHYLAXIS AND TREATMENT AS PREVENTION?

Holt M1, Murphy D12, Callander D1, Ellard J1, Rosengarten M3, Kippax S4, De Wit J1

 $^1 \text{National Centre in HIV Social Research, The University of New South Wales,} ^2 \text{Australian Federation of AIDS} \\ \text{Organisations,} ^3 \text{Goldsmiths College, University of London,} ^4 \text{Social Policy Research Centre,} \\ \text{The University of New South Wales} \\ \text{Organisations} ^3 \text{Goldsmiths College,} \\ \text{University of New South Wales} \\ \text{Organisations} ^3 \text{Goldsmiths} \\ \text{Constitution} \\ \text{Organisations} ^3 \text{Goldsmiths} \\ \text{Constitution} \\ \text{Organisations} \\ \text{Organisations}$

Introduction: To assist in prevention planning, we assessed attitudes to HIV pre-exposure prophylaxis (PrEP) and 'treatment as prevention' among HIV-negative and HIV-positive gay and bisexual men. We analysed whether HIV-negative and HIV-positive men had different attitudes to these strategies.

Methods: A national, online survey of Australian gay and bisexual men was conducted in April-May 2011 (part of the PrEPARE Project). The survey assessed attitudes to PrEP, medicine-taking and HIV treatments, as well as demographics, sexual practices, HIV testing and HIV status. Univariate relationships were analysed with t-tests and chi-square tests. Multivariate analysis of variance (MANOVA) was used to identify the independent effects of HIV status on attitudes, controlling for age and condom use.

Results: The sample for this analysis included 919 HIV-negative and 122 HIV-positive men (n=1041). The mean age was 33.3 years (sd=10.8, range 18-69). The majority of the sample was from New South Wales (38.6%), Victoria (26.8%) and Queensland (16.6%). MANOVA identified eight independent attitudinal differences between HIV-negative and HIV-positive men (F[10, 1030]=35.03, p<0.001). HIV-negative men disagreed with the idea that HIV drugs should be restricted to HIV-positive people (HIV-positive men were neutral about this idea). HIV-positive men agreed and HIV-negative men disagreed that taking HIV treatments was straightforward. Both groups were sceptical about whether HIV treatment or an undetectable viral load prevented HIV transmission, but HIV-negative men were particularly sceptical about these ideas.

Conclusion: HIV-negative and HIV-positive men had similar attitudes to PrEP but divergent views about 'treatment as prevention'. Participants were cautious about PrEP but believed it should be made available. Participants understood the benefits of HIV treatment for HIV-positive people, but HIV-negative men believed taking treatments can be difficult. Participants appeared unconvinced about the preventative effects of HIV treatment. Australian gay and bisexual men remain to be convinced that treatment as prevention is effective.

Disclosure of Interest Statement: The National Centre in HIV Social Research and the Australian Federation of AIDS Organisations receive funding from the Australian Government Department of Health and Ageing. The PrEPARE Project was funded by The University of New South Wales.

ARV-BASED PREVENTION: AN ETHICAL ANALYSIS

Haire B1

¹Centre for Values, Ethics and the Law in Medicine, University of Sydney

Introduction: Published data show that new HIV prevention strategies including treatment-as-prevention (TaP) and pre-exposure prophylaxis (PrEP) using oral ARV are highly, but not completely, effective if regimens are taken as directed. Consequently, their implementation may challenge norms around good sexual citizenship that have developed over 30 years of the epidemic. Specific concerns to policy makers, funders and communities are the potential for ARV-based prevention to reframe responsibility, erode beneficial sexual norms and waste resources. This paper explores what rights claims uninfected people can make for access to ARVs for prevention, and whether moral claims justify the provision of ARV therapy to those who do not yet clinically require treatment as a way of reducing HIV transmission risk.

Methods: An analysis was conducted of the two strategies, PrEP and TAP, using the bioethical principles of autonomy and justice, to consider and compare the application of PrEP and TaP strategies in two settings – a resource rich setting with a concentrated epidemic, and a resource-poor setting with a generalised epidemic. The analysis was informed by a review of published literature on the right to health, healthcare rationing, ARV rollout for treatment, and safe sex culture.

Results: Treating the person with HIV rather than the uninfected person better satisfies justice criteria in setting where there are limited opportunities to access care. A strategy that places all the emphasis upon the positive person's adherence however carries a disproportionate burden of responsibility, and therefore does not score well on autonomy criteria. PrEP, particularly for receptive partners who face increased biological vulnerability, better satisfies autonomy criteria.

Conclusion: The use of ARV for prevention is ethically justified, despite imperfect global to drugs for those in clinical need. Determination of which ARV-based strategy is ethically preferable is complex and must take into account both public health and interpersonal considerations.

Disclosure of Interest Statement: No interest to disclose.

THEME D PROFFERED PAPER SESSION: MEN, SEX AND RISKS 2.00PM = 3.30PM

PAPER NUMBER: 601

WHAT HAVE WE LEARNED FROM PASH 3 YEARS ON

Garrett Prestage¹²,

¹Kirby Institute, University of NSW ²Australian Research Centre in Sex Health and Society, La Trobe University

Background: The Pleasure and Sexual Health (PASH) study explored gay men's beliefs about HIV in a context of changing understandings of treatments and risk during 2009. Since then, HIV prevention issues have been rapidly changing.

Methods: PASH was an online survey of 2306 Australian gay men recruited during mid-2009, including free text components.

Results: Beliefs about HIV and risk are highly contextual and dynamic. The emphasis gay men place on pleasure depends on their assessment of relative risk. Concerns about the consequences of infection depend on the perceptions of the effects of treatment on the long-term health of PLHIV, whereas concerns about transmission depend on how much the effects of treatments, and knowledge of serostatus, can affect the likelihood of transmission. Issues of trust – trust in partners, trust in knowledge, trust in medication – are central. But, nonetheless, men whose sexual desires tend to be riskier are more likely to take an 'optimistic' view of the possibilities of transmission for those particular desires, unless they believe the long-term risk is too great.

Conclusion: Rapid changes in HIV prevention will undoubtedly mean gay men will also change their beliefs about relative risk, and consequently will change their behaviours accordingly to maximise their sexual pleasures according to their own desires. The 'prevention revolution' offers a challenge to us: While the public goal of this revolution is to reduce infections, for many men their personal interest will be in the opportunities it presents for maximising their pleasure, even if the risk of infection is increased.

Disclosure of Interest Statement: The Kirby Institute and The Australian Research Centre in Sex, Health and Society (ARCSHS) receive funding from the Australian Government Department of Health and Ageing. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales. ARCSHS is affiliated with La Trobe University. No pharmaceutical grants were received in the development of this study.

'FULL SERVICE':READING MALE SEX WORK INTO GAY MEN'S HEALTH PROMOTION

Ernst G; Schema L, <u>Cox C</u> Sex Workers Outreach Project

Introduction: Male sex workers (MSW) – at least in their commercial incarnation have been absent from the gay men's health promotion frame. Yet sex work represents and can powerfully symbolise the point at which gay men's sexual practice meets unfettered sexual expression, serostatus, bare backing, risk, freedom, whoredom, porn and the market value of mens' sexual services. To some, this is the worst fear posed by the dark torrent of gay male sexual expression realised. To others, it sounds pretty hot. We discuss why male sex work and gay men's health promotion are synergistic and how a closer working relationship has the potential to add value to both.

Methods: We consider how MSW and their organisations address the confluence of epidemiology and unfettered sexual expression and also examine how the primacy of social media in marketing MSW offers untapped potential for exploring more innovative ways of engaging gay men online. Finally, we enter the world of the HIV positive male sex worker, breeding, loads and bareback porn. Or is it?

Results: We offer our findings as an 'in practice' example of work in progress within SWOP to strengthen male sex worker engagement and reinvigorate the connection between SWOPs and ACONs' Gay Men's HIV/Sexual Health Programs.

Conclusion: There are significant HIV health promotion and prevention benefits in transparently positioning the practice of male sex work within the broader sexual cultures of gay men.

Disclosure of Interest Statement: No disclosure of interest

CHARACTERISTICS OF PRISONERS WHO HAD ANAL SEX DURING INCARCERATION AND FACTORS ASSOCIATED WITH CONDOM USE DURING ANAL SEX IN THREE PRISONS IN THAILAND

Poolsawat M¹, Ngamtrairai N², Jantarathaneewat K³, Kongparkpien S², Lertpiriyasuwat C³, Visavakum P¹, Karuchit S¹, Manopaiboon C¹, Prybylski D^{1,4}

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Background: High rates of HIV risk behaviors have been reported in Thailand and worldwide, including unprotected same-sex anal intercourse among men. To address condom use among this population, HIV peer education (PE), HIV counseling and testing (HCT), and free condoms were made available in three Thai prisons starting in 2008 as part of a comprehensive pilot HIV intervention program.

Methods: In 2011, we conducted post-intervention cross-sectional surveys in the three prisons and used random sampling to select 1,559 eligible male prisoners to voluntarily participate in the surveys. Participants were asked to complete questionnaires via hand-held computers. χ^2 analysis and backward stepwise logistic regression analysis were used to examine sociodemographic, knowledge, risk behaviors, and intervention exposure variables associated with condom use among those who reported anal sex.

Results: A total of 1,538 men participated in the survey and 119 (8%) reported they ever had anal sex during incarceration. Compared to participants who did not report anal sex in prison, this group was significantly more likely to perceive condoms as easy to get in prison, and had greater exposure to prison HCT and PE (p<0.05 for all). Among participants reporting anal sex in prison, condom use during last sex was 64% and consistent condom use was 34%. In multivariate analysis, factors associated with condom use at last sex were perceived easy condom access (OR=3.9; 95%Cl:1.4-10.6) and condom use at anal sex before incarceration (OR=3.8. 95%Cl:1.5-11.0).

Conclusion: These results demonstrate that perceived availability of condoms and prior condom use behavior are associated with condom use in prisons during anal sex. However, overall condom use needs to improve; we recommend that condom availability should be promoted more thoroughly and remain an integral part of comprehensive HIV intervention in prisons in Thailand.

MSM SEXUAL VENUES AND HIV RISK

Zhao Rui.¹, Worth H⁴, Zhang Yuping¹, Su Chunyan², Zhang Youchun³, Fu Xiaoxing³, Cui Jia¹, Jing Jun¹
¹Tsinghua University, ² China Youth University for Political Sciences, ³ Renmin University of China, ⁴ University of New South Wales

Background: Alongside political and economic development in China, HIV infection in MSM is currently sharply rising. This paper discusses the connection between the changes of Chinese older gay men's sexual venues in different periods of social context and their increased risk of HIV.

Methods: Oral histories of 31 Chinese gay men from the 1940s until nowadays were undertaken in four Chinese cities. The men were interviewed once or twice in Chinese. They were asked to speak about their intimate lives in their social, economic and political contexts. All these stories were translated into English.

Results: From the 19 40s, sex venues for MSM in China changed from theatres, public toilets, gardens, bathhouses, bars and hotels, to clubhouses and the internet. Gradually, the space where men met for sex transfered from outside to inside and from more public to private environments. While the bathhouses and the public toilets' environment and the secrecy involved could result in HIV infection, the internet has extended what is a traditional Chinese MSM sexual space. However, it too, can facilitate multiple unsafe sexual partnerships which can increase HIV risk.

Conclusion: HIV risk and infection amongst old Chinese gay men must be understood outside the sexual venues historically through the sexual venues they attend. How these change over time, and how risks associated with them change needs to be understood.

Disclosure of Interest Statement: This project was funded by AusAID and the University of New South Wales No pharmaceutical grants were received in the development of this study.

ADDRESSING THE LINK BETWEEN THE SEXUAL RISK BEHAVIOR AND AMPHETAMINE TYPE STIMULANT (ATS) USE AMONG SEX WORKERS IN LAUKKAI AND PHAKANT, MYANMAR

Thaung YM1, Jahncke E2, Aung MT3

¹ Master of Public Health, National University of Singapore, ² Saw Swee Hock School of Public Health, National University of Singapore, ³ Asian Harm Reduction Network, Myanmar

Introduction: Amphetamine type stimulants (ATS) plays a major role in HIV transmission due to abrasions of the genitalia and prone rupture of condom due to the prolonged sexual activity and the dryness of the genitalia as a result of ATS use. A high incidence of ATS use has been noticed among female sex workers (FSWs) and locals in Laukkai, a Myanmar town at the Chinese border and in Phakant, a remote jade mining area in Kachin State, Myanmar.

Methods: We conducted 8 focus group discussions (FGDs) among ATS-using FSWs in Laukkai and Phakant in Myanmar in December 2010.

Results: Participants in this study reported that ATS were important for functioning normally in the context their work. Most participants said that the first time they used ATS was with customers before having sex or with their peers. Nature of work, fear of withdrawal symptoms, easy availability of ATS and ATS-using environment are important barriers to cessation of ATS use among FSWs in Laukkai and Phakant. Participants in this study showed that they were in different stages of readiness to stop using ATS.

Conclusion: FSWs who participated in the FGDs experienced many external and internal factors which made them initiate ATS use as well as prevented them from stopping ATS use. ATS-using men should be included in the intervention program. Vocational training or income-generating programs should be included in the comprehensive harm reduction program. Individual-level interventions should be designed to increase knowledge of the link between HIV and ATS use, strengthen motivation to stop using ATS and to enhance safer sexual practice. To conclude, individual's readiness to stop using ATS should be assessed first and then an intervention should be tailored to the individual, utilizing the stages of change model, to match their needs.

Disclosure of Interest Statement: No disclosure of interest.

THEME B ORAL POSTER SESSION: HIV INFORMATION

IN THE DIGITAL AGE

2.00PM - 3.30PM

PAPER NUMBER: 646

INTRODUCING CONCEPTS OF HIV RISK REDUCTION INTO THE CLINICAL SETTING: TECHNIQUES AND CHALLENGES

Lovell R1, Hague AM1, Moreton R2, Trotter G3, Vaughan M4, Silveira M1, Booker N5, Scott, S1 O'Connor CC6,7,8

¹ HARP Health Promotion Team, Sexual Health Service, Community Health, Sydney Local Health District, ²HIV and Related Programs Unit, Sydney and South Western Sydney Local Health District, ³Immunology Department, RPA Hospital, Sydney Local Health District, ⁴HARP Health Promotion Team, Sexual Health Service, Community Health, Sydney West Sydney Local Health District, ⁵ntbconsulting, ⁶RPA Sexual Health, Sexual Health Service, Community Health, Sydney Local Health District, ⁷The Kirby Institute, University of New South Wales, Sydney, ⁸Central Clinical School, University of Sydney, Sydney, Sydney.

Introduction: Gay men employ a range of HIV risk reduction strategies (HIVRR) including: condom use, negotiated safety, strategic positioning, serosorting and withdrawal. Discussing HIVRR and offering clinical advice is challenging due to a lack of robust evidence, a lack of relevant resources, medico-legal concerns and confounding factors impacting on transmission, including sexually transmissible infections.

Discourse is limited regarding clinicians capacity to address HIVRR within a consult. Whilst some clinicians are prepared to discuss HIVRR with patients, it's not widely reported. The majority of clinicians are under-resourced and unsupported in this area and uncertain regarding the implications of such discussions.

Methods: A capacity building project was initiated aimed at opening a dialogue with clinicians, sharing developments in HIV prevention, indentifying and working through barriers and determining the most appropriate support required in discussing HIVRR with patients.

Project implementation is currently underway and includes a Sydney Local Health District (SLHD) workforce development forum, a review of current practices globally, identifying and addressing structural barriers and resource development.

The project plan preceded development of a discussion paper summarising the challenges for health services in addressing HIVRR.

Results: A workforce development forum was implemented, including presentations of relevant research, exploration of medico-legal issues and a panel discussion analysing current experience with and response to addressing HIVRR. The forum achieved 80% attendance by target audience, 100% of participants rated the forum as achieving intended objectives and key recommendations were established for future work.

Conclusion: For clinicians working with gay men to adequately discuss HIVRR: professionally endorsed practice guidelines must be established, medico-legal concerns addressed, ongoing education provided and evidence based health education resources produced. Incorporating HIV risk reduction discussions into clinical practice will be an important element of HIV combination prevention frameworks. Discussion regarding biomedical HIVRR will be a future focus of this project.

Disclosure of Interest Statement: No disclosure of interest

MEDICAL AND NURSING STUDENTS PERCEIVED LEVEL OF KNOWLEDGE AND ATTITUTES CONCERNING HIV IN FIJI

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²Albion Street Centre/WHO Collaborating Centre for Capacity Building and Health care Worker Training in HIV/AIDS Care, Treatment and Support, Sydney, Australia.

Background: HIV rates in the Pacific Islands have continued to increase which has enhanced the importance of training of medical and nursing students to be knowledgeable and comfortable in providing HIV and sexual health care services to all people affected. This study explored the knowledge, attitudes and beliefs about HIV at nursing and medical schools in Fiji.

Methods: This was a cross sectional study conducted in two nursing (n=252) and one medical (n=276) school in Fiji. Respondents completed a questionnaire on their HIV knowledge, attitudes and practice. The responses were analysed according to their gender, program of study and school year.

Results: Results showed that over 70% of respondents have high levels of HIV knowledge. Female respondents appeared to be more knowledgeable on the subject of preventing HIV during sexual intercourse compared with their male counterparts (p=0.002) and medical students appeared to be more knowledgeable on the same subject compared with their nursing student counterparts (p=0.001). The level of HIV knowledge increased with years of training amongst the students (p<0.0001). The majority of students (77.5%) indicated high levels of fear in contracting HIV through clinical practice. More than half of the students (59.8%) believed that key populations are responsible for the spread of HIV. The majority of respondents indicated positive attitude towards PLHIV and were willing to buy food (79.5%), share food utensils (78.0%), and care for them at work (80.9%) or home (95.8%).

Conclusions: Overall, the study found high levels of knowledge, positive attitudes and beliefs among respondents. The study also found significant differences between gender and program of study. Of concern, is the high proportion of respondents reporting fear of contracting HIV through clinical practice. Further studies are needed to examine how the reported knowledge, attitudes and beliefs translate into clinical practice.

Disclosure of Interest Statement: Nothing to declare.

KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PEOPLE LIVING WITH HIV AND KEY POPULATIONS BY HEALTH CARE WORKERS IN HONIARA, SOLOMON ISLANDS

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¹School of Medicine, CMNHS, Fiji National University, Suva, Fiji.

Background: In the last two years the number of confirmed HIV cases in Solomon Islands had doubled. The level of HIV knowledge, attitude and practices (KAP) have not been assessed among health care workers (HCW). The purpose of the study was to assess the KAP among HCW in Solomon Islands.

Method: The study was a cross sectional survey of 160 HCWs in Honiara, Solomon Islands. A 85-item HCW survey including statements on KAP on HIV transmission, prevention, voluntary counseling and testing; care and treatment was administered

Results: Total HIV knowledge scores were average and low in 36.8% and 41.9% of respondents respectively. Only 21.2% recorded high HIV knowledge score. About 84.0% were afraid of catching HIV at work and 73.0% believed that all HCW should be informed when a patient has HIV so that they can protect themselves. About 47.0% believed that HIV-infected HCW should not work in heath facilities and 18.0% felt pregnant HIV positive women should have an abortion. Nearly 29.0% of HCW believed that HIV and STIs are a punishment for immoral behavior and 40.0% agreed that sex workers are responsible for spreading HIV and STIs. Fear of becoming contaminated (79.6%) and lack of materials to protect themselves (58.9%) were the most common concerns among the HCW when working with PLHIV.

Conclusion: The study found low to moderate levels of HIV knowledge among HCW. HCW also displayed high level of negative attitudes and practices towards PLHIV and high risk populations. Relatively low levels of HIV knowledge may have contributed to negative attitudes and practices. There is an urgent need for further education and training in HIV with more focus on all clinical aspect of HIV care including occupational risk, stigma associated with HIV and fear of treating and caring for PLHIV and key affected populations.

Disclosure of Interest Statement: Nothing to declare.

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CHALLENGES FOR INDONESIAN PWID WHO RECEIVE HARM REDUCTION PROGRAMS ACCESSING VCT AND ART

Soehoed R, Blogg S

HIV Cooperation Program for Indonesia

Background: The Indonesian Ministry of Health reported in 2011 that there were 21,031 HIV cases detected in VCT clinics with 49.5% infected through heterosexual sex, 15.3% people who injected drugs (PWID), and 4.8% men who have sex with men. However, there were 24,410 PLHIV receiving antiretroviral treatment (ART) in 2011. The 2012 annual behavior survey conducted among PWID who access harm reduction (HR) services in Java and Bali funded by the HIV Cooperation Program for Indonesia (HCPI) included questions about HIV status and ARV access.

Method: Over a three week period in April 2012, all PWID attending services in 7 provinces supported by HCPI at community health centers (CHC), hospitals and NGOs were invited to complete a self-administered questionnaire.

Result: A total of 3,401 out of 4,554 (75%) participants reported having had an HIV test with 69% receiving results. Of the 3,147 who knew their HIV status, 51% were HIV positive with 59% of those receiving ART, ranging from 50% in Jakarta to 80% in Bali. Reasons given for not receiving ART included: not eligible to receive ART (45%); eligible but not ready to start ART (31%); and don't know if eligible (17%).

Conclusion: Clients of services who know they are HIV positive need to be encouraged to start accessing ART given the better outcomes achieved by earlier treatment. A range of approaches have been used to strengthen ARV services across Indonesia. HR service providers (CHC, hospital, NGOs) should strengthen information provision and referrals for HIV testing and CST.

MEETING THE DEMAND FOR ACCESS: PROVISION OF HIV RESULTS VIA PHONE FOR LOW RISK CLIENTS - EVALUATION OF POLICY CHANGE AT A BUSY METROPOLITAN CLINIC

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Background: In 2010, Sydney Sexual Health Centre changed their HIV result provision policy from all clients receiving their HIV result in person to low-risk heterosexuals receiving their HIV result via phone. We assessed the impact of this change on the clinic and phone line.

Methods: We conducted a before and after evaluation. The intervention period related to the first 12 months after the policy change (Jan-Dec 2010). The before period was 12 months from Oct 2008-Sep 2009. In the intervention period, a second phone line nurse was allocated to assist with identified peak call times. During both periods, we calculated the number of clients attending, number of result calls made, number of consultations for results, and percentage of results calls abandoned. In the intervention period, we also calculated the uptake of receiving results by phone among low-risk heterosexuals.

Results: Overall there were 6,209 result calls received in the intervention period, 34% more than 4,629 calls received in the before period. The proportion of result calls abandoned declined; 7.1% in the before period compared with 4.8% in the intervention period (p<0.01). Wait time on the phone line was unchanged. In the intervention period, the uptake of receiving results by phone was 54% among the 1286 low-risk heterosexuals who received their HIV results. There were 530 more result calls and 467 fewer result consultations among low-risk heterosexuals in the intervention period, compared with the before period. Overall, 16,446 clients attended the clinic in the intervention period, 1.8% more than the 16,161 in the before period.

Conclusions: Our evaluation has demonstrated that the change in policy lead to more than half of the low-risk heterosexuals receiving their HIV test results by phone, rather than in clinic. This change has not impacted on the phone line and has opened up opportunities for more clients to be seen.

Disclosure of Interest Statement: Sydney Sexual Health Centre comes under the auspice of Sydney Hospital and Sydney Eye Hospital and is funded by NSW Ministry of Health. No grants were received in the development of this study.

HIV INFORMATION FOR AGED CARE FACILITIES

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In 2011 there were 21, 391 people in Australia living with HIV infection. As the HIV epidemic evolves, HIV positive individuals are ageing and many are being admitted to aged care facilities. In 2008 after consultation and completion of a needs assessment with several key aged care facilities across Sydney, a standard guideline for educational sessions was developed by HIV Specialist nurses based in Sydney, as they provided education to these institutions. A resource "HIV Information for residential and Aged care Facilities" was developed to be distributed after an educational session had been completed at the aged care facility. The staff of facilities also requested that a poster be made for them to put on notice boards.

The needs analysis of 106 responses from several aged care facilities noted poor or dated knowledge pertaining to general HIV information, transmission, confidentiality and the legislation attached to it, managing exposures etc. Although infection control is mandatory in this setting 40% of responses were concerned about having to take extra precautions with HIV + residents. Issues identified included: using Personal Protective Equipment (PPE) at all times; during personal contact, coughing and to use gloves with soiled linen.

Key information from the resource was identified and made into an A3 double sided poster. This presentation will discuss challenges to the development of the poster, distribution strategies and the information covered on the poster: What are HIV and AIDS; Transmission: facts and myths; HIV confidentiality, HIV medications and management (including adherence and access to \$100 drugs); infection control and standard precautions; managing needlestick injuries and occupational exposures.

Disclosure of Interest Statement: In 2009 a Grant from Merck Sharp and Dohme for printing of educational booklet HIV Information for Residential and Aged care Facilities from which information has been transcribed to A3 resource.

HIVQUAL PNG QUALITY HIV SERVICE DELIVERY INITIATIVE IMPLEMENTATED AT TININGA PAEDIATRIC HIV CLINIC, MT HAGEN GENERAL HOSPITAL, PNG

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Background: Paediatric HIVQUAL-PNG (PaedHIVQUAL-PNG) is a HIV/AIDS care and treatment quality improvement (QI) initiative designed to build capacity for performance measurement and QI in PNG pediatric HIV care clinics. We described our experience in paedHIVQUAL-PNG implementation.

Method: A biannual random sample of patient records from pediatric HIV clinic at Tininga HIV care and treatment centre was selected for chart reviews. From July 2009 to June 2011, four biannual reviews were conducted. Eligible criteria were HIV-infected children aged <15 years attending clinic once during the six months review period. The proportion of eligible patients receiving indicated services was calculated. Data were used to identify priority areas for QI activities designed by clinic teams. The paedHIVQUAL-PNG indicators include continuity of care (COC), monitoring HIV status (CD4), TB preventive therapy, TB screening/investigation, cotrimoxazole prophylaxis, ART initiation and ART adherence, growth monitoring, and nutritional status assessment and support. We compared performance indicators between July-December 2009 and January-June 2011.

Results: During July-December 2009 and January-June 2011, 40 and 78 HIV-infected children received care at pediatric HIV clinic in Tininga, respectively. Thirty four and 52 cases, respectively, were selected for chart reviews. Chart reviews, data collections, data entry, and report generated for each review were conducted within 7 days by two part time staff (10% of full time equivalent). Indicators were improved following QI activities; namely COC from 82% to 96%; monitoring CD4 status from 20% to 58%; growth assessment from 61% to 98%; and nutritional status assessment from 36% to 88%. Indicators with high uptake (>90%) which substantial changes during 2009 to 2011 were ART, cotrimoxazole prophylaxis, and clinical TB screening.

Conclusions: PaedHIVQUAL-PNG is a systematic process that promotes data utilization for program improvement at hospital level. Ongoing QI activities are needed to improve coverage of CD4 status monitoring and maintain quality of services.

EFFECTS OF PATIENT TRACING ON ESTIMATES OF LOST TO FOLLOW-UP, MORTALITY AND RETENTION IN ANTIRETROVIRAL THERAPY PROGRAMS IN LOW-MIDDLE INCOME COUNTRIES: A SYSTEMATIC REVIEW

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Background: A large proportion of patients receiving antiretroviral therapy (ART) in low-middle income countries (LMICs) have unknown treatment outcomes and are classified as lost to follow-up (LTFU). Physical tracing of patients classified as LTFU is common; however, effects of tracing on outcomes remains unclear. The objective of this systematic review was to compare estimates of LTFU, mortality and retention in LMIC in cohorts of patients with and without physical tracing.

Methods: We systematically identified studies in LMIC programmatic settings using MEDLINE (2003-2011) and HIV conference abstracts (2009-2011). Studies reporting the proportion LTFU 12-months after ART initiation were included. Tracing activities were determined from manuscripts or by contacting study authors. Studies were classified as "tracing studies" if physical tracing was available for the majority of patients. Summary estimates from the 2 groups of studies (tracing and non-tracing) for LTFU, mortality, retention on ART (patients who transfer out are retained) and retention on ART at the original site (patients who transfer out are not retained) were determined.

Results: 261 papers and 616 abstracts were identified of which 39 studies comprising 54 separate cohorts (n=187,666) met inclusion criteria. Of those, physical tracing was available for 46% of cohorts. Treatment programs with physical tracing activities had lower estimated LTFU (7.6% vs. 15.1%; p<.001), higher estimated mortality (10.5% vs. 6.6%; p=.006), higher retention on ART (80.0 vs. 75.8%; p=.04) and higher retention at the original site (80.0% vs. 72.9%; p=.02).

Conclusions: Knowledge of patient tracing is critical when interpreting program outcomes of LTFU, mortality and retention. The reduction of the proportion LTFU in tracing studies was only partially explained by re-classification of unknown outcomes. These data suggest that tracing may lead to increased re-engagement of patients in care, rather than just improved classification of unknown outcomes.

Disclosure of Interest Statement: No pharmaceutical grants were received in the development of this study.

POSTER LISTING

First Name	Last Name	Speakers Paper Title	Poster Number
THEME A			
HIV Transmi	ssion and Preve	ntion Technologies	
Stuart	Turville	The use of filopodial networks by HIV	220
Damian	Purcell	Phenotyping and immunogenicity of HIV-1 Env from MSM transmission strains	221
Suzanne	English	A qualitative diploid model of HIV-1 multiple- infection and superinfection	222
Stephen	Kent	Critical role for monocytes in mediating HIV-specific antibody-dependent cellular cytotoxicity	223
Shubhanshi	Trivedi	Mucosal uptake mechanisms of recombinant HIV-1 fowl poxvirus vaccines and safety following intranasal delivery	224
Danushka	Wijesundara	Dynamic regulation of IL-4 receptor(IL-4r) following viral infections and modulation of CD8+T cell avidity	225
HIV Dynami	cs during therap	peutic control	
Nisha	Berthon-Jones	Substudies aimed at expanding our understanding of maraviroc (MVC), a host directed therapy for HIV-infection within the Maraviroc Switch Collaborative Study (MARCH)	226
		Withdrawn	227
Federico	Garcia	Bioinformatics analysis and resistance interpretation of ultra deep sequencing of HIV genomes obtained from the 454 gs junior system using deepchek v1.1	228
Lachlan	Gray	Reduced effectiveness of the NRTIs D4T and AZT in Astrocytes: Implications for Neurocart	229
Umi	Intansari	Agreement between single platform, panleucogating, and dual platform lymphogating methods in CD4+ T-lympocytes enumeration	230
HIV Pathoge	enesis and Host	responses	·
Nungki	Anggorowati	GB virus C infection in HIV-positive Patients in Indonesia with and without HCV co-infection	231
Paul	Cameron	Investigation of cellular markers linking Abacavir and cardiovascular events. Gene expression profiles in STEAL participants	232
Sonia	Fernandez	Depletion and activation of CD4+T cells in HIV patients receiving ART is associated with markers of innate immune cell activation	233
Martyn	French	Impairment of the early IgG2 antibody response to pneumococcal polysaccharides in HIV patients is associated with B-cell activation	234
Andrew	Harman	Determining the mechanism by which HIV blocks interferon induction in dendritic cells	235

First Name	Last Name	Speakers Paper Title	Poster Number
Richard	Kangethe	HIV RNA dynamics in plasma and cerebrospinal fluid in HIV patients from Durban South Africa who develop cryptococcosis-associated immune reconstitution inflammatory syndrome (C-IRIS) after initiation of combination antiretroviral therapy (cART)	236
Daniel	Murray	The influence of HIV-1 infection on the miRNA profiles of monocytes	237
Clovis	Palmer	High glycolytic metabolism in CD4+T cells is associated with enhanced susceptibility to HIV-1 infection and apoptosis	238
Patricia	Price	Macrophages, TNF and progressive nerve damage characterize sensory neuropathy in HIV patients	239
Anna	Hearps	HIV prematurely induces age-related changes to monocytes in young HIV+men	240
David	Shasha	Comparable antiviral capacity but favorable exhaustion profile of CD8s from elite controllers compared to untreated progressors	241
HIV Reservo	irs and cure stra	tegies	
Scott	Ledger	Short-hairpin RNA to CCR5 and its' effect on HIV susceptible culture through the use of a lentiviral vector	242
John	Zaunders	Primary HIV-1 infection (PHI) is associated with reduced CD4 counts in terminal ileum biopsies but not other gut biopsy sites	243
HIV and SIV	Replication		
Jonathan	Jacobson	Expression of HIV-1 TAT by an internal ribosome entry mechanism reveals a novel pathway for TAT trans-activation from latent provirus	244
Kylie	Wagstaff	Development of Nuclear import inhibitors as anti-HIV agents	245
Hamid	Salimi	Neurotropic HIV-1 variants have alterations in their Env glycoproteins, which alter the way they engage both CD4 and CCR5	246
Yin	Xu	Characterization of SIV Infection of T follicular helper CD4 cells in lymphoid tissues during pathogenic infection of pigtail macaques	247
Chansavath	Phetsouphanh	Re-characterizing Antigen Specific CD4+T cells using the Ox40/CD25 assay and Single-cell RT-PCR	248
Wendy	Winnall	Characterisation of Simian Immunodeficiency Virus-infected cells in pigtail macaques	249
ТНЕМЕ В			
	Stigma and Discr	imination	
Vicki	Hutton	Subjective Wellbeing and Stigma	250
Paraniala	Lui	Medical and nursing students perceived level of knowledge and attitutes concerning HIV in Fiji	251

First Name	Last Name	Speakers Paper Title	Poster Number
Paraniala	Lui	Knowledge, attitude and practice towards people living with HIV and key populations by health care workers in Honiara, Solomon islands	252
Numa	Vera	Attitudes towards HIV/AIDS among pharmacy students at Fiji National University	253
Olga	Vujovic	Australian interns' knowledge of hepatitis A, B, C and HIV and occupational exposures	254
Louise	Houtzager	Open your mouth: Oral health knowledge, attitude and practices of HIV health professionals in NSW	255
Diagnosis S	TIs		
Putu Ayu Swandewi	Astuti	Diagnosis of Gonorrhea and Suspect Chlamydia at STI clinic in Denpasar, Bali: Syndromic versus Gram Stain	256
Denton	Callander	Including syphilis testing as part of standard HIV management checks in primary care can increase syphilis testing rates among gay men living with HIV in Sydney, Australia	257
Jeffrey	Post	Significance of isolated reactive treponemal chemiluminescence immunoassay results	258
Clinical Rese	arch		
Courtney	Bendall	Benchmarking the ethics and grants management of an observational cohort across multiple states and frameworks	259
Dianne	Carey	Baseline characteristics of participants in Encore1	260
Carlo	Dazo	Assessing clinical trial sample collection in the Altair Study, a multinational clinical trial of initial antiretroviral therapy (ART)	261
Carlo	Dazo	Assessing site performance in Encore1 study, a multinational clinical trial	262
Rebekah	Puls	First use of a generic drug in a large randomized international clinical trial for HIV infection	263
Kanitta	Pussadee	Experience in setting up a Thai Coordinating Centre	264
Bencharat	Thongpunchang	Acceptability of web-based electronic data capture in a multicentre randomized trial in Thailand	265
Testing and	HIV Prevention		
Azizul	Haque Mahee	Introducing concepts of HIV risk reduction into the clinical setting: Techniques and challenges	266
Sangeeta Sharma	Dhaor	Psychosexual concerns of sero-discordant couples: a study of persons living with HIV/AIDS (PLWHA) in Delhi, India	267
Max	Niggl	Evaluating the impact of PLHIV speakers in rural secondary schools and the effect on the students understanding about sexual health: A quantitative and qualitative analysis	268
		WITHDRAWN	

First Name	Last Name	Speakers Paper Title	Poster Number
Ratna	Soehoed	Challenges for Indonesian PWID Who Receive Harm Reduction Programs Accessing VCT and ART	270
Kevin	Miles	HIV test result discordancy in rural Papua New Guinea: a cause for concern?	271
Kevin	Miles	HIV testing uptake in rural Papua New Guinea	272
HIV Diagnos	is		
Maya	Lindsay	Update of the 'GP mentoring at the time of HIV diagnosis' project in NSW	273
Denise	Cummins	HIV information for Aged Care Facilities	274
Treatment u	ptake, adheren	ce, loss to follow-up	
Phillip	Keen	HIV treatments uptake among people living with HIV in Australia: Health promotion and policy responses to reduce barriers to treatments uptake	275
Stephen	Kerr	Supportive relationships with the clinic team empowers Thai people living with HIV to maintain excellent adherence	276
Nick	Medland	A New Adherence Toolkit for the Vietnam Treatment program	277
James	McMahon	Effects of Patient Tracing on Estimates of Lost to Follow-up, Mortality and Retention in Antiretroviral Therapy Programs in Low-Middle Income Countries: A Systematic Review	278
Sri	Purwaningsih	Characteristics of Loss to Follow Up Patients in the Era of HAART: Study at Edelweiss Clinic Dr Sardjito Hospital Yogyakarta	279
HIV testing	and antiretrovir	al drug levels	
Elise	Tu	Proviral DNA testing of HIV tropism in the maraviroc switch collaborative study (March) - Results of the quality assurance/quality control (QA/QC) programme	280
Masaaki	Shibata	Determination of rilpivirine (TMC-278) plasma concentrations by the conventional LC-MS method	281
Masaaki	Shibata	Lack of correlation between UGT1A1*6, *28 genotypes, and plasma raltegravir concentrations in Japanese HIV-1-infected patients	282
Masaaki	Shibata	No change of plasma darunavir concentrations by switching from ritonavir soft capsule to tablet	283
Thinh	Vu	Correlation between two methods for HIV-1 viral load testing	284
Antiretrovir	al treatment an	d resistance	
Mark	Bloch	Analysis of Efficacy by Baseline Viral Load - Phase 3 Study Comparing Elvitegravir/Cobicistat/ Emtricitabine/Tenofovir DF (Quad) versus Ritonavir-boosted Atazanavir plus Emtricitabine/Tenofovir DF in Treatment NaĀ ve HIV-1 Infected Subjects: Week 48 Results	285
Howard	Wraight	SPIRIT: Switching to the emtricitabine/rilpivirine/ tenofovir DF (FTC/RPV/TDF) Single-Table Regimen (STR) from a Boosted PI + 2 NRTI Regimen	286

First Name	Last Name	Speakers Paper Title	Poster Number
Howard	Wraight	Analysis of Efficacy by Baseline HIV RNA - Week 48 Results from a Phase 3 Study of Elvitegravir/ Cobicistat/Emtricitabine/Tenofovir DF (Quad) Compared to Efavirenz/Emtricitabine/Tenofovir DF in Treatment Naïve HIV-1 Infected Subjects	287
Maria	Jiménez Expósito	Long-term gender-based outcomes for atazanavir/ ritonavir (atv/r)-based regimens in HIV-1 positive treatment-experienced patients in a clinical setting	288
Kate	Mackie	Factors associated with off-label unboosted Atazanavir use in HIV infected individuals in a multi-site Melbourne cohort	289
Alison Catherine	Duncan Forrester	Complementary medicines use in HIV positive people: A national survey	290
Duy Quang	Pham	A Review of the Extent of HIV Drug Resistance in Vietnam	291
Amrita	Patel	An audit of HIV treatment response rates in a high caseload practice: The Taylor Square Private Clinic Experience	292
Clinical pres	entations, dia	gnosis and management and outcomes	
Sarah	Garner	The burden of late presentation and admission of HIV positive patients to hospital: a single centre tertiary referral centre review of 59 cases of 11 years	293
David	Griffin	Reviewing the experience of isoniazid prophylactic therapy for treatment of latent tuberculosis infection in HIV-positive patients at a Brisbane sexual health and HIV clinic	294
David	Griffin	Tuberculosis in an HIV positive patient after isoniazid prophylaxis and immune reconstitution with antiretroviral therapy: a case report	295
Susan	Harch	Retrospective study of progression of bone loss in HIV positive patients	296
Robiah Khairani	Hasibuan	Cognitive impairment profile and its risk factors among HIV ARV-naaive patients at HIV service unit, Ccipto Mangunkusumo Hospital, Jakarta, Indonesia	297
Denise	Cummins	It's not the END it's the beginning: assessing Early Neurocognitive Disturbance	298
Stephen	Kerr	Predictors of daily tenofovir exposure in Thai subjects taking combination antiretroviral therapy	299
Karen	Klassen	Determinants of 25-hydroxyvitamin D concentrations in HIV-infected adults in Brisbane	300
Nhiem	Luong	Prevalence of Viral Hepatitis Infection and Immunological Response to Antiretroviral Therapy among Adult HIV Patients in Vietnam	301
Joe	Kumbu	Assessing clinical outcome of Human Immunodeficiency Virus (HIV) exposed children in the anti-retroviral therapy (ART) era in a resource limited setting (RLS)	302
Joe	Levitt	Strategic timing of antiretroviral treatment: The START study	303
Megan	Evans	START: all those substudies	304

First Name	Last Name	Speakers Paper Title	Poster Number
Heather	McNamee	Cardiovascular and renal risk factor audit, Cairns Sexual Health Service	305
Chalandakorn	Ruengprasertkit	Neurocognitive impairment and cerebrospinal fluid HIV-RNA in Thai HIV-infected adults failing non-nucleoside reverse transcriptase inhibitor based antiretroviral therapy	306
Darren	Russell	Prevalence of vitamin D deficiency and insufficiency in HIV positive clients attending Cairns Sexual Health Service	307
Frances	Murphy	Cervical screening outcomes in a cohort of HIV Positive Women	308
Julia	Price	An Audit of Cardiovascular Risk as Predicted by HIV Specific and Non-specific Risk Equations in HIV infected men	309
Janelle	Hall	Social impact of sculptra treatment of HIV haart treatment-induced severe facial lipoatrophy	310
Desta	Kassa Misgina	Long-term outcomes of highly active antiretroviral therapy (HAART) in HIV-1 infected patients with and without tuberculoisis (TB) and latent TB infection (LTBI): an observational cohort study in Addis Ababa, Ethiopia	311
Dinar	Lubis	Factors Associated with Survival among People Taking ART in Amertha Clinic, Denpasar, Bali, 2004-2011	312
Muralidhar	Varma	Clinical outcome of Cryptococcal meningitis in HIV positive patients	313
Service deliv	ery/implement	ation and PLWHIV needs	
Petronia	Kaima	HIVQUAL PNG Quality HIV Service delivery initiative implementated at TININGA Paediatric HIV Clinic, Mt Hagen General Hospital, PNG	314
l Nyoman	Sutarsa	Integration of HIV and AIDS-Related health services into existing healthcare programs at primary healthcare settings in Bali	315
Paul	Wari	HIVQUAL, measuring and improving the quality of HIV Care in Goroka General Hospital, Papua New Guinea from 2010-2011	316
Simon	Wright	Meeting the demand for access: provision of HIV results via phone for low risk clients - evaluation of policy change at a busy metropolitan clinic	317
Yovita	Hartantri	An implementation TB-HIV collaboration in Hasan Sadikin Hospital Bandung, Indonesia	318
Azizul	Haque Mahee	An inter-departmental, holistic approach is required to improve referral and uptake of oral health clinical services for people with HIV	319
Anmol	Gupta	Evaluation of Anti-Retroviral Therapy Services In Shimla (Himachal Pradesh)	320
Julian	Elliott	Current needs of people living with HIV in Australia: Understanding stakeholder conceptual frameworks	321

First Name	Last Name	Speakers Paper Title	Poster Number
Kevin	Miles	One year on: Surviving the global fund as a corporate sector principal recipient in Papua New Guinea	322
Yunika	Puspa Dewi	Knowledge and Stigma Regarding HIV/AIDS Amongs Medical Students of University of Gadjah Mada	323
THEME C			
Circumcisio	n		
Mangalasiri	Jayathunge	A descriptive study of the foreskin surface area during penile erection in healthy adult uncircumcised males	324
Lucy	John	Attitudes of Senior Health Leaders towards the provision of Male Circumcision (MC) as an intervention to reduce HIV transmission; including health system capacity challenges in Papua New Guinea	325
MSM			
Ben	Bavinton	Practical challenges and legal issues in researching HIV transmission in gay male HIV serodiscordant couples: The Opposites Attract Study	326
Yves	Calmette	Like!- HIV Prevention on Facebook	327
Brent	Clifton	Drilling Deeper; Mining the depths of Sexually Adventurous Men (SAM) in New South Wales	328
lan	Down	What can data on post-exposure prophylaxis from the Seroconversion Study tell us about the potential use of pre-exposure prophylaxis among gay men in Australia?	329
Michelle	Earle	Evaluating a small, medium-term HIV risk-reduction group for Men who have Sex with Men (MSM): asking participants about their experience of the intervention	330
Carol	El-Hayek	Describing region of birth among people diagnosed with HIV in Victoria: implications for service provision and planning	331
Matthew	Grundy- Bowers	MSM, sexual role and the significance of semen exchange	332
Renee	Lovell	Here There and Everywhere': Marketing a Sexual Health Service to Gay Men Living in the Inner West of Sydney	333
Garrett	Prestage	The importance of HIV to gay men	334
Iryna	Zablotska	PEP awareness and literacy among gay men in Australia	335
Shaun	Robinson	Treatment is not an effective population HIV prevention strategy for MSM; a note of caution from a community based perspective	336
Ary	Lesmana	Unique identifying code (UIC) application for behavior communication change (BCC) outreach initiative targeting for MSM and in regional HIV prevention program	337

First Name	Last Name	Speakers Paper Title	Poster Number
Loyd Brendan	Norella	Challenges and Innovative Approaches in Addressing Gender and Sexual Culture Differences - A Regional HIV-Prevention Intervention Program Targeting MSMs and Transgender Populations in Malaysia, Indonesia, Philippines and Timor Leste	338
PLHIV			
Catherine	Cherry	Physical activity participation and cardiovascular fitness in people living with HIV: a one- year longitudinal study	339
Gary	Hampton	The guard in guardianship: A review of guardianship and other complexity for clients of ADAHPS (a NSW health state-wide HIV service)	340
Gary Vicki	Hampton Gibb	What is it you do again?: A report of HIV social workers experiences' in Sydney and NSW	341
Ruth	Hennessy	Pilot of the Sexual Health Counselling Skills Game in Papua New Guinea (PNG)	342
Franklin	John-Leader	Yarn Bombing: A New Way To Yarn About HIV/AIDS	343
lan	Down	Differences between younger and older gay men recently diagnosed with HIV in Australia	344
Rapid Test/Cl	inic		
Judy	Armishaw	The use of rapid HIV testing to improve follow-up after non-occupational post exposure prophylaxis	345
Jennifer	Hoy	Identifying Risk Factors for HIV Virological Failure in an Australian Clinic	346
Trine	Gulholm	Non-occupational postexposure prophylaxis at a Sydney metropolitan sexual health clinic	347
Nathan	Lachowsky	Factors related to recent HIV testing among younger gay and bisexual men in New Zealand; results from national sociobehavioral surveillance (2006-2011)	348
Tarana	Lucky	Trends in HIV and other transfusion - Transmissible infections among Australian blood donors from 2005 to 2010	349
Anthony	Santella	Knowledge of HIV, attitudes toward people living with HIV, and willingness to conduct rapid testing among dental hygienists	350
Garry	Kuchel	The First 24: The First 20and more. A review of the first 24 months of a community based HIV/ STI testing service for gay/MSM utilising a peer model approach	351
STI			
Carol	El-Hayek	Ahead of its time: rectal gonorrhoea as a lead indicator of HIV transmission among men who have sex with men in Victoria, Australia	352
Ana	File	Progress towards reducing Chlamydia prevalence in the Pacific: Cook Islands case study	353

First Name	Last Name	Speakers Paper Title	Poster Number
Prevention			
Jonathon	Street	Closing the Book on Print - Is There a Future for Printed Health Promotion Resources in an Increasingly Digital World	354
Kathy	Triffitt	www.wrappedorraw.org.au; HIV prevention in 2012	355
Iryna	Zablotska	Variable engagement of the Sydney Gay Community Groups in Health Promotion	356
Garrett	Prestage	Changes in condom use over time	357
Karim	Mohammad Rezaul	Awareness about HIV/AIDS and its preventive measure among barbers and customers	358
Karim	Mohammad Rezaul	An educational intervention on HIV/AIDS among the rural medical practitioner	359
Ni Made Alit	Prabawati	Non Supportive Peers Contribute to Higher Risk of Contracting STIs among Direct and Indirect Female Sex Worker in Tabanan, Bali, 2012	360
Hong	Nguyen	Who was reached by HIV prevention peer outreach workers in Ho Chi Minh City, Vietnam?	361
AAS	Sawitri	Issues and obstacles around ARV treatment as prevention among FSWS	362
Kruatip	Jantarathaneewat	Factors associated with HIV testing use among incarcerated men in three prisons in Thailand	363
Luh Putu Lila	Wulandari	Challenges in Expanding Access to VCT Services Among Pregnant Women in Bali: Barriers Beyond Perceived Risk of HIV.	364
Aguia	Belo Ximenes	The effectiveness of community-integrated VCCT services for marginalised groups: a case study from Timor-Leste	365
Hong	Nguyen	Yearly trend in risk behavior and HIV positivity among peer outreach-referred clients at HIV testing and counseling services (HTC) in HO Chi Minh City, Vietnam	366
Alexander	Hoare	Optimizing HIV budgets to maximise the impact of HIV prevention programs in an era of reduced funding	367
IDU			
Ratna	Soehoed	HIV and Hepatitis-C Status of Injecting Drugs Users Receiving Harm Reduction Services in Indonesia, 2012	368
Zulmely	Rasyad	The Impact of Knowing HIV Status on the Behaviour of People Who Inject Drugs in Indonesia, 2012	369
Lei	Zhang	HIV and HCV prevalence among entrants to methadone maintenance treatment clinics in China: a systematic review and meta-analysis	370
Research and	Surveillance		
Yaw	Adu-Sarkodie	HIV prevention needs of prisoners in Kumasi central prison, Ghana	371

First Name	Last Name	Speakers Paper Title	Poster Number
Suresh	Badhan	To study the effect of intervention on myths/ misconceptions and change in attitude of secondary school students of South Delhi towards immunodeficiency virus (HIV) positive persons	372
Claire	Ryan	Large scale survey validates recent HIV and syphilis prevalence estimates in Papua New Guinea	373
Dimitri	Prybylski	Introduction and use of an integrated computerized national surveillance system to monitor the HIV/AIDS epidemic in Papua New Guinea	374
Rachel	Amiya	Depression and risky behaviors among people living with HIV/AIDS in the Kathmandu Valley, Nepal	375
THEME D			
MSM			
Eric Pui Fung	Chow	Trends in HIV prevalence, incidence and associated risk behaviors among men who have sex with men in rural Yunnan, China: 2010-2011	376
Rini	Nasution	Developing strategic use of information and communication technology/ICT to effectively scale up the HIV response among MSM and TG in insular South Asia; Timor Leste, Indonesia, Malaysia and Philipines	377
Yuping	Zhang	Destruction of Family and Community Structure and Its Impact on HIV Propagation Among Old Male in Rural China	378
Iryna	Zablotska	Structure and characteristics of gay networks in Sydney, Melbourne and Perth	379
Testing			
Jade	Bilardi	MSM's views on rapid oral HIV tests for home use in Australia	380
Ana	File	Mobile HIV STI testing in the Cook Islands	381
Andreas	Widjaja	A Picture of the Development in the Number of HIV Cases on the Implementation of PITC Program in Yowari Hospital	382
Affected Pop	ulations		
Linh-Vi	Le	Comparing Drug-Use Responses with Urinalysis in HIV Behavioral Surveys among Female Sex Workers (FSW) and Men Who Have Sex with Men (MSM)	383
Agnes Aslin	Mallipu	How to optimalize needle syringe programs in Jakarta, Indonesia? Perspectives of people who inject drugs	384
Zulmely	Rasyad	Challenges in Providing Effective and Sustainable HIV Prevention Programs for PWID in Indonesia	385
Martin	Hansen	Risky Business Palau: An observational study of sex work	386
John	Rule	HIV and Human Resources Challenges in Papua New Guinea	387
Landry	Kusmono	Role of Women in Sexual Health Promotion	388

First Name	Last Name	Speakers Paper Title	Poster Number
Kathy	Petoumenos	The Australian HIV Observational Database Temporary Residents Access Study (ATRAS)	389
Maxine	Lewis	Challenges for heterosexual people with HIV; engagement and service provision in the current treatments era	390
JUNIOR RESI	EARCHER SUPP	ORT AWARDEES	
Nitasha	Kumar	Myeloid dendritic cells and HIV latency in resting T-cells	391
Нао	Lu	Evaluation of histone deacetylase inhibitors (HDACi) activity using patient-derived HIV long terminal repeat (LTR) sequences in cell lines: a novel method to screen for drugs that reverse latency	392
Eric Pui Fung	Chow	Trends in sexual behaviors and estimated HIV incidence among female partners of men who have sex with men in China	393
Patti	Shih	Faith based organisations addressing HIV in Papua New Guinea	394
Vijaya	Madhavi	Enhanced HIV antigen presentation for anti-HIV ADCC responses by granulocytes: implications for improving HIV vaccine efficacy	395
Samantha	Brunt	Autoantibodies are a feature of untreated HIV infection and do not rise on ART	396
Tina	lemma	Inhibition of Clathrin and Dynamin-2 leads to a post-entry block in HIV infection	397

POSTER ABSTRACTS

THEME A

The Theme A committee encouraged Theme A oral presenters to present a poster as well to increase access to this work. A selection of the posters above are therefore presented in both formats.

HIV TRANSMISSION AND PREVENTION TECHNOLOGIES

POSTER NUMBER: 220

THE USE OF FILOPODIAL NETWORKS BY HIV

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Introduction: Paramount to the success of persistent viral infection is the ability of viruses to navigate hostile environments en route to future targets. In response to such obstacles, many viruses have developed the ability of establishing actin rich-membrane bridges to aid in future infections.

Methods: Herein through a combination of dynamic imaging, shRNA knockdown and small molecule inhibition, we have observed how viral high-jacking of the actin/membrane network facilitates one of the most efficient forms of HIV spread.

Results: Within infected DC, viral egress is coupled to viral filopodia formation, with more than 90% of filopodia bearing immature HIV on their tips at extensions of 10 to 20 μm. Live imaging showed HIV filopodia routinely pivoting at their base, and projecting HIV virions at μm.sec(-1) along repetitive arc trajectories. HIV filopodial dynamics lead to up to 800 DC to CD4T cell contacts per hour, with selection of T cells culminating in multiple filopodia tethering and converging to envelope the CD4T-cell membrane with budding HIV particles. Long viral filopodial formation was dependent on the formin diaphanous 2 (Diaph2), and not a dominant Arp2/3 filopodial pathway often associated with pathogenic actin polymerization. Rather Arp2/3 depletion was key to filopodial dynamics rather than influencing filopodial lengths. Manipulation of HIV Nef reduced HIV transfer 25-fold by reducing viral filopodia frequency, supporting the potency of DC HIV transfer was dependent on viral filopodia abundance.

Conclusion: Thus our observations show HIV corrupts DC to CD4T cell interactions by physically embedding at the leading edge contacts of long DC filopodial networks.

POSTER NUMBER: 221

PHENOTYPING AND IMMUNOGENICITY OF HIV-1 ENV FROM MSM TRANSMISSION STRAINS.

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Introduction: A stringent HIV-1 strain selection occurs during viral transmission at the sexual mucosae. Here we examined the envelope glycoproteins (Env) from five male-to-male Clade B clonal founder strains transmitted from the viral swarm and tested these as gp140 trimer immunogens in a mouse vaccination experiment to assess if PSC Env better elicits broadly neutralising antibodies.

Methods: We used PCR amplification to clone Env gp160 from five patients diagnosed in the first days after transmission prior to seroconversion, after which antibody responses begin directing Env evolution. We vaccinated mice with two priming doses of 100μg plasmid DNA expressing Env gp160 and boosted three times with 10μg of gp140 trimer mixed with incomplete Freund's adjuvant.

Results: Five PSC Env from MSM transmissions selected for fewer potential N-linked glycosylation sites (PNGS) were all CCR5-tropic and CD4 dependent, but required high cellular levels of CD4 for entry in the affinofile assay. They had strong infectivity for T-cells but poor macrophage infectivity. PSC Env gp140 trimers bound sCD4 at moderate efficiency but also displayed some sCD4-induced epitopes. Several broad neutralizing monoclonal antibodies (mNAb) including b12, 2F5 and 447-52D, bound strongly to PSC gp140, but glycan specific 2G12 did not. The serum from groups of mice (n=8) vaccinated with PSC Env gp140 yielded high titre IgG (10⁵) with strong Env avidity, and modest titres of IgM (10³) and IgA (10³). After 21 weeks the sera from vaccinated mice neutralized a broad array of strains including some Env from Tier 2 and 3.

Conclusion: Founder virus efficiently infects T-cells expressing high levels of CD4, but is poorly macrophage-tropic. PSC strain Env had a lower affinity for sCD4, was readily neutralized by b12 mNAb to the CD4 binding pocket, and can elicit broad neutralizing antibodies after an extended duration of immune maturation. This study helps define the antibody responses required to prevent transmission to the initial preferred T-cell target.

Disclosure of Interest Statement: This work was supported by NHMRC program grant 510488 (DP), and ACH2 EOI grant 2009 (DP). Authors have no conflict of interests.

POSTER NUMBER: 222

A QUALITATIVE DIPLOID MODEL OF HIV-1 MULTIPLE-INFECTION AND SUPERINFECTION

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Introduction: One of the most important questions facing researchers of an HIV-1 vaccine is the apparent paradox between the ineffectiveness of the human immune response in preventing progression to AIDS and the apparent rarity of multiple-infection or superinfection of a single host with epidemiologically-unlinked strains of the same subtype. Previous studies have used mechanistic coalescent approaches based on haploid models to approximate viral evolution. However, HIV-1 is a diploid RNA virus and many of the parameter values required for accurate mechanistic approaches are not known with any certainty.

Methods: To overcome these problems, we applied a qualitative approach to the study of sequence and immunological data from a rare longitudinal case-study, in which two participants were contemporaneously infected with epidemiologically-linked HIV-1 strains and then one participant became multiply-infected with an epidemiologically-unlinked strain of the same subtype.

Results: We found that viral sequence changes over two years in three genes (*gag*, *env* and *nef*) within the multiply-infected participant were consistent with predictions made by a novel application and novel interpretation of a simple diploid model, given the participant's gene-specific immunological response pattern prior to and post multiple-infection.

Conclusion: Our study indicates that new approaches are needed to apply significant vaccine-induced, immune-mediated selection pressure on diploid viruses.

CRITICAL ROLE FOR MONOCYTES IN MEDIATING HIV-SPECIFIC ANTIBODY-DEPENDENT CELLULAR CYTOTOXICITY

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Background: The role of antibodies (Abs) that mediate antibody-dependent cellular cytotoxicity (ADCC) activity against HIV-1 is of major interest. Considerable evidence supports a role for ADCC activity in the control of HIV-1 infection and in the context of vaccination. One method widely used to assess the role of ADCC is the rapid and fluorometric antibody-dependent cellular cytotoxicity assay (RFADCC) where specific target cell killing by PBMC is traditionally assessed by the loss of intracellular CFSE but retention of membrane dye PKH26 (CFSE-PKH26+), assumed to be derived from CFSE+PKH26+ target cells killed by NK cells. We have revisited this assay to assess the role of effector cells in mediating ADCC.

Methods: We investigated the involvement of the different effector cells in the RFADCC assay by multi-color flow cytometry of gp140-pulsed, CFSE and PKH26 double labeled CEM.NKr-CCR5 cells in the presence of HIV+ plasma or purified IgG samples (n=57) co-cultured with PBMC, purified NK cells, and monocytes from healthy donors. Effector/target cell interaction was visualized using image stream flow cytometry and life cell imaging.

Results: Backgating analysis and phenotyping of CFSE-PKH26+ cells identified CD3-CD14+ monocytes as the major effector cell type acquiring the PKH26 membrane dye. This was confirmed for killing in response to opsonisation with all 57 HIV+ plasma samples tested. The emergence of CFSE-PKH26+ cell population was observed following co-culture with purified monocytes, but not purified NK cells. No significant IFNy production or CD107a degranulation was detected in NK cells in this assay. Image stream flow cytometry and microscopy confirmed a monocyte-specific interaction with target cells. Monocytes acquire PKH26+ cell membrane as the target cell is killed without typical morphological changes associated with phagocytosis, suggesting a monocyte-mediated ADCC process.

Conclusions: Our studies advance the understanding of the cellular events underlying HIV-specific ADCC. Monocytes, not NK cells, are a key cell driving antibody-mediated killing of Env-pulsed CEM.NKr-CCR5 cells. Further studies on the biological importance of HIV-specific monocyte-mediated ADCC are warranted.

POSTER NUMBER: 224

MUCOSAL UPTAKE MECHANISMS OF RECOMBINANT HIV-1 FOWL POXVIRUS VACCINES AND SAFETY FOLLOWING INTRANASAL DELIVERY

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Introduction: An effective vaccine against HIV-1 should be able to elicit sustained antiviral mucosal HIV-specific CD8+T cell immunity. Our group has shown that recombinant fowl poxvirus (rFPV) is an excellent mucosal delivery vector and in a prime-boost immunization setting it can induce excellent high avidity mucosal/systemic CD8+T cell immunity. But nothing much is known about the mechanism by which rFPV is taken up via the mucosae or how some cytokines that are involved in generating high avidity T cells (IL-4/IL-13) modulate the uptake/antigen presentation at the vaccination site. Furthermore, mucosal delivery of rFPV has not yet been clinically tested. Therefore, in this study we have evaluated the safety and the uptake mechanisms of rFPV following intranasal (i.n.) HIV-1 prime-boost immunization.

Methods: BALB/c, IL-4 and IL-13 gene knockout (KO) mice were immunized i.n. or intramuscular (i.m.) with rFPV co-expressing HIV-1 antigens and green fluorescent protein (FPV-HIV-GFP). At different time intervals GFP fluorescence cells were monitored using FACs analysis and microscopy in different compartments including the brain.

Results: In BALB/c mice i.n. delivery of FPV-HIV-GFP revealed that GFP expression was observed as early as 6h post infection (p.i) in lung, the maximum expression was detected at 12h p.i. and after 96 hrs p.i. no virus was detected. The GFP expression in other compartments and antigen uptake together with other cell markers are currently being investigated in BALB/c wild type and KO mice.

Conclusion: This study will enable us to understand how rFPV is taken up via the nasal mucosa compared to systemic delivery. Importantly, whether rFPV can cross the blood-brain barrier following intranasal immunization and whether it is a safe mucosal delivery vector. This study will also establish "how and why" mucosal immunization can induce effective mucosal CD8+T cell immunity against HIV-1 compared to systemic immunization.

Disclosure of Interest Statement: This work was supported by NHMRC project grant 525431 (CR), Bill and Melinda Gates Foundation GCE Phase I grant (CR) and ACH2 EOI grant 2012 (CR). Authors have no conflict of interests.

POSTER NUMBER: 225

DYNAMIC REGULATION OF IL-4 RECEPTOR (IL-4R) FOLLOWING VIRAL INFECTIONS AND MODULATION OF CD8+T CELL AVIDITY

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Introduction: CD8+T cells are important in controlling chronic virus infections such as human immunodeficiency virus-1. We have previously reported that following HIV-1 vaccination cytokines interleukin (IL)-4 and IL-13 are important regulators of HIV-specific CD8+T cell quality or avidity. Unfortunately, how these cytokines regulate T cell avidity is not well understood. Therefore, in this study we have evaluated whether the expression levels of receptors for IL-4/IL-13 on CD8+T cells following viral infections play a role in modulating CD8+T cell avidity.

Methods: Various flow cytometry based assays following infection of mice with range of viruses were used to examine the IL-4/IL-13 signaling receptors' expression levels and functional aspects on CD8⁺T cells.

Results: Data indicate that cell surface IL-4Ra expression was significantly reduced on CD8+T cells in a time-dependent manner as a consequence of T cell activation following viral infections (e.g. influenza, fowlpox and vaccinia virus (VV)). Infection of gene-knock out mice for IL-4, IL-13, interferon (IFN)-g or signal transducer and activator of transcription 6 (STAT6) with VV confirmed that IL-4, IL-13 and STAT6 were required to maintain optimal cell surface IL-4Ra expression on naïve CD8+T cells, but not effector CD8+T cells. When BALB/c mice were infected with recombinant vaccinia virus expressing IL-4 (i.e. over-expression of IL-4 in the cell milieu *in vivo*), this induced an up-regulation of IL-4Ra expression naïve and effector CD8+T cells in a STAT6 dependent manner. Higher IL-4Ra expression levels on naïve and/or VV-specific effector CD8+T cells in these experiments correlated with the dampening of effector CD8+T cell avidity and poly-functionality (i.e. numbers of CD8+IRN-q+TNF-a+ cells).

Conclusion: Our data indicate that regulation of IL-4Ra expression levels on CD8⁺T cells modulate virus-specific CD8⁺T cell avidity. This can be exploited when designing future HIV-1 vaccines.

Disclosure of Interest Statement: This work was supported by NHMRC project grant 525431 (CR) and development grant APP1000703 (CR) and ACH2 EOI 2010 (CR). Authors have no conflict of interests.

HIV DYNAMICS DURING THERAPEUTIC CONTROL

POSTER NUMBER: 226

SUBSTUDIES AIMED AT EXPANDING OUR UNDERSTANDING OF MARAVIROC (MVC), A HOST DIRECTED THERAPY FOR HIV-INFECTION WITHIN THE MARAVIROC SWITCH COLLABORATIVE STUDY (MARCH)

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Introduction/Background: Serious non-AIDS (SNA) events, including cardiovascular disease (CVD) and renal failure, contribute to HIV-related morbidity/mortality. There are also growing concerns about HIV Associated Neurocognitive Disease (HAND). MVC, a chemokine-receptor-5 blocker approved for HIV treatment may have additional anti-inflammatory properties. Moreover, MVC penetrates the central nervous system (CNS) and is of interest in the prevention/treatment of HAND. Mixed data exist on MVC and its effects on CVD. The drug is lipid neutral and appears to be non nephrotoxic.

The rationale for switching to MVC-based regimens include concerns with known/emergent toxicities of nucleoside/nucleotide reverse transcriptase inhibitor (N(t)RTI) and ritonavir-boosted protease inhibitors (PI/r), and/or partnering of these components for HIV treatment. MARCH aims to determine whether switching to MVC in lieu of either 2N(t)RTI or PI/r in HIV-1 infected patients stable on 2N(t)RTI+PI/r provides an optimal balance of safety, efficacy and tolerability.

Objectives: To describe the 3 substudies of MARCH and their design.

Methods: In the CNS substudy, dynamic changes in cerebral function are measured by neurocognitive testing and magnetic resonance spectroscopy. In the MVC arms, there is an optional lumbar puncture at wk48, to explore MVC penetration into CSF/plasma and HIV levels using ultrasensitive assays.

In the VE substudy, changes in small/large artery elasticity are measured using pulse wave tonometry, a non-invasive measure of subclinical CVD.

The renal substudy examines protein/albumin excretion and fractional excretion of electrolytes in urine, with the aim of better describing glomerular and tubular function in MARCH study participants.

Plasma samples collected at each time-point will be used to assess organ-specific biomarkers.

Conclusion: Large antiretroviral switch studies with diverse recruitment and prospectively collected clinical data, like MARCH, provide important opportunities through substudies to derive additional data on subclinical manifestations of end-organ disease that ultimately, if left unchecked, result in SNA.

Disclosure of Interest Statement: Funding for the MARCH study received from Pfizer/ ViiV Healthcare. Three members of the MARCH study protocol steering committee are employees of Pfizer or ViiV Healthcare, Simon Portsmouth, Fraser Drummond, Eric LeFevre.

INVESTIGATION OF CELLULAR MARKERS LINKING ABACAVIR AND CARDIOVASCULAR EVENTS. GENE EXPRESSION PROFILES IN STEAL PARTICIPANTS

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Introduction: The use of abacavir in antiretroviral therapy has been limited by hypersensitivity reactions in those with HLA-B*5701 and by findings of an increased risk of cardiovascular events in several studies including STEAL (Martin et al PID 2009) where abacavir increased cardiovascular risk (HR 7.7) but was not associated with changes in serum biomarkers for cardiovascular risk. We therefore examined PBMC subpopulations from a subset of STEAL participants switching to abacavir to determine if the use of abacavir was associated with a change in cellular markers including gene expression known to be associated with cardiovascular risk.

Methods: STEAL was a prospective study of randomized NRTI switch in virally suppressed patients (n=357). Of these, 178 switched to TDF-FTC and 179 switched to ABC-3TC. Cyopreserved PBMC collected at baseline and at 24 weeks were obtained from 15 of the patients initiating ABC. Cells were sorted by flow cytometry into populations of CD14+ monocytes, CD3+CD2+T cells, CD2+CD3-NK/CD19+B cells and a DC enriched populations (CD2-,3-,19-,14-, DR+). RNA was extracted from each population amplified and gene expression assessed using Illumina HT12 human gene array for the monocyte and B/NK cell populations.

Results: No significant changes could be demonstrated between week 0 and week 24 in either population. Analysis of the PBMC by flow cytometry showed no significant differences in expression of the platelet marker CD41a on monocytes, lymphocytes or platelets, and no differences in numbers of endothelial presursors expressing CD133 or VGEFR. Proportion of lymphocytes and myeloid subpopulations were similar at the two time points.

Conclusion: These results are consistent with previous studies of serum biomarkers in these participants and suggest there are no specific cellular biomarkers in cellular innate immune system that are differentially activated during abacavir therapy.

POSTER NUMBER: 228

BIOINFORMATICS ANALYSIS AND RESISTANCE INTERPRETATION OF ULTRA DEEP SEQUENCING OF HIV GENOMES OBTAINED FROM THE 454 GS JUNIOR SYSTEM USING DEEPCHEK V1.1

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Introduction: The detection of minor variants of NNRTI has been related with a higher risk of virological failure for patients on NNRTI first line regimens. Ultra Deep Sequencing (UDS) using 454 platforms allow for an accurate estimation of the presence of minor variants. As this technology comes into the diagnostic arena, there is a need for rapid bioinformatics tools for sequences analysis. In this report we present our results using the DeepChek[™]-HIV v1.1 software for HIV UDS sequence analysis.

Methods: Samples from 50 HIV positive patients have been studied. After 454-RT & Pro sequencing, the information from AVA® was analyzed in DeepChek®-HIV software (part of TherapyEdge™, a global HIV database system), and results were compared to confirm

its usefulness. The prevalence of low abundance drug resistant variants was compared using AVA® and the Next Generation Sequencing new data management and analysis system DeepChek®-HIV v1.1.

Results: The full workflow of database processing, analysis and reporting using DeepChek®-HIV was 5 minutes/sample (3,000-5,000 sequences per sample). At a threshold of 1% no discordance was observed between DeepChek®-HIV v 1.1 and AVA®. Furthermore, DeepChek®-HIV presented additional information not presented in the AVA® output files such as, any HIV possible mutation in the sequenced regions, all possible drug resistance interpretations, HIV subtype determination and possibilities to integrate with global HIV molecular and patient databases. In addition, the optional DeepChek®-HIV Expert System includes several types of filters to optimize reliability and precision of drug resistance determination.

Conclusion: DeepChek®-HIV offers an efficient and simplified global and reliable database system wherein UDS-454® data may be fully integrated to analyze its usefulness on clinical and biological outcomes with statistical input; this next generation IT solution for the data management and interpretation of UDS data may be used for clinical and diagnostic routine and research applications with ease of use.

POSTER NUMBER: 229

REDUCED EFFECTIVENESS OF THE NRTIS D4T AND AZT IN ASTROCYTES: IMPLCATIONS FOR NEUROCART

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Introduction: HIV-1 penetrates the central nervous system (CNS) and can lead to HIV-associated dementia (HAD). While macrophages and microglia are the major sites of productive HIV-1 infection in the CNS, astrocytes undergo restricted infection. Up to 20% of astrocytes can become infected *in vivo*, resulting in dysfunction, loss of neuronal support and the onset of HAD. Infected astrocytes represent a viral reservoir of long-lived cells, presumably not targeted by antiretrovirals (ARVs). Preventing the establishment of the infected astrocyte pool may be beneficial in delaying and/or preventing HAD and in virus eradication strategies. Here we sought to determine the effectiveness of ARVs used in NeurocART on inhibiting HIV-1 infection of astrocytes.

Methods: ARVs, including those used in NeurocART (ABC, 3TC, d4T, AZT, EFV, ETR, NVP, LPV, RAL, T20, MVC), were assessed for their ability to inhibit infection of CNS-derived cells. We generated single round HIV luciferase reporter viruses pseudotyped with YU2 or VSVg envelope to facilitate efficient virus entry into astrocytes. Virus was added to the SVG astrocyte cell line, primary fetal astrocytes (PFA), MDM, or PBMC, in the presence of titrating amounts of ARVs and luciferase assays were performed. Data were used to generate inhibition curves and to calculate EC_E/EC_{on} values.

Results: With the exception of d4T/AZT, all ARVs tested inhibited viral infection in SVG, PFA, MDM, and PBMC cells in a dose dependent manner. However, AZT and d4T had reduced anti-HIV-1 potency in PFAs, with EC $_{90}$ values 110- and 187-fold greater than known CSF drug concentrations, respectively.

Conclusion: The reduced effectiveness of d4T and AZT in PFA suggests that NeurocART regimens containing these drugs may achieve suboptimal viral inhibition in astrocytes. These data have potentially important implications for the use of d4T/AZT in NeurocART, and suggest that astrocyte infection may remain untargeted by these regimens, potentially leading to poorer neurological outcomes for patients.

AGREEMENT BETWEEN SINGLE PLATFORM, PANLEUCOGATING, AND DUAL PLATFORM LYMPHOGATING METHODS IN CD4+ T-LYMPOCYTES ENUMERATION

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Background: The determination of CD4+ T-lymphocytes value is a crucial parameter in the monitoring and treatment of HIV infection. In routine CD4 enumeration, two concepts are applied, dual-platform method and single platform (SP) method. SP was used and has been recommended as the gold standard technology. The significant cost consequences and technical expertise of SP currently restrict its use in under resourced countries. An alternative method using procedure of PanLeucogating dual platform is needed to provide a simpler and less costly method. The aim of this research was to compare absolute CD4+ T-lymphocytes enumeration result using PanLeucogating method and DP method compared to reference method, SP.

Method: 47 HIV patients who asked for absolute CD4+ T-lymphocyte examination in Dr. Sardjito Hospital Clinical Pathology Laboratorium were participated in this Cross-Sectional study. Diagnostic accuracy was assessed by measuring agreement of PanLeucogating, DP, with reference method SP. Statistic analysis were done using Linear regression, Kruskal-Wallis one way analysis of variance and Bland-Altman plot to know whether these methods are interchangeable.

Result: The result of the study revealed a strong correlation between PanLeucogating and SP (r = 0.975; Y = 0.923X + 9.566), and between DP and SP (r = 0.946; Y = 0.815X + 19.749). Bland Altman analysis revealed bias = 10.9 cells/ μ L; Limit of agreement (LOA) = -74.9 - 96.3 cells/ μ L for PanLeucogating and SP. For DP and SP comparison, the bias is 29.2 cells/ μ L; LOA = -111.5 - 170.0 cells/ μ L.

Conclusion: There was a good agreement between PanLeucogating method, DP method and the "gold standard" SP method in enumerating absolute CD4+T-lymphocytes counts.

HIV PATHOGENESIS AND HOST RESPONSES

POSTER NUMBER: 231

GB VIRUS C INFECTION IN HIV-POSITIVE PATIENTS IN INDONESIA WITH AND WITHOUT HCV CO-INFECTION

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Introduction: GB virus C (GBV-C), a lymphotrophic human virus and convincingly unrelated with any diseases, has been reported to give beneficial effects in HIV-positive individuals. However, the presence of GBV-C in HIV-positive individuals in Indonesia was unknown. Since the prevalence of GBV-C was higher in the patients with anti-HCV positive, the transmission of GBV-C and HCV could be by the same method. Thus, this study was aimed to investigate the prevalence of GBV-C in HIV-positive patients with and without HCV co-infection in Indonesia.

Methods: Sera as well as clinical and demographic data were collected from patients with HIV visiting Dr. Sardjito Hospital, Yogyakarta, Indonesia, between April and July 2010, and had been stored at -30 to -80°C. There were 125 patients, age ranges between

21 to 60 years (median, 31 years), including 77 (61.6%) males, 35 (28%) females, 13 (10.4%) transvestites. Detection of GBV-C RNA was done by RT-PCR and sequencing. Genotyping was performed by phylogenetic analysis based on 5`-UTR sequences.

Results: The prevalence of GBV-C among HIV-positive patients based on 5'UTR region was 111 of 125 (88.8%) including 39 of 48 (81.3%) and 72 of 77 (93.5%) in patients with and without HCV co-infection, respectively. GBV-C isolates could be classified into genotype 2a, 3, and 6 in respectively 59%, 13%, and 28% patients. Genotype 3 was associated significantly with younger age (P=0.001). Genotype 6 was associated with ALT \geq 40 (P=0.021). Injection drug use and anti-HCV antibody positive were associated significantly with genotype 3 and 6.

Conclusion: This study elucidated that the clinical characteristics and transmission route were different depending on GBV-C genotyping.

Grant sponsor: Japanese Initiative for Global Research Network on Infectious Diseases (J-GRID); Grant sponsor: Ministry of Education, Culture, Sports, Science, and Technology of Japan.

POSTER NUMBER: 232

INVESTIGATION OF CELLULAR MARKERS LINKING ABACAVIR AND CARDIOVASCULAR EVENTS. GENE EXPRESSION PROFILES IN STEAL PARTICIPANTS

Cameron PU¹⁶ Harman ²³, Lai J², Peter K², Armstrong P³, Velayudham P¹, Lewin SR¹⁴, Hoy J², Elliott JH¹⁴ and the STEAL study group ¹Department of Infectious Diseases, Monash University, Infectious Diseases Unit, Alfred Hosptial, ²Westmead Millenium Institute, ³Baker IDI, ⁴ Centre for virology Burnet Institute

Introduction: The use of abacavir in antiretroviral therapy has been limited by hypersensitivity reactions in those with HLA-B*5701 and by findings of an increased risk of cardiovascular events in several studies including STEAL (Martin et al PID 2009) where abacavir increased cardiovascular risk (HR 7.7) but was not associated with changes in serum biomarkers for cardiovascular risk. We therefore examined PBMC subpopulations from a subset of STEAL participants switching to abacavir to determine if the use of abacavir was associated with a change in cellular markers including gene expression known to be associated with cardiovascular risk.

Methods: STEAL was a prospective study of randomized NRTI switch in virally suppressed patients (n=357). Of these, 178 switched to TDF-FTC and 179 switched to ABC-3TC. Cyopreserved PBMC collected at baseline and at 24 weeks were obtained from 15 of the patients initiating ABC. Cells were sorted by flow cytometry into populations of CD14+ monocytes, CD3+CD2+T cells, CD2+CD3-NK/CD19+B cells and a DC enriched populations (CD2-,3-,19-,14-, DR+). RNA was extracted from each population amplified and gene expression assessed using Illumina HT12 human gene array for the monocyte and B/NK cell populations.

Results: No significant changes could be demonstrated between week 0 and week 24 in either population. Analysis of the PBMC by flow cytometry showed no significant differences in expression of the platelet marker CD41a on monocytes, lymphocytes or platelets, and no differences in numbers of endothelial presursors expressing CD133 or VGEFR. Proportion of lymphocytes and myeloid subpopulations were similar at the two time points.

Conclusion: These results are consistent with previous studies of serum biomarkers in these participants and suggest there are no specific cellular biomarkers in cellular innate immune system that are differentially activated during abacavir therapy.

DEPLETION AND ACTIVATION OF CD4+ T CELLS IN HIV PATIENTS RECEIVING ART IS ASSOCIATED WITH MARKERS OF INNATE IMMUNE CELL ACTIVATION

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Background: Persistent CD4+ T cell depletion in HIV patients receiving antiretroviral therapy (ART) is associated with increased T cell activation and turnover but the cause is unclear. An increasing amount of evidence indicates that the innate immune system remains activated in HIV patients receiving ART but it is unclear if this is associated with CD4+ T cell depletion or activation.

Methods: HIV patients with nadir CD4+T cell counts of <100/μL and receipt of effective ART (HIV RNA <50 copies/mL) for at least 12 months were categorised as having poor (n=14) or good (n=20) CD4+T cell recovery (counts of <350 μ L or >500/ μ L, respectively). Activated CD4+T cells (HLA-DR+ CD38+) were enumerated in cryopreserved PBMC by flow cytometry and plasma levels of sCD14 (marker of monocyte activation) and CXCL10 (marker of interferon-α activity) were assayed by ELISA or bead array assay, respectively.

Results: Compared with patients who had good CD4+T cell recovery, patients with poor CD4+T cell recovery had higher proportions of activated total CD4+T cells (p=0.0007), central memory T-cells (CD27+ CD45RA-) (p=0.02) and effector memory T cells (CD27- CD45RA-) (p=0.03). CD4+T cell co-expression of HLA-DR and CD38 inversely correlated with total CD4+T-cell counts in all patients (p=0.0008). Plasma levels of sCD14 were higher in patients with poor CD4+T cell recovery (p=0.015) and inversely correlated with CD4+T-cell counts (p=0.018) in all patients. There was also a positive correlation of sCD14 with CD4+T cell activation (p=0.015). Plasma levels of CXCL10 were higher in patients poor CD4+T cell recovery (p=0.12) and positively correlated with activated CD4+T cells (p=0.03).

Conclusion: Activation of the innate immune system may underlie persistent CD4+ T cell deficiency and activation in HIV patients receiving effective ART.

POSTER NUMBER: 234

IMPAIRMENT OF THE EARLY IGG2 ANTIBODY RESPONSE TO PNEUMOCOCCAL POLYSACCHARIDES IN HIV PATIENTS IS ASSOCIATED WITH B-CELL ACTIVATION

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Background: HIV infection causes depletion and dysfunction of memory B-cells as well as CD4⁺T-cells. These immune defects lead to impaired antibody responses, including vaccine-induced responses, which do not fully resolve on antiretroviral therapy (ART). Impaired antibody responses to pneumococci are a particular problem. As the IgG antibody response to pneumococcal polysaccharides (PcPs) is predominantly IgG2, we have assessed IgG2 antibody secreting cells (ASCs) after vaccination with PcPs and examined factors that may affect their production.

Methods: HIV patients (n=40), most of whom were receiving ART, and non-HIV controls (n=12) were vaccinated with unconjugated PcPs and blood collected at days 0, 7 and 28. An ELISpot assay was developed to enumerate ASCs producing IgG, IgG1 or IgG2 antibody to PcP serotypes 4, 6B, 9V and 14. B-cell differentiation was assessed by enumeration of naive, early transitional, late transitional, activated mature differentiated (AM), resting memory, memory and exhausted tissue-like (ETL) B-cell subpopulations by differential expression of CD3, CD10, CD20, CD21 and CD27. B-cell activation was assessed by expression of TNF-related apoptosis-inducing ligand (TRAIL) or B and T lymphocyte attenuator (BTLA), which decreases with immune activation.

Results: Compared with controls, HIV patients had lower numbers of IgG2+ ASCs to PcP serotypes 9V and 14 post-vaccination (p<0.05) and higher proportions of AM and ETL B-cells pre-ART (p=0.02 and p=0.01, respectively). In patients, the number of IgG2+ ASCs responding to PcP serotypes 4, 6B and 9V correlated negatively with the proportion of ETL B-cells pre-ART (r>-0.7, p<0.05). There was also a positive correlation with BTLA+ B-cells (r>0.6, p<0.05) and a weaker negative correlation with TRAIL+ B-cells.

Conclusion: Impairment of the early IgG2 antibody response to PcPs in HIV patients is associated with increased proportions of circulating B-cells that are activated and exhibit an exhausted tissue-like phenotype.

POSTER NUMBER: 235

DETERMINING THE MECHANISM BY WHICH HIV BLOCKS INTERFERON INDUCTION IN DENDRITIC CELLS

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Background: Dendritic cells (DC), macrophages and T-cells are first cells encounter HIV in the genital tract. DCs are particularly important as they are present in the epithelial layer and are able to efficiently transfer the virus to T-cells. Previously we have shown that HIV is able to directly induce the expression of interferon (IFN) stimulated genes (ISG) in a cell type specific manner in the absence of IFN. The inhibition of the IFN response was mediated by the viral accessory protein Vpr all three cell types, but the mechanism differs. In T-cells, Vpr causes the key interferon inducing transcription factor, interferon regulatory factor 3 (IRF3), to be targeted to the proteasome and degraded. In contrast no IRF3 degradation could be detected in HIV-1 infected DCs or macrophages. However, IRF3 did fail to translocate to the nucleus. Here we investigate the mechanism by which the HIV Vpr protein blocks IRF3 nuclear translocation.

Methods: Monocyte derived dendritic cells (MDDC), and macrophages (MDM) were exposed to HIV-1, HSV-2 or Sendai Virus and processed for QPCR or western blotting.

Results: Strong type I and II induction coupled with IRF3 phosphorylation was observed in MDDCs and MDMs exposed to LPS, HSV-2 and Sendai virus cells but not HIV-1. The IRF3 kinases TBK1 and IKKE as well as MAVS, TRAF3 and TRIF were not targeted to the proteasome. We will also present data on the effect of proteasomal inhibitors on HIV mediated IFN induction.

Conclusions: HIV inhibits the nuclear translocation of IRF3 to the nucleus in MDDCs and MDMs, however this is not mediated by targeting IRF3 to the proteasome as in T-cells. We now show that HIV also blocks IRF3 phosphorlyation but that this is not mediated by targeting components of the IRF3 signalling pathway to the proteasome.

HIV RNA DYNAMICS IN PLASMA AND CEREBROSPINAL FLUID IN HIV PATIENTS FROM DURBAN SOUTH AFRICA WHO DEVELOP CRYPTOCOCCOSIS-ASSOCIATED IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME (C-IRIS) AFTER INITIATION OF COMBINATION ANTIRETROVIRAL THERAPY (CART)

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Background: Cryptococcal meningitis (CM), caused by the fungus *C. neoformans* is the second most common HIV-associated opportunistic infection in sub-Saharan Africa with a mortality rate close to 100% if left untreated. Commencement of combination antiretroviral therapy (cART) in patients with HIV-CM co-infection may lead to paradoxical neurological deterioration (ND) as a result of C-IRIS. The pathogenesis and predictors of C-IRIS are poorly understood. We investigated the role of viral load (VL) dynamics in plasma and cerebrospinal fluid (CSF) in the evolution of C-IRIS.

Methods: Stored paired CSF and plasma samples from 91 cART-naive HIV-CM co-infected adult patients collected prior to cART commencement (W00) were available. At the time of ND, patients were classified as probable, possible or not C-IRIS as per predetermined algorithm. Thirty one patients experienced ND, with 23 of these classified as C-IRIS whereas 8 were not. Plasma and CSF samples were collected at the time of ND event. HIV-1 RNA in CSF and plasma was quantified using the COBAS TaqMan HIV-1 Test (Roche). Protein CSF levels were also quantified in all participants.

Results: HIV VL was detectable in all CSF and plasma W00 samples. CSF samples had significantly reduced VL compared to plasma (median=63,309 copies/ml, IQR=133,958 vs. median=142,786 copies/ml, IQR=359,674, p=0.0001). The C-IRIS group had a significantly lower CSF VL at W00 compared to those who did not develop C-IRIS (median=84,122, IQR=74,024 vs. median=65,373, IQR=160,970, p=0.032). Protein levels in the CSF (median=0.53, range 0-2.68 g/L) were lower in those who developed C-IRIS compared to those who did not (median=0.92, range 0-14.71 g/L, p=0.0007). CSF protein levels did not correlate with viral load.

Conclusions: This study suggests that a lower HIV burden and protein level in the CSF prior to cART commencement are predictors of C-IRIS in HIV-CM infected individuals. The underlying mechanisms require further investigation.

POSTER NUMBER: 237

THE INFLUENCE OF HIV-1 INFECTION ON THE MIRNA PROFILES OF MONOCYTES

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Introduction: In order to combat HIV-1 it is important to understand the role of host restriction factors in controlling HIV-1. One of these factors, miRNA is an approximately 22nt RNA species involved in post transcriptional gene silencing of messenger RNA transcripts and has been shown to be important in both monocyte function and HIV-1 pathogenesis. However studies linking miRNA, monocytes and HIV-1 are limited. My study aimed to advance knowledge on the effect of HIV-1 infection on the miRNA milieu of monocytes.

Methods: Total RNA (including miRNA) was extracted from three distinct patient groups, chronically infected HIV-1 patients (CHI) (n=8), long term non-progressors (LTNP) (n=8) and healthy controls (HC) (n=8). Differentially expressed miRNA between the three patient groups were then determined through a microarray, before being confirmed via Real Time qPCR. Time course infections were then conducted using HL-60 cells to measure the miRNA changes *in vitro*.

Results: It was found that chronic HIV-1 infection results in a different miRNA profile compared to profiles in both LTNPs and HCs. Two of the differentially expressed miRNA (miR-378 and miR-572) were confirmed via RTqPCR. And it was found that these two miRNA showed a significant correlation with viral load, but not CD4+T cell count, in the HIV-1 infected patients. Preliminary *in vitro* studies have so far confirmed the differential expression of miR-378 upon HIV-1 infection

Conclusion: These results prove that HIV-1 influences the miRNA profile of monocytes in CHI patients. However the different miRNA profile exhibited by the LTNP group (compared to CHI patients) is very interesting as although HIV-1 appears to be driving the differential expression of miRNA these individuals are able to resist these changes. This stability indicates a possible role for miRNA and/or the innate immune system in protecting these individuals.

POSTER NUMBER: 238

HIGH GLYCOLYTIC METABOLISM IN CD4+ T CELLS IS ASSOCIATED WITH ENHANCED SUSCEPTIBILITY TO HIV-1 INFECTION AND APOPTOSIS

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Background: Glucose transporter 1 (Glut1) is the major glucose transporter in T cells and its expression is increased on CD4+T cells during chronic HIV-1 infection *in vivo* (Palmer *et al.*, Abstract 1, ASHM, 2012). We evaluated the pathological significance of increased Glut1 expression on glucose metabolism in CD4+T cells from HIV-1-infected subjects.

Method: The cell surface expression of Glut1 and glucose uptake (2-NBDG) was monitored in CD4+ T cells by flow cytometry. Hexokinase and glycolytic activity was measured by the intracellular concentrations of Glucose-6-phosphate (G-6-P) and L-lactate, respectively. Intracellular PTEN, pAkt (T308) and pAkt (S473) levels or cell surface expression of OX40 determined Pl3Kinase-mTOR activity. Cell apoptosis and death was measured using Annexin V/7AAD kit. *In vitro* HIV-1 infection was performed with the CXCR4-using NL4.3-GFP virus.

Results: PI3K-mTOR activity, basal glucose uptake, G-6-P and L-lactate, were significantly elevated in CD4+Glut1+ vs CD4+Glut1- cells. TCR-activated Glut1 expression on CD4+T cells was sensitive to specific inhibition of the Class1B PI3K γ and mTORC1 pathways. These inhibitors also exhibited antiglycolytic properties and suppressed HIV-1 infection of CD4+T cells in vitro. CD4+Glut1+T cells from virally supressed HIV-1/cART subjects were approximately 20 times more susceptible to HIV-1 infection than CD4+Glut1-T cells in the absence of external stimuli and growth factors. However infection was primarily restricted to CD4+Glut1+T cells with high PI3Kinase-mTOR activity. Dying CD4+T cells or those undergoing apoptosis had very high Glut1 cell surface expression (CD4+Glut1++).

Conclusion: CD4+T cells from HIV-1 infected patients have increased glucose uptake and glycolytic activity mediated at least in part by the PI3k γ -mTORC1 pathway. Strategies tailored to normalize Glut1 expression or glycolysis in CD4+T cells may offer new avenues to slow HIV-1 disease progression.

MACROPHAGES, TNF AND PROGRESSIVE NERVE DAMAGE CHARACTERIZE SENSORY NEUROPATHY IN HIV PATIENTS

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Introduction: HIV-associated sensory neuropathy (HIV-SN) affects 34-57% of HIV patients in resource-limited countries. The most common symptom is pain, which affects ~75% of South Africans with HIV-SN. This increases the burden of disease. We have confirmed that stavudine increases risk of HIV-SN, and shown that risk is affected by height, age and African ethnicity.

Animal models implicate TNFa in neuropathy and HIV disease increases production of TNFa by activated macrophages. These are present in increased numbers in circulation in all HIV patients, but have not been demonstrated in tissues affected by neuropathy. We present confocal microscopic images visualizing CD14+ macrophages and TNF production in skin biopsies from HIV patients with active (painful) and "burned-out" (numb) neuropathy.

Methods: Ankle and thigh biopsies were available from 3 healthy controls, 3 HIV-positive Black South Africans (recently initiated on ART at the Charlotte Maxeke Hospital (Johannesburg), 3 Caucasians (stable on ART at the Alfred Hospital (Melbourne) and an African American patient who died with active HIV-SN. 50uM sections were triple-stained to mark PGP9.5+ dermal and epidermal nerves (red), CD14+ macrophages (green) and cell nuclei (blue). Parallel sections were stained to mark TNF (green). Images derived from 15-40 focal planes were compiled, so nerve fibres could be followed through the tissue.

Results: In active neuropathy, biopsies from the ankle and thigh displayed dense infiltrates of CD14⁺ macrophages, with a distribution consistent with migration from dermal blood vessels to concentrate around damaged nerves. The process was less advanced in the thigh. In late-stage neuropathy, ankle biopsies demonstrated extensive focal nerve damage (often with no nerves visible) and few macrophages. Macrophages and damaged nerves remained in biopsies from the thigh. The post mortem sample displayed macrophage infiltration and damaged epidermal nerve fibers, with macrophages abundant throughout the dermal tissue.

Conclusion: The results suggest that activated macrophages producing TNF may instigate epidermal nerve fibre damage. Supporting immunogenetic studies will be presented separately.

POSTER NUMBER: 240

HIV PREMATURELY INDUCES AGE-RELATED CHANGES TO MONOCYTES IN YOUNG HIV+MEN

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Introduction: HIV is associated with increased immune activation, inflammation and an increased risk of age-related disease despite suppressive combination antiretroviral therapy (cART). HIV accelerates T cell senescence, but its effect on ageing of innate immune cells is unknown.

Methods: We determined the impact of HIV on age-related changes to monocyte phenotype and function via a cross-sectional study of young HIV⁺ males (aged <45, median age 38, -/+ cART n=14 and 13 respectively) and age-matched controls (n=20, median age 32). Data were compared to results from aged controls (n=23, median age 72).

Results: A number of age-related changes to monocyte phenotype were observed to occur prematurely in young, HIV+ males irrespective of cART including reduced expression of the M-CSF receptor CD115 (p=0.001 and 0.03 -/+ cART respectively) and CD62L (p=0.04 and 0.03), increased expression of the adhesion molecule CD11b (p<0.0001 and 0.002) and an increased proportion of inflammatory CD16+ monocytes (p=0.003 in -cART only). Similar to aged controls, monocytes from young HIV+ males showed impaired phagocytic function (p=0.007) and heightened basal levels of the pro-inflammatory cytokine TNF (p=0.003). Monocytes from young HIV+ males had shorter telomeres than healthy controls (p=0.03) but of similar length to the elderly. Young viremic HIV+ men exhibit increased plasma levels of the innate immune activation markers soluble CD163, neopterin and CXCL-10 (p<0.0001 for all). Significantly, these parameters remained elevated in virologically suppressed HIV+ men (p=0.003, 0.0005 and 0.004 respectively), indicating chronic innate immune activation persists despite cART.

Conclusion: HIV infection induces changes to monocyte phenotype and function and chronic innate immune activation in young HIV+ males that mimic changes observed in uninfected individuals aged 30 years older, suggesting HIV may accelerate ageing of monocytes. These data have important implications for the premature development of inflammatory, age-related co-morbidities in the HIV+ population.

POSTER NUMBER: 241

COMPARABLE ANTIVIRAL CAPACITY BUT FAVORABLE EXHAUSTION PROFILE OF CD8S FROM ELITE CONTROLLERS COMPARED TO UNTREATED PROGRESSORS

Shasha D

Background: CD8s ability to suppress viral replication *in vitro* was demonstrated in several studies as one of the best laboratory correlates to HIV control. However, these studies invariably used CD8s which were rested *in vitro* for few days before antiviral capacity examined. This might suggest that the difference between CD8s from elite controllers (EC) and chronic progressors (CP) is not in their inhibition capacity but in their ability to retain cytotoxicity during prolonged incubation. Here we compared cytotoxicity and apoptosis of CD8s immediately after their purification ("fresh CD8s") or 3 days after *in vitro* rest ("old CD8s").

Methods: Samples from 10 EC, 10 CP, 5 HAART treated and 5 HIV negative patients were examined. "Fresh" and "old" CD8s were used as effectors in viral inhibition assays. HIV-specific CD8s were quantified using tetramer staining. Annexin V binding was used to evaluate apoptosis.

Results: Using "old" CD8s inhibition capacity was higher among EC compared to CP (logP24 reduction 1.225 vs 0.238, p=0.044). For both EC and CP inhibition was much stronger using "fresh" CD8s, but no significant difference was found between EC and CP (logP24 reduction: 3.13 vs 3.85, p=0.29). HIV negative subjects showed no inhibition using "fresh" or "old" CD8s. IL-2 partially rescued antiviral capacity of rested CD8s. Loss of HIV-specific CD8s measured by tetramer staining was higher in CP compared to EC with up to 10-fold increase in Annexin V binding.

Conclusions: HIV-specific CD8s from CP are endowed with an unexpectedly strong viral inhibition capacity when examined directly *ex vivo*. CD8s from EC and CP mediated similar HIV suppression directly *ex vivo*, while the superior antiviral activity of CD8s from EC after a 3d incubation was associated with better survival of HIV-specific CD8s. The capacity to survive and exert effector functions over extended periods, rather than the intrinsic antiviral capacity, best distinguishes CD8s from EC and CP.

HIV RESERVOIRS AND CURE STRATEGIES

POSTER NUMBER: 242

SHORT-HAIRPIN RNA TO CCR5 AND ITS' EFFECT ON HIV SUSCEPTIBLE CULTURE THROUGH THE USE OF A LENTIVIRAL VECTOR

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Introduction: Antiretroviral drugs provide a general protection from HIV. By contrast, cell-delivered gene therapy which is unlikely be present in 100% of target cells, provides two populations of cells, those with and without the protective gene. The report of a functional cure for an individual with AIDS/leukemia by transplanting hematopoietic stem cells (HSC) with a CCR5delta32 mutation points to the capacity of gene modified cells to impact on HIV.

Methods: We are examining the impact of varying levels of gene therapy in vitro using a short-hairpin RNA to CCR5, in order to project a minimum threshold for HSC engraftment that will impact on both HIV viral load and T cell levels. We have modeled this by transducing Molt4/CCR5 T cells with a lentiviral vector construct containing GFP, the short hairpin RNA to CCR5 and then challenging with R5-tropic Bal HIV. Gene marking levels of 0% to 100% have been examined.

Results: We found that a gene marking level of 100% yielded approximately a 2-log reduction in p24 levels, while 25% and 50% engraftment yielded 5 and 7-fold reductions respectively. 12.5% gene marking did not impact on p24. The presence of GFP in the transduced cells allowed demonstration of maintenance of the shRNA expression over time and a selective advantage for the cells containing the gene therapeutic construct, with GFP positive cells increasing as a percentage over the 3 week challenge. This was the case for all of the gene levels ie 12.5%, 25%, 50% and 100%.

Conclusion: These results point to the dynamics of protection by an anti-HIV agent and confirm the hypothesis that gene containing cells can increase due to the selective pressure of HIV. We are further elaborating the model to include examination of other gene therapeutics and transduction of primary CD4+T cells.

Disclosure of Interest Statement: Geoff Symonds is Chief Scientific Officer of Calimmune and the industry partner on an ARC Linkage Grant.

POSTER NUMBER: 243

PRIMARY HIV-1 INFECTION (PHI) IS ASSOCIATED WITH REDUCED CD4 COUNTS IN TERMINAL ILEUM BIOPSIES BUT NOT OTHER GUT BIOPSY SITES

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Introduction: CD4T lymphocytes in gut-associated lymphoid tissue (GALT) are believed to be particularly susceptible to cytopathic HIV-1 infection due to increased activation and expression of CCR5. Studies have suggested massive depletion of CD4T

lymphocytes during primary HIV-1 infection (PHI), based on a reduced proportion in gut biopsies, compared to blood, but no studies have accurately counted CD4 cells in biopsies.

Methods: Seven PHI subjects and 8 chronic HIV-1 infection (CHI) subjects, recruited to the PINT trial of therapy with Raltegravir plus Truvada, as well as 12 healthy adult volunteers, consented to providing ten pinch biopsies from each of 5 sites: rectum, left colon(LC), right colon(RC), terminal ileum(TI) and duodenum, via endoscopy and colonoscopy, at weeks 0, 52 and 130. Single cell suspensions were prepared, CD4+ cells identified by flow cytometry, and the recovered CD4 cell count calculated.

Results: CD4 cell counts from TI biopsies from HIV-negative volunteers were quite variable (median: 233,000; interquartile range: 88,704-583,508), but significantly higher compared to TI biopsies from PHI subjects (median: 65,664; IQR 18,065-88,625; p=0.023) and much higher than during CHI (28,595; IQR 19,111-84,621; p=0.003). However, CD4 cell counts for LC from HIV-negative controls (68,838; IQR: 44,827-196,930) were not significantly different to PHI (76,679; IQR:45,680-104,691), but slightly higher than CHI (32,575; IQR 5,884-71,022; p=0.063). Similarly, CD4 cell counts for RC from HIV-negative controls (124,301; IQR: 45,298-271,064) were not significantly different to PHI (150,920; IQR:76,465-205,928), but much higher than CHI (19,148; IQR 8,568-69,213; p=0.003). After 52 weeks of therapy, there was a trend to increased CD4 cell counts in biopsies for CHI subjects (p=0.11).

Conclusion: PHI does not lead to widespread, dramatic changes in CD4 cell counts in GALT, unlike CHI where low counts were observed. Further work aims to better define the deficit in terminal ileum in terms of CD4 subsets and function.

Disclosure of Interest Statement: This study was supported in part by a research grant from the Investigator-Initiated Studies Program of Merck

HIV AND SIV REPLICATION

POSTER NUMBER: 244

EXPRESSION OF HIV-1 TAT BY AN INTERNAL RIBOSOME ENTRY MECHANISM REVEALS A NOVEL PATHWAY FOR TAT TRANS-ACTIVATION FROM LATENT PROVIRUS

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Introduction: Integrated human immunodeficiency virus type 1 (HIV-1) provirus sustains a latent infection in resting CD4+ memory T-cells due to multiple restrictions that prevent viral gene expression. These restrictions include transcriptional interference, where an upstream cellular promoter eclipses the viral promoter, driving transcription of a cellular gene that encases the HIV-1 provirus integrated within an intron. Alternative RNA-splicing may form chimeric cellular-viral mRNAs that include *tat* exon-2. We tested the importance of this by creating plasmid vectors that expressed such chimeric spliced RNAs, and asked if Tat protein could be expressed through an internal ribosome entry site (IRES) translation-control mechanism that may assist in reactivation of productive viral replication.

Methods: Tat exon-2, with native upstream stop codons, was placed in various exonic contexts within the human growth hormone (hGH) gene. We transfected TZMbl reporter cells with *tat*-hGH plasmid constructs and in vitro transcribed RNAs that lacked a functional 7-methylquanosine (m7G) cap.

Results: All chimeric *tat*-hGH plasmids typically expressed Tat protein at >15% of the positive control, irrespective of the context of the *tat* reading frame, its start codon or any upstream stop codons. *In vitro* transcribed uncapped and 7-methyladenosine

 (m^7A) -capped RNA transfections demonstrated efficient IRES-mediated Tat expression, at 10 fold over the negative control. The IRES-mediated expression was not evident when EGFP was used in place of the tat open reading frame.

Conclusion: Including *Tat* exon-2 within a cellular mRNA allows functional Tat protein expression independently of a cellular m7G cap structure. Tat expression proceeded irrespective of the context of adjacent overlapping cellular reading frames. Our data suggests that *tat* exon-2 contains an IRES that provides a novel pathway for Tat expression and may be exploited as a therapeutic target for the clearance of latent provirus.

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POSTER NUMBER: 245

DEVELOPMENT OF NUCLEAR IMPORT INHIBITORS AS ANTI-HIV AGENTS

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Introduction: Specific viral proteins enter the nucleus of infected cells in order to perform essential functions, as part of the viral lifecycle. The integrase (IN) protein of human immunodeficiency virus (HIV)-1 is of particular interest in this context, due to its integral role in integrating the HIV genome into that of the infected host cell. Most IN-based anti-viral compounds target the IN/DNA interaction, but since IN must first enter the nucleus before it can perform these critical functions, nuclear transport of IN is an attractive target for therapeutic intervention.

Methods: We developed a novel high-throughput screening assay for identifying inhibitors of nuclear import, and in particular IN, based on amplified luminescent proximity homogeneous assay (ALPHAScreen) technology, which is high-throughput, requires low amounts of material, and is efficient and cost-effective.

Results: We use the assay to screen for specific inhibitors of the interaction between IN and its nuclear transport receptor importin α/β , successfully identifying several specific inhibitors of the IN/importin α/β interaction. Importantly, we demonstrate that one of the identified compounds, mifepristone, is effective in specifically preventing active nuclear transport of IN in transfected cells, without affecting general cellular nuclear import. The screen also identified broad spectrum importin α/β inhibitors such as ivermectin which may represent useful tools for nuclear transport research in the future. We validate the activity and specificity of mifepristone and ivermectin in inhibiting nuclear protein import in living cells. Finally we demonstrate that both lead compounds display potent anti-viral activity, highlighting the utility of the screening approach and validating nuclear import as a therapeutic target.

Conclusion: Our novel, considered screening approach is able to identify specific inhibitors of the interaction between HIV-1 IN and its nuclear import receptor importin α/β , which serve as lead compounds for a new class of potent anti-viral therapeutics.

NEUROTROPIC HIV-1 VARIANTS HAVE ALTERATIONS IN THEIR ENV GLYCOPROTEINS, WHICH ALTER THE WAY THEY ENGAGE BOTH CD4 AND CCR5

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Background: HIV-1 infected macrophages and microglia in the brain are a barrier for anti-retroviral therapies. Neurotropic HIV-1 strains are highly macrophage tropic, but the molecular mechanisms underlying efficient macrophage entry are incompletely understood. Here, we identified and characterized novel virus-cell interactions by neurotropic HIV-1 strains that contribute to persistence of HIV-1 in the CNS.

Methods: Env Pseudotypes were subjected to the 293-Affinofile affinity-profiling system and mathematical modeling to quantify gp120 envelope (Env)-CD4/CCR5 interactions of HIV-1 variants (n=12 Envs) isolated from brains and lymph nodes (LN) of HIV-1-infected subjects (n=3 subjects). Macrophage entry was determined using entry assays with monocyte-derived macrophages. Env conformations were characterized by gp120 binding/neutralization studies with conformation-dependent monoclonal antibodies. The determinants of Env-CCR5 engagement were mapped using entry assays in cells expressing alternative CCR5 mutants. Three-dimensional gp120 structural models were used to identify novel molecular interactions.

Results: All the brain-derived Envs were highly macrophage-tropic whereas none of the LN-derived Envs could enter macrophages to measurable levels. Affinity profiling and CCR5 mutagenesis studies, together with sequence analysis of gp120 and structural modeling, showed that efficient macrophage entry was strongly associated not only with an enhanced interaction between gp120 and CD4, but also with an altered mechanism of engagement between CD4-bound gp120 and CCR5 occurring in tandem. This altered CCR5 engagement was characterized by greater exposure of CD4-induced epitopes in gp120, and increased dependence on the CCR5 N-terminus and on charged elements within the CCR5 extracellular loops.

Discussion: Persistence of neurotropic HIV-1 in the CNS is associated with gp120 configurations that alter the way in which HIV-1 interacts with both of its entry receptors. This most likely optimizes HIV-1 infectivity for macrophage-lineage cells, which are the principal cellular reservoirs of virus in the brain. These findings better define the neurotropic phenotype of HIV-1 variants derived from the brain and contribute to our understanding of HIV-1 persistence in the CNS.

CHARACTERIZATION OF SIV INFECTION OF T FOLLICULAR HELPER CD4 CELLS IN LYMPHOID TISSUES DURING PATHOGENIC INFECTION OF PIGTAIL MACAQUES

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Introduction: T follicular helper cells (Tfh) are a specialized subset of memory CD4+ T cells, within germinal centres (GC) of lymphoid tissue, and important for antibody responses. We previously found that pigtail macaque Tfh cells contain SIV-*gag* DNA at levels comparable to other memory CD4+ T cell subsets from lymphoid tissue. In the current study we aimed to study how SIV infects Tfh and its effect on anti-SIV antibody production.

Methods: Pigtail macaques were challenged with pathogenic SIV strains. Tfh cells were identified as PD-1^{high}CD127- memory CD4+ T cells in mononuclear cells prepared from spleen and lymph nodes. Genomic DNA and total RNA were extracted from FACS-sorted macaque Tfh cells. Proviral DNA, viral RNA and host transcripts for Tfh cell markers and various chemokine receptors were quantified by real-time PCR. Anti-SIV antibodies were measured by ELISA.

Results: Tfh cells contained SIV-*gag* mRNA and spliced *tat* mRNA in addition to SIV-*gag* DNA, suggesting productive infection. However, Tfh cell frequencies increased during chronic SIV infection, as did anti-SIV antibody levels. Expression of IL-6R suggests that this cytokine may be important in increased Tfh differentiation. Tfh cells had very low levels of CCR5, CXCR6 and Gpr15 protein and mRNA, suggesting the possibility that precursor cells are infected with SIV, prior to Tfh differentiation. Consistent with this, we sequenced *env* from the viral DNA in each of the memory subsets and found that sequences from Tfh cells and other memory CD4+T cells were identical during acute SIV infection, while all subsets had similar mutations during chronic infection.

Conclusion: Our results suggest that some activated CD4 T cells infected by SIV DNA may be included in increased differentiation into Tfh and entry into GC. This does not affect total anti-SIV antibody levels, but further study is needed to determine the effect on high affinity antibodies.

POSTER NUMBER: 248

RE-CHARACTERIZING ANTIGEN SPECIFIC CD4+ T CELLS USING THE OX40/CD25 ASSAY AND SINGLE-CELL RT-PCR

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Introduction: Studies on antigen specific CD4+ T cells indicate that there is functional and phenotypic heterogeneity within this population, but the extent of this heterogeneity is poorly described. The OX40/CD25 assay allows isolation of live cells responding to a specific antigen, and picks up more than just IFN-y producing Th1 cells, this assay picks up Th2 and Tregs. A methodology using the Ox40 assay together with transcription factor profile on antigen specific CD4+ cells will enable the elucidation of the global T cell response.

Methods: Antigen specific single cells were sorted into 96 well PCR plates for 1st round reverse transcription and multiplex PCR. 2nd round simplex real-time PCR was then carried out using ROCHE UPL probes for the detection of lineage defining transcription factors.

Results: This assay overcomes the limitations of previous assays by allowing identification of transcription factor mRNA in single Ag specific cells with high sensitivity (down to 10fg) and specificity. Patterns of responses can be robustly characterized using <200 cells based on exact binomial calculations. These results are reproducible with a CV of \approx 6%. The patterns of heterogeneity are stable within an individual Ag specific response but vary between different antigens, with the response to CMV having a Th1 predominant profile (35.6%) whereas a response to Tetanus Toxoid had a Th2 biased profile (22%).

Conclusion: Here we describe a novel methodology that allows live isolation of Ag specific cells, together with transcription factor profiling at a single cell level to robustly delineate heterogeneity within an extremely small population of cells.

Disclosure of Interest Statement: This research was funded by NHMRC-Program grant 510488. ADK was supported by an NHMRC Practitioner Fellowship. The Kirby Institute receives funding through the Australian Government Department of Health and Ageing.

POSTER NUMBER:249

CHARACTERISATION OF SIMIAN IMMUNODEFICIENCY VIRUS-INFECTED CELLS IN PIGTAIL MACAQUES.

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Introduction: Defining which cells become infected with simian immunodeficiency virus (SIV) in vivo should assist in unravelling the pathogenesis of human immunodeficiency virus (HIV)/SIV infection. In vitro experiments demonstrated that HIV/SIV infection of CD4+T cells resulted in down-regulation of CD3 and CD4, however this phenomenon is poorly characterized in vivo.

Methods: Intracellular SIV p27 was detected by flow cytometry in serial blood samples during acute infection. Viral loads were detected by qPCR of the SIV gag gene. Infected cells were characterised by flow cytometry.

Results: The majority (15 of 17) animals had detectable circulating p27+ cells during the peak of acute infection. A large proportion of the p27+ cells were lymphocytes negative for surface CD4 and CD3, and indeed the highest proportions of SIV infected cells were found in the small subset of CD3LoCD4CD8 lymphocytes, indicating that infection has lead to down-regulation of these markers in vivo. Furthermore, the relative amount of SIV p27 within lymphocytes (based of mean fluorescence intensity) was higher in CD3LoCD4 and CD3-infected cells than in CD3+CD4+p27+ populations, consistent with greater viral production in CD4T cells down-regulating CD3 and CD4 molecules. The CD3-CD4-infected cells expressed T cell markers CD2 and CD5 and were negative for monocyte, natural killer and B cell markers. The majority of infected cells were CD28+CD95+ central memory T cells. Surprisingly, the infected blood lymphocytes were mostly negative for activation markers CD25 and CD69, but most of the infected cells from lymph nodes were activated.

Conclusion: Our results characterise productive SIV-infected lymphocytes in pigtail macaques in vivo. The high proportion of SIV infected lymphocytes that are CD3⁻CD4⁻ has important implications for the in vivo study of pathogenesis of HIV infection.

Disclosure of Interest Statement: This work was funded by the NHMRC. No pharmaceutical grants were received for this study.

THEME B

KNOWLEDGE, STIGMA AND DISCRIMINATION

POSTER NUMBER: 250

SUBJECTIVE WELLBEING AND STIGMA

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Introduction: Subjective wellbeing and stigma were explored in adults living with HIV in Australia and USA. It was hypothesised that this population would report poorer subjective wellbeing than the general population, and that stigma in the form of HIV-related unsupportive social interactions would be a strong negative challenge to wellbeing.

Methods: The sample included 274 participants recruited through Australian AIDS Councils and HIV-specific online support groups. Participants completed a composite questionnaire comprising the Personal Wellbeing Index-Adult (PWI-A), the HIV Unsupportive Social Interactions Inventory (USII) and demographic and health-related items. The 8-item PWI-A measures life satisfaction across eight domains (standard of living, personal health, achievement in life, personal relationships, personal safety, community-connectedness, future security and spirituality-religion) and was used to form a personal wellbeing index, ranging from 0 to 100.

Results: Participants reported mean PWI-A scores of 54.7 points, considerably below the Western normative range of 70-80 points, and below many other chronic conditions such as cardiovascular disease (73), cancer (72.6), diabetes (69.6) and depression (65). A standard multiple regression analysis on PWI-A scores was conducted with age, years with HIV, self-rated health and USII total as predictors. The amount of variance in PWI-A scores explained was 45.3%, F(4,269)=57.56, p<0.001, with USII accounting for 10% unique variance.

Conclusion: Subtle stigmatising behaviours perceived in others can significantly impact subjective wellbeing and life satisfaction. This has important clinical and social implications. Firstly, reduced subjective wellbeing can be a diagnostic indicator of depression and associated adverse health behaviours such as medication non-adherence, sexual risk and substance abuse. Secondly, fear of stigma can interfere with treatment and increase non-disclosure of serostatus. It is recommended that the PWI-A be examined as a sensitive and valid screening tool to quickly assess subjective wellbeing amongst individuals at all stages of HIV-infection. This could then facilitate greater understanding of their psychosocial support needs.

POSTER NUMBER: 251

MEDICAL AND NURSING STUDENTS PERCEIVED LEVEL OF KNOWLEDGE AND ATTITUTES CONCERNING HIV IN FIJI

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Background: HIV rates in the Pacific Islands have continued to increase which has enhanced the importance of training of medical and nursing students to be knowledgeable and comfortable in providing HIV and sexual health care services to all people affected. This study explored the knowledge, attitudes and beliefs about HIV at nursing and medical schools in Fiji.

Methods: This was a cross sectional study conducted in two nursing (n=252) and one medical (n=276) school in Fiji. Respondents completed a questionnaire on their HIV knowledge, attitudes and practice. The responses were analysed according to their gender, program of study and school year.

Results: Results showed that over 70% of respondents have high levels of HIV knowledge. Female respondents appeared to be more knowledgeable on the subject of preventing HIV during sexual intercourse compared with their male counterparts (p=0.002) and medical students appeared to be more knowledgeable on the same subject compared with their nursing student counterparts (p=0.001). The level of HIV knowledge increased with years of training amongst the students (p<0.0001). The majority of students (77.5%) indicated high levels of fear in contracting HIV through clinical practice. More than half of the students (59.8%) believed that key populations are responsible for the spread of HIV. The majority of respondents indicated positive attitude towards PLHIV and were willing to buy food (79.5%), share food utensils (78.0%), and care for them at work (80.9%) or home (95.8%).

Conclusions: Overall, the study found high levels of knowledge, positive attitudes and beliefs among respondents. The study also found significant differences between gender and program of study. Of concern, is the high proportion of respondents reporting fear of contracting HIV through clinical practice. Further studies are needed to examine how the reported knowledge, attitudes and beliefs translate into clinical practice.

POSTER NUMBER: 252

KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PEOPLE LIVING WITH HIV AND KEY POPULATIONS BY HEALTH CARE WORKERS IN HONIARA, SOLOMON ISLANDS

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Background: In the last two years the number of confirmed HIV cases in Solomon Islands had doubled. The level of HIV knowledge, attitude and practices (KAP) have not been assessed among health care workers (HCW). The purpose of the study was to assess the KAP among HCW in Solomon Islands.

Method: The study was a cross sectional survey of 160 HCWs in Honiara, Solomon Islands. A 85-item HCW survey including statements on KAP on HIV transmission, prevention, voluntary counseling and testing; care and treatment was administered

Results: Total HIV knowledge scores were average and low in 36.8% and 41.9% of respondents respectively. Only 21.2% recorded high HIV knowledge score. About 84.0% were afraid of catching HIV at work and 73.0% believed that all HCW should be informed when a patient has HIV so that they can protect themselves. About 47.0% believed that HIV-infected HCW should not work in heath facilities and 18.0% felt pregnant HIV positive women should have an abortion. Nearly 29.0% of HCW believed that HIV and STIs are a punishment for immoral behavior and 40.0% agreed that sex workers are responsible for spreading HIV and STIs. Fear of becoming contaminated (79.6%) and lack of materials to protect themselves (58.9%) were the most common concerns among the HCW when working with PLHIV.

Conclusion: The study found low to moderate levels of HIV knowledge among HCW. HCW also displayed high level of negative attitudes and practices towards PLHIV and high risk populations. Relatively low levels of HIV knowledge may have contributed to negative attitudes and practices. There is an urgent need for further education and training in HIV with more focus on all clinical aspect of HIV care including occupational risk, stigma associated with HIV and fear of treating and caring for PLHIV and key affected populations.

POSTER NUMBER: 253

ATTITUDES TOWARDS HIV/AIDS AMONG PHARMACY STUDENTS AT FIJI NATIONAL UNIVERSITY

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Objectives: To measure the attitude of Pharmacy students at Fiji School of Medicine toward HIV/AIDs, including fear of contagion, professional resistance, and negative emotions.

Methods: A six point Likert scale was used containing 15 items to measure the attitude towards HIV/AIDS among Pharmacy students at the College of Medicine, Nursing & Health Sciences. Sub-scales were Fear of Contagion, Professional Resistance and Negative Emotion. Data was collected by means of a closed ended Likert scale questionnaire and analysed in Epi Info. Social desirability was measured using 5 items from the Marlowe-Crown Social Desirability Scale.

Results: Out of 89 students, 79 returned the questionnaire with a response rate of 89%. 60% of the students showed a negative attitude towards HIV/AIDS. More than 50% students in all the years showed professional resistance towards HIV/AIDS treatment. There was no significant difference in the attitude towards HIV/AIDS across different year of study, gender and career choice.

Conclusions: Our study identified substantial levels of negativity in Pharmacy students towards HIV/AIDS patients. There is a need for educational interventions in the Bachelor of Pharmacy curriculum in order to reduce negative attitudes towards HIV/AIDS patients.

POSTER NUMBER: 254

AUSTRALIAN INTERNS' KNOWLEDGE OF HEPATITIS A, B, C AND HIV AND OCCUPATIONAL EXPOSURES

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Introduction: Bloodborne viruses (BBVs) namely hepatitis B virus, hepatitis C virus and HIV may be transmitted from patients to healthcare professionals or students via occupational exposures (e.g., needlestick injuries) to blood/bodily fluids. Whilst there is a large body of international literature examining healthcare students' knowledge and experience of occupational exposures, little is known regarding Australian medical graduates' knowledge of BBVs.

Methods: Interns commencing at three major hospitals in Melbourne in 2012 were surveyed regarding their knowledge of BBVs and hepatitis A virus (as a control). Additionally, the self-reporting of occupational exposures and knowledge of post–exposure management were measured. Surveys were administered to interns during their orientation week, prior to sessions covering occupational exposure management.

Results: Seventy-nine interns participated. Accurate basic knowledge, including modes of transmission, of all viruses was confirmed. However, understanding of post-exposure prophylaxis (PEP) was variable. Whilst most interns (94%) were aware of the availability of PEP for HIV, awareness fell to 58% for hepatitis B, and just 17% for hepatitis A. Alarmingly, 37% of interns incorrectly thought that PEP is available for hepatitis C. Occupational exposures were common (40%), often not reported (39%), and frequently occurred (31%) in non-university associated settings (e.g., volunteer work).

Conclusion: Whilst interns have good general knowledge of BBVs, their risk of occupational exposure is high, and both knowledge and behaviours regarding post-exposure management fail to meet optimal standards.

Take-home messages: Hospitals should not assume that commencing interns have adequate knowledge of occupational exposure management. Future education and research needs to focus on translation of knowledge into practice and modelling/facilitating appropriate behaviours. Finally, these data provide support for the concept of a national curriculum in infection control for students in healthcare disciplines.

POSTER NUMBER: 255

OPEN YOUR MOUTH: ORAL HEALTH KNOWLEDGE, ATTITUDE AND PRACTICES OF HIV HEALTH PROFESSIONALS IN NSW

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Introduction: Poor oral health is common in people living with HIV (PLHIV) and can impact on quality of life. Improved oral health is a priority area for PLHIV however few suitable resources are available to assist oral health promotion in the HIV sector. Oral health screening and education by health care professionals can increase dental visits and improve oral health care.

This study aimed to establish current knowledge, attitude and practices (KAP) of health care professionals (HCPs) regarding oral health for PLHIV and to identify the specific needs of HCPs to assist them in participating in oral health care for PLHIV.

Methods: HCPs working with PLHIV in NSW were invited via email to complete a 19 item oral health KAP survey online on Survey Monkey.

Results: Fifty of 55 attempts of the survey were completed online. Professional backgrounds of respondents included allied health, nursing, medical, psychology and health promotion. Oral health problems were seen sometimes by 55% of respondents and often by 30%. Oral health was discussed with PLHIV by 73% (n=37) of respondents; Most respondents (85%, n=44) felt that addressing oral health problems was important in the management of HIV infection. Seventy-five percent (n=38) reported no access to resources or tools to educate PLHIV on oral health issues. Most respondents were not aware of and did not use an oral health screening tool in their practice, though 76% (n=32) felt that they needed this type of tool. Over 80% (n=43) of respondents also reported wanting oral health promotion tools including referral pathways, printed and online educational resources and dental sample kits.

Conclusion: This study demonstrates a need for a variety of oral health care tools for non dental professionals to use as part of standard HIV care and treatment. All HCPs can participate in oral health care for PLHIV.

DIAGNOSIS STIS

POSTER NUMBER: 256

DIAGNOSIS OF GONORRHEA AND SUSPECT CHLAMYDIA AT STI CLINIC IN DENPASAR, BALI: SYNDROMIC VERSUS GRAM STAIN

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Background: STI remain a major problem in Bali. Proper diagnosis of STI will lead to better management of STI, which is important for preventing further transmisssion and/ or resistance to antibiotics. In Bali, current diagnosis of STI in STI clinics is using either syndromic or syndromic plus gram stain diagnosis. This study aim to determine the validity of syndromic and gram stain based diagnosis for gonorrhea and chlamydia, by comparing it to PCR. In this abstract we only able to present the validity of syndromic approach compare to gram stain.

Method: This is a cross-sectional study that was involving three STI clinics in Denpasar. Samples were 252 women who visit STI clinics with or without STI symptoms in May 2012. Gonorrhea and suspect chlamydia (non gonorrhea urethritis) were diagnosed based on sign and symptom by doctor or midwife at STI clinic, and cervical swab was collected for gram stain which then was read by clinics' laboratory staff. Sensitivity and specificity were calculated comparing the syndromic diagnosis with gram stain.

Result: Most of the women came with symptom (89.2%, n=251) and the most frequent symptoms was vaginal discharge (83.0%, n=224). Based on syndromic approach 168 (66.7%) of them diagnosed with gonorrhea, while diplococcus intra or extracellular was found among 106(42.1%) cervical swabs. Meanwhile, for suspect chlamydia 157(62.3%) were diagnosed based on the syndrome and 124 (49.2%) based on the gram stain. The sensitivity of syndromic approach for gonorrhea diagnosis was 98.1% and the specificity was 56.2%. For suspect chlamydia, the sensitivity and specificity was lower at 71.8% and 46.9%, respectively.

Conclusion: There is a need to improve syndromic diagnosis for gonorrhea and suspect chlamydia since in some clinic the laboratorium staff is not always available at the patients visit. Refresher training should be considered for clinic staffs.

Disclosure of Interest Statement: This study is part of the Udayana University, Field Research Training Programs (FRTP) in collaboration with The Kirby Institute. No conflict of interest in this study.

POSTER NUMBER: 257

INCLUDING SYPHILIS TESTING AS PART OF STANDARD HIV MANAGEMENT CHECKS IN PRIMARY CARE CAN INCREASE SYPHILIS TESTING RATES AMONG GAY MEN LIVING WITH HIV IN SYDNEY, AUSTRALIA

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Introduction: Since early 2000, the number of reported syphilis diagnoses in Australia has increased steadily each year, with more than 90% in gay men and half of these among men with HIV. In response, during 2006 a large urban primary health care clinic in Sydney introduced syphilis testing during routine HIV monitoring checks to increase testing in this population. We evaluated the impact and sustainability of this strategy.

Methods: A before-and-after evaluation was conducted using retrospective laboratory data for the period of 2005 to 2010. We calculated the mean syphilis tests per man per year, the proportion having none, those with 3 or more syphilis tests per year, and the proportion of HIV viral load tests with a syphilis test occurring on the same day. Using Chi-square or rank sum tests we compared these outcomes in the 12-month period before (2005) and after (2007) the intervention. To gauge sustainability we also compared 2007 to subsequent years. Only men having 1 or more viral load test were included in these analyses.

Results: The mean number of syphilis tests annually per person increased from 1.14 in 2005 to 2.32 in 2007 (p<0.01). Same-day syphilis testing increased from 50% in 2005 to 88% in 2007 (p<0.01). The proportion of men having 3 or more syphilis tests per year increased from 10% in 2005, to 41% in 2007 (p<0.01). The proportion having no syphilis tests per year decreased from 28% in 2005, to 3% in 2007 (p<0.01). There was no significant change in these four outcomes in the following years (2008 – 2010).

Conclusion: This evaluation demonstrates that a simple intervention successfully increased and sustained syphilis screening uptake and frequency in HIV-positive gay men. These findings position this strategy as a valuable tool for any clinical practice seeing gay men with HIV.

POSTER NUMBER: 258

SIGNIFICANCE OF ISOLATED REACTIVE TREPONEMAL CHEMILUMINESCENCE IMMUNOASSAY RESULTS

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Introduction: Isolated reactive serum treponemal chemiluminescence immunoassay (CIA) results cause clinical uncertainty.

Methods: All sera referred to a serology reference laboratory for syphilis testing were screened by CIA and reactive samples underwent reflex testing with rapid plasma reagin (RPR), *Treponema pallidum* particle agglutination (TPPA) and fluorescent treponemal antibody absorption (FTA Abs) assays. Samples reactive only on the CIA were deemed 'isolated' reactive CIA samples. We undertook detailed review of a subset of subjects with isolated reactive CIAs.

Results: Of 28261 specimens, 1171 (4.1%) had a reactive CIA of which 133 (11.3%) had isolated CIA reactivity. Most (66/82; 80.5%) subjects with isolated reactive CIA results were from high prevalence populations, including HIV, infectious diseases, ophthalmology and sexual health clinics. We found evidence of CIA, TPPA, and FTA Abs seroreversion. The median chemiluminescent signal to cut-off ratio was similar in sera with isolated CIA reactivity and those with either reactive FTA Abs or TPPA (2.19 vs 2.32, p=0.15), but lower than those reactive in both FTA Abs and TPPA assays (12.37, p<0.001) or in RPR reactive samples (25.53, p<0.001). 11/20 (55%) of patients with an isolated reactive CIA that underwent medical record review from two outpatient HIV and infectious diseases clinical services had previous or subsequent evidence of syphilis infection.

Conclusion: Isolated reactive CIA results may represent true syphilis infection and may be found after seroreversion of traditional treponemal assays.

CLINICAL RESEARCH

POSTER NUMBER: 259

BENCHMARKING THE ETHICS AND GRANTS MANAGEMENT OF AN OBSERVATIONAL COHORT ACROSS MULTIPLE STATES AND FRAMEWORKS

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Background: Clinical studies require various levels of ethical, regulatory and grants management approval. Complexity increases with differences across frameworks and also when funded by the US government. AHOD is funded by the NIH via The Foundation for AIDS Research. A detailed description of these issues is required.

Methods: The ethical, regulatory and grants management processes of AHOD sites were examined for the 2011 calendar year. Time to completion and adherence to deadlines were measured.

Results: 25 sites across 5 states participate in AHOD: 13 Sexual Health Clinics (SHC), 9 private clinics and 3 hospitals. 16 (64%) sites are affiliated within an area health services or district

Grants management documentation had high levels of completion by the deadline. 87% of sites completed the budget and 76% completed the agreement on time with no variation between site types. However, site types differed for Return on Expenditure statement, with 67% of private clinics completing on time compared with 25% of SHC's and 33% of hospitals. The DUNS also varied, 86% by private clinics versus 20% by SHC's and 33% by hospitals.

Completion of regulatory documentation varied between processes. 75% of sites completed the Federal Wide Assurance on time compared with 33% for the Institutional Review Board.

In 2011 ethics renewals were submitted twice for the 2010/2011 and 2011/2012. Only 16% of renewals were completed on time for 2010/2011. This increased to 80% for 2011/2012.

Conclusion: Higher proportions of private clinics completed their grant management documentation and regulatory documentation to deadline compared to hospitals and SHC's. This is largely attributable to their systems of governance. Identifying potential delays and methods of reducing lapses and missed deadlines within AHOD will decrease time and study delays. This was observed when consolidating AHOD sites ethics approval for NSW under a multicentre National Ethics Application Form for 2011/2012.

Disclosure of Financial Support: The Australian HIV Observational Database is funded as part of the Asia Pacific HIV Observational Database, a program of The Foundation for AIDS Research, amfAR, and is supported in part by a grant from the U.S. National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID) (Grant No. U01-Al069907) and by unconditional grants from Merck Sharp & Dohme: Gilead: Bristol-Myers Squibb; Boehringer Ingelheim; Roche; Pfizer; GlaxoSmithKline; Janssen-Cilag. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales All authors declare no conflict of interest

BASELINE CHARACTERISTICS OF PARTICIPANTS IN ENCORE1

Carey D1 for the Encore1 Protocol Steering Committee

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Introduction: Encore 1 is an international, randomized, double-blind, placebo-controlled, 96-week study to determine the safety and efficacy of reduced dose efavirenz (EFV) compared with standard dose when administered as part of initial combination therapy.

Methods: Eligible HIV-infected adults with CD4 cells 50 to <500 cells/mL at 38 sites in 13 countries were randomized 1:1 to receive either EFV 600 mg (3 x 200 mg tablets) or EFV 400 mg (2 x 200 mg tablets + 1 x matched placebo) with open-label tenofovir/emtricitabine fixed-dose combination once daily. The primary endpoint is comparison between treatment groups of proportions of participants with plasma HIV RNA <200 copies/mL at 48 weeks. Secondary endpoints will include comparison of CD4 cell counts, viral drug resistance, pharmacokinetics and morbidity/mortality. Safety and tolerability parameters will also be compared.

Results: Between August 2011 and April 2012, 768 adults were screened. Of these, 123 (16%) failed to satisfy eligibility criteria (71 [58%] for laboratory parameters, 30 [24%] exceeded the screening period, 22 [18%] for clinical reasons) and 9 withdrew consent. In total, 636 participants were randomized, of these 19% were from South America, 31% from Asia, 37% from South Africa and 13% from Europe/Australia. Baseline characteristics were 68% male with mean (±SD) age 36.0 (10.0) years. Predominant HIV transmission risks were heterosexual contact in 312 (49.4%) and homosexual/bisexual contact in 272 (43.1%). Most participants (83.7%) had asymptomatic HIV disease at entry. Mean CD4 cell count and plasma HIV RNA were 273 (99) cells/mm³ and 4.79 (0.65) log₁₀ copies/mL, respectively. Plasma HIV RNA was ≥100,000 copies/mL in 236 (37.4%) participants; CD4 counts were >350 to <500 cells/mm³ in 24.9% and <200 cells/mm³ in 21.1%; mean nadir CD4 count was 252 (89) cells/mm³.

Conclusion: The diverse baseline characteristics of Encore1 participants support generalisable study results upon completion of the trial.

Disclosure of Interest Statement: The Kirby Institute is funded by the Australian Government Department of Health and Ageing.

Encore1 funding agency: Bill & Melinda Gates Foundation, PO Box 23350, Seattle, Washington 98102, USA

POSTER NUMBER: 261

ASSESSING CLINICAL TRIAL SAMPLE COLLECTION IN THE ALTAIR STUDY, A MULTINATIONAL CLINICAL TRIAL OF INITIAL ANTIRETROVIRAL THERAPY (ART)

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Background: Collection of clinical trial storage sample allows testing of parameters fundamental to safety or efficacy of examined interventions. ALTAIR was a randomised, open-label study comparing safety, tolerability and efficacy of three regimens of combination ART in treatment-naive HIV-infected subjects. The study was conducted at 36 sites in 15 countries across five continents and was completed in 2011.

Methods: Plasma and dried cell pellet (DCP) samples were collected at clinic sites and shipped to a central testing facility (St. Vincent's Centre for Applied Medical Research, Sydney) after the week 96 visit. Paper inventories were requested at week 48 and before shipping. The number and quality of samples were interrogated on receipt at AMR and were compared in this analysis by region: Asia, Australia, Latin America and Europe.

Results: Overall, 81.7% of protocol mandated plasma samples were received this ranged from 73.9% to 88.0% from European and Australian sites, respectively, while the overall percentage of DCP received was 93.4% ranging from 48.3% (Latin America) to 95.8% (Asia). All sites collected additional plasma samples that were not required by the protocol. In addition, one site sent whole blood and another four sites sent serum samples. These were discarded by the central laboratory. Some of the errors were procedural, where sites consistently collected the incorrect number of samples. These errors were not identified in the paper inventory until receipt of samples at the central laboratory.

Conclusions: There were many errors resulting from shipment at trial completion in the Altair study. Some region made more error than. It was decided to employ an electronic inventory in future clinical trials sponsored by the Kirby Institute. An electronic storage log may allow the sponsor to monitor the number and type of samples in real time, allowing early identification and resolution of errors prior to shipment.

Disclosure of Interest Statement: The Kirby Institute is funded by the Australian Government Department of Health and Ageing.

Encore1 funding agency: Bill & Melinda Gates Foundation, PO Box 23350, Seattle, Washington 98102, USA

POSTER NUMBER: 262

ASSESSING SITE PERFORMANCE IN ENCORE1 STUDY, A MULTINATIONAL CLINICAL TRIAL

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Introduction: The quality of clinical trial data is often determined by study design and setup. Poor site selection and delayed start-up can result in suboptimal data quality, resulting in reduced efficiency and effectiveness of clinical trials. Reviewing site performance and setting standards can facilitate better management and identify areas for improvement. We investigated site performance in the initiation phase of Encore1, a large international multicentre, randomized, double-blind, placebo-controlled clinical trial that randomized 636 patients at 38 clinical sites across 13 countries in Australia, Africa, Asia, Europe and Latin America.

Methods: Using a descriptive analysis, we examined time from protocol release to ethics and regulatory submission, approval and first participant recruitment. Randomization timelines and recruitment were also examined. Data are presented by region.

Results: The overall median was 166 (range, 23-324) and 282 (87-461) days from final protocol release to ethics and regulatory approval respectively. Within regions, time to approval ranged from 43 (23-115) days in Africa to 391 (358-461) days in Latin America. Time from protocol release to first randomization ranged from a median 310 (303-448) in Australia to 482 (475-503) days in Latin America. The overall median timeframe was 7 (0-144) days from site opening to first participant recruited and ranged from 3 (2-18) to 18 (1-93) days in African and European sites respectively. The actual number of patients recruited was lower than pre-study estimates in Australia (44.7%) and Latin America

(16.0%), with higher recruitment than estimated in Europe (115%), Asia (120%) and Africa (185%).

Conclusion: Lower than expected recruitment in Latin America was due to delayed approvals resulting in patients reallocated to African sites. Recruitment in Israel was greater than expected, enhancing European totals. Measuring site set-up parameters and recruitment performance allows the study teams develop an overall appreciation of regional performance and assist in planning future studies to make more efficient use of available resources.

Disclosure of Interest Statement: The Kirby Institute is funded by the Australian Government Department of Health and Ageing. Encore1 funding agency: Bill & Melinda Gates Foundation, PO Box 23350, Seattle, Washington 98102, USA

POSTER NUMBER: 263

FIRST USE OF A GENERIC DRUG IN A LARGE RANDOMIZED INTERNATIONAL CLINICAL TRIAL FOR HIV INFECTION

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Background: Encore1 is a large multi-centre randomized, double blind, placebo-controlled, 96 week non-inferiority clinical trial in 636 antiretroviral therapy (ART)-naïve HIV-infected individuals recruited at centres in Africa, Australia, Asia, Europe and Latin America. The study examines whether dose reduction of efavirenz (EFV) provides safe and effective viral suppression as part of initial combination ART compared with the currently licensed dose. Implementing this protocol presented a number of practical challenges relating to study drugs.

Methods: We required EFV tablets containing 200mg active drug and a matched placebo. Adequate documentation was necessary to satisfy diverse global regulations applying to clinical trial drugs. We also required a means of packaging, labeling and shipping drug on an as-needed basis to participant sites over the three years of supply.

Results: Innovator companies decided not to provide EFV after 7 months of negotiation. Several generic companies were approached and a batch of US Government Food and Drug Agency and World Health Organisation pre-approved EFV was provided by one Indian generic company. Problems arose during packaging and long term supply could not be guaranteed. Matrix Laboratories were then contracted to provide EFV and matched placebo. Matrix EFV has proven bioequivalence to the innovator product, although has no marketing authorization in most study countries and is therefore regarded as an investigational product. Therefore, a dossier of information about the generic and matched placebo was required. Preparation of this dossier and subsequent approvals through responsible agencies took approximately 18 months. Drug was provided to sites from August 2011 and 636 subjects were randomized into the study in 9 months.

Conclusions: This is the first large, international, randomized, double-blind trial in HIV medicine using generic ART. Generic products are attractive options because of price and availability. Investigators considering similar initiatives should carefully consider project timelines and resources.

Disclosure of Interest Statement: This study was funded from the following sources: the Australian Government Department of Health and Ageing; and an unrestricted grant from the Bill & Melinda Gates Foundation (Grant ID 51040).

The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales.

EXPERIENCE IN SETTING UP A THAI COORDINATING CENTRE

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Background: Diverse patient populations are required for generalisable results from clinical trials. Coordinating many countries from one centre can be complex, with challenging obstacles such as language barriers, time zones and cultural differences that may affect quality of data collected. We set up a Thai coordinating centre (TCC) in an effort to overcome some of these issues.

Methods: Using existing team models from The Kirby Institute (KI), study teams were set up at The HIV Netherlands Australia Thailand research collaboration (HIVNAT) including a project leader, coordinator, monitors, pharmacist, laboratory, regulatory affairs and finance officers. Training sessions were conducted in Sydney and Bangkok, consisting of one-to-one and group training in English; staff reported back to HIVNAT teams in Thai. Training included project management, monitoring, regulatory and financial issues, data management, ICH-GCP and human resources. A questionnaire was used to gauge site satisfaction with the TCC.

Results: Since 2009, four TCC-coordinated studies opened in Thailand. Currently START, FLU, SECOND-LINE and Encore1 have nine (120/200), two (313/150), four (67/70) and three (122/120 expected participants) sites respectively. A TCC-led randomised controlled study was conceived and with the help of a Kl 'shadow team', the LASA study (ten sites: 231/560 expected participants) was opened in 2011. When questioned, site staff indicated that 84% prefer using Thai than English for communication and 88% preferred problems explained in Thai. A total of 92% of site staff preferred having a coordinator in the same country and time zone and 84% preferred using phone as well as e-mail communication.

Conclusions: A TCC was successfully established in Bangkok to coordinate Thai sites for one TCC-led and four international studies. Communication in Thai has allowed successful resolution of issues, enabling effective conduct of all studies. Recruitment exceeded expectations for some sites. HIVNAT staff developed clinical trials coordination skills and greater confidence to undertake future studies.

Disclosure of Interest Statement: The HIV-Netherlands Australia Thailand research collaboration (HIV-NAT): No industry grants were received in the development of this abstract. HIV-NAT does receive funding from government agencies, various pharmaceutical companies, academic organisations and research organizations for wide range of its activities.

The Kirby Institute carries out its functions by working with an extensive range of collaborators, including the other national HIV research centres, State and Territory Health Departments, public and private clinical units, national and international organisations, and the corporate sector including the pharmaceutical industry.

POSTER NUMBER: 265

ACCEPTABILITY OF WEB-BASED ELECTRONIC DATA CAPTURE IN A MULTICENTRE RANDOMIZED TRIAL IN THAILAND

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Introduction: Electronic Data Capture (EDC) is a computerized data collection system to collect electronic-format data for clinical trial. Our team has developed a web-based

EDC and launched since 2011. We evaluated the acceptability of using EDC in a multicentre randomized control trial in Thailand.

Methods: This is a substudy in LASA study (clinicaltrials.gov number NCT01159223). LASA is an on-going multicentre randomized control trial in 9 sites in Thailand coordinated by HIV-NAT. This is the first multicentre study of HIV-NAT, the Thai Red Cross AIDS Research Centre to use web-based EDC. Time to collect data, duration from each patient's visit to data entry, were calculated and compared with a previous paper-based trial. A web survey to estimate the acceptability and satisfaction of EDC were completed by all site study coordinators.

Results: The median (IQR) time to collect data in LASA study was 8 (2-29) days vs. 1 63 (90-366) days from the previous study. Sixteen coordinators completed the survey. Almost 88% coordinators (14/16) regarded the HIV-NAT EDC as easy to use and 81% (13/16) preferred to use EDC than paper-based system. Eighty-one percent (13/16) reported spending less time to complete EDC per patient visit compared to a previous paper-based case report form. In addition, 69% (11/16) expressed their willingness to use EDC in the next studies.

Conclusion: Web-based electronic data capture can decrease the time to collect data and was well accepted among site coordinators. Majority of study coordinators preferred to use EDC in future trials.

Disclosure of Interest Statement: There was no conflict of interest and the member of authors' immediate families does not have a financial interest in or arrangement with any commercial organization that may have a direct interest in the subject matter of this article.

TESTING AND HIV PREVENTION

POSTER NUMBER: 266

INTRODUCING CONCEPTS OF HIV RISK REDUCTION INTO THE CLINICAL SETTING: TECHNIQUES AND CHALLENGES

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Introduction: Gay men employ a range of HIV risk reduction strategies (HIVRR) including: condom use, negotiated safety, strategic positioning, serosorting and withdrawal. Discussing HIVRR and offering clinical advice is challenging due to a lack of robust evidence, a lack of relevant resources, medico-legal concerns and confounding factors impacting on transmission, including sexually transmissible infections.

Discourse is limited regarding clinicians capacity to address HIVRR within a consult. Whilst some clinicians are prepared to discuss HIVRR with patients, it's not widely reported. The majority of clinicians are under-resourced and unsupported in this area and uncertain regarding the implications of such discussions.

Methods: A capacity building project was initiated aimed at opening a dialogue with clinicians, sharing developments in HIV prevention, indentifying and working through barriers and determining the most appropriate support required in discussing HIVRR with patients.

Project implementation is currently underway and includes a Sydney Local Health District (SLHD) workforce development forum, a review of current practices globally, identifying and addressing structural barriers and resource development.

The project plan preceded development of a discussion paper summarising the challenges for health services in addressing HIVRR.

Results: A workforce development forum was implemented, including presentations of relevant research, exploration of medico-legal issues and a panel discussion analysing current experience with and response to addressing HIVRR. The forum achieved 80% attendance by target audience, 100% of participants rated the forum as achieving intended objectives and key recommendations were established for future work.

Conclusion: For clinicians working with gay men to adequately discuss HIVRR: professionally endorsed practice guidelines must be established, medico-legal concerns addressed, ongoing education provided and evidence based health education resources produced. Incorporating HIV risk reduction discussions into clinical practice will be an important element of HIV combination prevention frameworks. Discussion regarding biomedical HIVRR will be a future focus of this project.

POSTER NUMBER: 267

PSYCHOSEXUAL CONCERNS OF SERO-DISCORDANT COUPLES: A STUDY OF PERSONS LIVING WITH HIV/AIDS (PLWHA) IN DELHI, INDIA

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Introduction: HIV diagnosis results in various reactions from infected and their loved ones. The study explores the interpersonal and sexual issues emerging due to HIV between sero-discordant couples.

Methods: 105 PLWHA (60 males, 40 females 05 transgender) were interviewed using semi-structured interview schedule. Focus Group Discussions were conducted to understand the deeper sexuality related issues

Results: In all 60% were married, 18% were unmarried and 22% were ever-married. A total of 62.7% reported reduced sexual activity. 43% of the respondents had HIV negative partner; 86% of them feared HIV transmission during protected sexual-intercourse with a negative partner who knew HIV status of respondent. In all 32.3% made no disclosure; of them, 75% feared HIV transmission to partner during sexual intercourse. 23.5 % reported to be totally abstaining from sexual activity after HIV diagnosis.

Conclusion: The interpersonal relations between partners in sero-discordant relationship get adversely affected due to presence of HIV. Drastic reduction in sexual activity may result in increased risk behavior on the part of infected as well as uninfected partner, and indulge in exploring new partnerships. There is greater need to introduce risk reduction strategies including non-penetrative sexual activity.

EVALUATING THE IMPACT OF PLHIV SPEAKERS IN RURAL SECONDARY SCHOOLS AND THE EFFECT ON THE STUDENTS UNDERSTANDING ABOUT SEXUAL HEALTH: A QUANTITATIVE AND QUALITATIVE ANALYSIS

Niaal M R

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Background: PLWHA Victoria Positive Speakers Bureau was funded to provide HIV presentations to rural secondary school students in Victoria. Presentations are part of the sexual health curriculum.

Previous evaluation from secondary school nurses and teachers indicated PLHIV speakers had an enduring impact on students. Evaluation could not fully utilise research methodologies because there was no funding to undertake this. Further quantitative, qualitative validation was required from the project funders on PLHIV speakers' role in educating students and the further development of reflective practice.

Methods: Volunteer academics with research, data analysis and reports expertise and PLHIV speakers developed evaluation forms and methodologies to better analyse evaluation data.

Likert psychometric scales and qualitative questions assessed the impact of the speakers' personal narratives, understanding about HIV, AIDS, STI's and personal sexual health.

Data analysis software was used for files, data entry, frequency tables and descriptive statistics.

A Department of Education region was selected. 30 Government Secondary schools were approached to participate in the evaluation.

Results: 15 schools participated and submitted evaluations. 1360 year 10 students were in the audiences

Analysis showed PLHIV speakers' presentations performed a crucial role in developing students' understanding about HIV, STI's and safer sex.

Six questions rated at the higher end of the scales. Qualitative comments were overwhelmingly positive. Tailored presentations acknowledged student diversity and ethnicity.

The evaluation results are powerful indicators on the contribution of PLHIV speakers to students' personal development.

Conclusion: This evaluation provided evidence based knowledge on the effectiveness of PLHIV speakers in schools and to the funders.

Presentations are regarded as highly informative, dynamic mechanisms informing students about preventing HIV transmission and insights into the lived experience of HIV.

Quantitative and qualitative methodologies validated the role of enhancing sexual health knowledge and a compelling argument for ongoing funding of PLHIV speakers in rural schools.

PLWHA Victoria is funded by the Department of Health Victoria. No pharmaceutical grants were received in the development of this study.

PROVISION OF FRIENDLY AND CONVENIENCE MSM CLINIC IN BALI; A GROUND BREAKTHROUGH IN AN EFFORT TO EXPANDING ACCESS TO STI AND HIV TESTING AND TREATMENT FOR MSM COMMUNITY IN BALI

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Introduction: Many in the Indonesian MSM community do not seek health care services in public STI and VCT clinics because of stigma and bureaucracy. STIs go untreated and HIV undiagnosed until they present with complications or Stage III/IV HIV infections.

Methods: The Bali Medika Clinic, Kuta, Bali with support from the Bali Peduli Foundation initiated convenient, after work-hours, confidential STI and HIV testing and treatment designed specifically for MSM community. A doctor, counselor, nurse and lab technician onsite provide high-quality, non-judgemental services usually within one hour. HIV, syphilis and simple STI testing are performed along with CD4 testing for those HIV+. All drugs and exams are provided free of charge. An outreach worker uses social media and site visits to recruit and follow-up with clients.

Results: Since opening in September 2012, there have been 1,016 client visits by 396 new patients. Mean age is 27 years. Among 386 clients tested for HIV, 74 (19,2 %) were HIV positive. The average CD4 count for 65 individuals tested was 326,35 (median 344, range 26 - 689). 18 patients have started ARV treatment. Of 339 tested for syphilis, 39 (11.5%) were diagnosed with early syphilis and 26 (7.7%) late syphilis. 315 were examined for STIs and 47 (14,9%) had urethritis and 190 (60,3%) had proctitis.

Conclusion: Significant numbers of MSM clients have accessed the Bali Medika Clinic for HIV and STI services within a period of less than a year. Friendly, convenient, community-specific and confidential services appear to have generated the response. The clinic is potential site for sentinel surveillance to monitor HIV prevalence among MSM in Bali given that it attracts clients from across the island.

Disclosure of Interest Statement: The Bali Peduli Foundation and Bali Medika Clinic have received a PIMA, point-of-care, CD4 testing machine and reagents from the Alere Corporation.

POSTER NUMBER: 270

CHALLENGES FOR INDONESIAN PWID WHO RECEIVE HARM REDUCTION PROGRAMS ACCESSING VCT AND ART

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HIV Cooperation Program for Indonesia

Background: The Indonesian Ministry of Health reported in 2011 that there were 21,031 HIV cases detected in VCT clinics with 49.5% infected through heterosexual sex, 15.3% people who injected drugs (PWID), and 4.8% men who have sex with men. However, there were 24,410 PLHIV receiving antiretroviral treatment (ART) in 2011. The 2012 annual behavior survey conducted among PWID who access harm reduction (HR) services in Java and Bali funded by the HIV Cooperation Program for Indonesia (HCPI) included questions about HIV status and ARV access.

Method: Over a three week period in April 2012, all PWID attending services in 7 provinces supported by HCPI at community health centers (CHC), hospitals and NGOs were invited to complete a self-administered questionnaire.

Result: A total of 3,401 out of 4,554 (75%) participants reported having had an HIV test with 69% receiving results. Of the 3,147 who knew their HIV status, 51% were HIV

positive with 59% of those receiving ART, ranging from 50% in Jakarta to 80% in Bali. Reasons given for not receiving ART included: not eligible to receive ART (45%); eligible but not ready to start ART (31%); and don't know if eligible (17%).

Conclusion: Clients of services who know they are HIV positive need to be encouraged to start accessing ART given the better outcomes achieved by earlier treatment. A range of approaches have been used to strengthen ARV services across Indonesia. HR service providers (CHC, hospital, NGOs) should strengthen information provision and referrals for HIV testing and CST.

POSTER NUMBER: 271

HIV TEST RESULT DISCORDANCY IN RURAL PAPUA NEW GUINEA: A CAUSE FOR CONCERN?

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Background: Since 2006, HIV testing in PNG has mostly been performed at the point of care using Determine as the initial screening platform followed by confirmation in a centralised laboratory utilising Serodia and Capillus (Model A). Ineffective pathways to centralised laboratory services in this model resulted in poor test confirmation and subsequent losses to follow-up in many areas of PNG. As a result, a parallel point-of-care testing algorithm using Stat Pak as the confirmation platform was implemented across the country (Model B).

Methods: Data from earlier serial testing algorithm (Model A) was compared to the more recent parallel testing model (Model B). Model A data was collated from 25 point of care testing sites using one central confirmation laboratory between 2006-2011. Model B data was collated from one hospital laboratory where the initial screening test was performed adjacent to the confirmation test by one person between 2009-2011.

Results: A total of 13,041 screening tests were performed in Model A; of the 212 screening tests that were reactive, 140 (66%) were confirmed as positive, 51 (24%) negative and 21 indeterminate (10%). A total of 724 screening tests were performed in Model B; 128 were reactive, 98 (76.5%) were confirmed as positive, 30 were classified as indeterminate (23%) according to the national algorithm.

Conclusion: Whilst there was a 10% improvement in screening/confirmation concordance when migrating from a serial to parallel point-of-care testing algorithm, the high level of discordancy is cause for concern. These values are significantly higher than result discordancy reported in other countries and the reported performance as detailed within the product literature. In some instances operator error has been observed, but there may be other issues at hand requiring further investigation.

POSTER NUMBER: 272

HIV TESTING UPTAKE IN RURAL PAPUA NEW GUINEA

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Background: Oil Search (PNG) Limited is a petroleum exploration and development company working in remote areas of Papua New Guinea (PNG). It administers its public health programs through a non-profit body, the Oil Search Health Foundation (OSHF). The OSHF HIV team has successfully managed a HIV testing, treatment and support program in the Southern Highlands Province since 2007.

Methods: This paper presents the results of a HIV testing uptake audit conducted across the twenty-five Southern Highlands OSHF supported HIV testing sites. Information regarding antenatal clinic (ANC) first time attendees, sexually transmitted infection (STI) and tuberculosis (TB) presentations was extracted from locally collated National Health Information System data. Information regarding HIV testing was extracted from locally collated National HIV Surveillance data. Both systems use standardised data reporting forms.

Results: Between the end of 2007 and 2011, 13,449 HIV tests were conducted across the 25 sites. 5,134 of these were conducted in 2011. In terms of uptake in 2011, 57.4% (1185/2064) of first time attendees to ANC were tested; for patients diagnosed with an STI, 19.7% (298/1512) were tested; and for those diagnosed with TB 12.1% (52/428) were tested for HIV.

Conclusion: OSHF has provided significant resource to scale-up HIV testing in the Southern Highlands. Despite this, national HIV testing targets of 80% in ANC and 100% in STI and TB services are far from being met. Better integration and normalisation of HIV testing in these services is required with more consistent offer of testing as per the national HIV testing guidelines. Other interventions to improve uptake include reporting data back to clinical staff who can then develop their own interventions to increase uptake. A further audit will be conducted in 12 months to monitor progress.

HIV DIAGNOSIS

POSTER NUMBER: 273

UPDATE OF THE 'GP MENTORING AT THE TIME OF HIV DIAGNOSIS' PROJECT IN NSW

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Introduction: A significant number of cases of HIV are diagnosed by GPs who have never previously or rarely diagnosed HIV. The 'GP Mentoring at the Time of HIV Diagnosis' project run by the Australasian Society for HIV Medicine (ASHM), provides GPs the opportunity to receive advice from experienced HIV GPs/clinical advisors prior to delivering the positive result. The diagnosing GP has a pivotal role in the patient's understanding of HIV, future HIV management, access to specialist assessment and contact tracing.

The aims of the project are:

- 1. Patients receive the best possible care at the time of diagnosis
- 2. Patients are referred appropriately
- Diagnosing doctor is encouraged to maintain (or start) a relationship with patient and continue playing a role in all aspects of their care, including non-HIV related health issues
- 4. Patient's contacts are reached and subsequently tested

Since 2009, 119 GPs have been mentored in NSW, 75% of which have never diagnosed HIV previously. Although 77% of diagnosing GPs are aware of the value of contact tracing, only 55% were aware of available methods to undertake this important public health intervention. Half the GPs indicated they were interested in ongoing shared care of the patient. An independent evaluation of the project found all GPs were positive about the project and felt the clinical advisors were able to address all their questions and provide additional information around legal issues, referrals and contact tracing.

This project is reaching a significant number of GPs diagnosing HIV for the first time, its coverage and service to GPs may contribute to the ongoing biomedical prevention of HIV in NSW. Support for GPs in managing a positive HIV diagnosis can result in enhanced patient care, appropriate public health management in respect to contact tracing and ongoing involvement in management of a chronic health illness.

POSTER NUMBER: 274

HIV INFORMATION FOR AGED CARE FACILITIES

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In 2011 there were 21, 391 people in Australia living with HIV infection. As the HIV epidemic evolves, HIV positive individuals are ageing and many are being admitted to aged care facilities. In 2008 after consultation and completion of a needs assessment with several key aged care facilities across Sydney, a standard guideline for educational sessions was developed by HIV Specialist nurses based in Sydney, as they provided education to these institutions. A resource "HIV Information for residential and Aged care Facilities" was developed to be distributed after an educational session had been completed at the aged care facility. The staff of facilities also requested that a poster be made for them to put on notice boards.

The needs analysis of 106 responses from several aged care facilities noted poor or dated knowledge pertaining to general HIV information, transmission, confidentiality and the legislation attached to it, managing exposures etc. Although infection control is mandatory in this setting 40% of responses were concerned about having to take extra precautions with HIV + residents. Issues identified included: using Personal Protective Equipment (PPE) at all times; during personal contact, coughing and to use gloves with soiled linen.

Key information from the resource was identified and made into an A3 double sided poster. This presentation will discuss challenges to the development of the poster, distribution strategies and the information covered on the poster: What are HIV and AIDS; Transmission: facts and myths; HIV confidentiality, HIV medications and management (including adherence and access to \$100 drugs); infection control and standard precautions; managing needlestick injuries and occupational exposures.

Disclosure of Interest Statement: In 2009 a Grant from Merck Sharp and Dohme for printing of educational booklet HIV Information for Residential and Aged care Facilities from which information has been transcribed to A3 resource.

TREATMENT UPTAKE, ADHERENCE, LOSS TO FOLLOW-UP

POSTER NUMBER: 275

HIV TREATMENTS UPTAKE AMONG PEOPLE LIVING WITH HIV IN AUSTRALIA: HEALTH PROMOTION AND POLICY RESPONSES TO REDUCE BARRIERS TO TREATMENTS UPTAKE

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¹ National Association of People Living with HIV/AIDS.

Introduction: Since 2006, the median CD4+ cell count at HIV diagnosis has been sitting at around 400 (cells/µl) or higher. Data from the Australian HIV Observational Database for the same period shows that the median CD4+ cell count at treatment initiation was just 294 (cells/µl). This suggests that many people living with HIV (PLHIV) are delaying treatment initiation beyond the point strongly recommended by current

guidelines. Additionally, there are thousands of PLHIV who have not taken up or have discontinued treatment. Estimates vary, but between 20% and 48% of Australian PLHIV are currently not treating. Studies among PLHIV and prescribers have documented various psychological and structural barriers to treatment.

Methods: Data on the proportion of Australian PLHIV on HIV treatments, and the relationship between CD4+ count and HIV treatment decisions were compared with antiretroviral treatment guidelines. Data on psychological barriers to HIV treatments among PLHIV and HIV s100 prescribers were reviewed. Structural barriers such as s100 drug dispensing arrangements and the impact of cost barriers on treatments adherence were also reviewed.

Results: Data gathered from PLHIV and HIV s100 prescribers on attitudes towards HIV treatment have identified various psychological and structural barriers to treatment uptake. There are indications that many PLHIV may not be aware of new scientific understandings regarding the benefits of early initiation and/or improvements in therapy. NAPWA's 'Start the Conversation' campaign aimed to improve treatment uptake by encouraging PLHIV to talk to their doctors about the benefits of HIV treatments for themselves and their partners.

Conclusion: Further social marketing initiatives to address psychological barriers among PLHIV and doctors to uptake of HIV treatments are needed, along with advocacy for policy changes to reduce structural barriers to HIV treatments access.

Disclosure of Interest Statement: The National Association of People Living with HIV/ AIDS (NAPWA) receives funding from the Australian Government Department of Health and Ageing. NAPWA received an unrestricted education grant from Gilead Sciences, which was used to develop an HIV treatments campaign for PLHIV.

POSTER NUMBER: 276

SUPPORTIVE RELATIONSHIPS WITH THE CLINIC TEAM EMPOWERS THAI PEOPLE LIVING WITH HIV TO MAINTAIN EXCELLENT ADHERENCE

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Introduction: Barriers to combination antiretroviral therapy (cART) adherence in Asia include fear of stigmatisation, travelling long distances to clinic, lack of family support and financial difficulties. Amongst patients at two clinics in Thailand we previously found adherence rates ≥ 95% and undetectable viral loads of 94% and 95% respectively. This study sought to understand factors contributing to the excellent adherence observed.

Methods: In-depth interviews were conducted with 21 patients attending routine clinic visits at Srinagarind Hospital, Khon Kaen or HIV-NAT, Bangkok. Informants were asked about their experiences living with HIV and taking cART.

Results: Median informant age was 44 (range 27-60) years, (43% female). The majority took their medicines regularly with minimal delay, even when outside the home. Most currently obtained cART through the National Treatment Program or clinical trials. Mobile phone alarms were commonly used as a reminder prompt. Fear of stigmatisation was a prime concern: many informants travelled from other provinces to avoid disclosure of their HIV status within their local community. Previous negative experiences at other clinics or with friends or acquaintances reinforced this fear. A number had disclosed their

HIV status to no-one; some confided in family or friends, or received support from patients attending clinic on the same day. Determination to stay healthy and incorporate taking cART into their daily routine were considered key components of good adherence. Fundamental support for these was engendered by confidence, trust, and a supportive relationship with the clinic team. Physicians and nurses remembering the informant's face and name, not fearing physical contact, providing information, being contactable between clinic visits and willingly answering questions were key contributors to this empowering relationship.

Conclusion: A supportive relationship with the healthcare team overcomes barriers to adherence and empowers people living with HIV in Thailand to maintain excellent adherence to cART.

Disclosure of Interest Statement: This study was supported by a Faculty Research Grant from the University of New South Wales.

POSTER NUMBER: 277

A NEW ADHERENCE TOOLKIT FOR THE VIETNAM TREATMENT PROGRAM

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Background: International donors support more than 90% of Vietnam's HIV treatment program of more than 60,000 patients. Rapidly falling donor funding and continued program growth is necessitating significant cost reduction, with a view to eventual transition to full Government of Vietnam ownership.

A simpler, lower-cost service package is currently being developed. However, retaining service quality and treatment outcomes while cost falls is challenging. Additionally, services lack the tools to track service quality or upstream patient indicators like adherence, focusing rather on downstream outcomes like mortality and loss to follow-up. Deterioration in the quality or quantity of adherence counseling and support might lead to a rise in rates of treatment failure that might not be detected for some years.

Methods: FHI 360 has developed an adherence toolkit which screens patients using a subjective single close ended question, asking patients very generally if they have any problems with adherence or would like any additional support, a a validated visual analogue scale. A stamp is placed in the patient record on every visit and the yes/no answer and the self-reported percentage adherence is recorded. Screening can be conducted by the clinic nurse, or a peer clinic worker.

The toolkit contains a structured in-depth assessment for patients who screen positive and tools for a structured cognitive behavioral intervention, data collection, and management and supervision.

In addition to identifying priority patients and targeted increasingly limited staff resources, screening patients in this way generates data on population adherence rates and can be used by local service providers to improve the standard of care and by program managers and donors to monitor the safety of the service transition.

Results: The process of implementation has included field-testing at one large and stable inner urban clinic. 97 of 126 patients reported 100% adherence and no difficulties taking their medication. Only three patients reported adherence less than 90% and two of these patients also reported difficulties. 18 patients had adherence between 90 and 100% of whom 10 reported difficulties and 5 did not.

After this initial field test, the toolkit will be scaled up to include all FHI360 sites in a range of remote and urban settings with close to 10,000 patients. Further results from this population will be presented.

POSTER NUMBER: 278

EFFECTS OF PATIENT TRACING ON ESTIMATES OF LOST TO FOLLOW-UP, MORTALITY AND RETENTION IN ANTIRETROVIRAL THERAPY PROGRAMS IN LOW-MIDDLE INCOME COUNTRIES: A SYSTEMATIC REVIEW.

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Background: A large proportion of patients receiving antiretroviral therapy (ART) in low-middle income countries (LMICs) have unknown treatment outcomes and are classified as lost to follow-up (LTFU). Physical tracing of patients classified as LTFU is common; however, effects of tracing on outcomes remains unclear. The objective of this systematic review was to compare estimates of LTFU, mortality and retention in LMIC in cohorts of patients with and without physical tracing.

Methods: We systematically identified studies in LMIC programmatic settings using MEDLINE (2003-2011) and HIV conference abstracts (2009-2011). Studies reporting the proportion LTFU 12-months after ART initiation were included. Tracing activities were determined from manuscripts or by contacting study authors. Studies were classified as "tracing studies" if physical tracing was available for the majority of patients. Summary estimates from the 2 groups of studies (tracing and non-tracing) for LTFU, mortality, retention on ART (patients who transfer out are retained) and retention on ART at the original site (patients who transfer out are not retained) were determined.

Results: 261 papers and 616 abstracts were identified of which 39 studies comprising 54 separate cohorts (n=187,666) met inclusion criteria. Of those, physical tracing was available for 46% of cohorts. Treatment programs with physical tracing activities had lower estimated LTFU (7.6% vs. 15.1%; p<.001), higher estimated mortality (10.5% vs. 6.6%; p=.006), higher retention on ART (80.0 vs. 75.8%; p=.04) and higher retention at the original site (80.0% vs. 72.9%; p=.02).

Conclusions: Knowledge of patient tracing is critical when interpreting program outcomes of LTFU, mortality and retention. The reduction of the proportion LTFU in tracing studies was only partially explained by re-classification of unknown outcomes. These data suggest that tracing may lead to increased re-engagement of patients in care, rather than just improved classification of unknown outcomes.

Disclosure of Interest Statement: No pharmaceutical grants were received in the development of this study.

POSTER NUMBER: 279

CHARACTERISTICS OF LOSS TO FOLLOW UP PATIENTS IN THE ERA OF HAART: STUDY AT EDELWEISS CLINIC DR SARDJITO HOSPITAL YOGYAKARTA

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Background : The increasing number of HIV - AIDS in Indonesia is a mayor problem for public health practice. Implementation of antiretroviral treatment in Indonesia has been

carried out before '3 by 5' initiative. In Dr Sardjito Hospital Yogyakarta, cumulatif data of HIV and AIDS patient since 2004 – 2011 732 orang, However number of loss to follow up still high since then, through this study we tried to know patients characteristic for those who tend to failed on their follow up.

Methods: Data taken from patients register and other sources. Data collected include socio-demographic data, clinical data, antiretroviral regimens, and time when patients do not come to visit the clinic to take the drug. Medical records that are not completed will not be used in this study.

Results. As many as 732 HIV-infected people have been registered in HIV and AIDS database of the hospital since 2004 until 2011. New patients at the hospital is experiencing an increase in every year. In 2004 the number of new patients 11 of the person, transfer in from other clinic 3 person, In 2007 new patients are: 51 person, transfer in 5 people. In 2010 new patients 124 people. Transfer in from other clinic 10 people. A cumulative numbers of transfer in since 2004-2011 127 people.

Mortalities per year 5 people and cumulatif 74 people. Transfer out to other clinic or hospital per year 4-6 people and cumulatif 68 people. From this, there are 185 people (25,27 %) are loss to follow up. who are, man 112 people (61,55%), and women 73 people (39,45%), risk factor are heteroseksual 121 (65,49%) and IDU people 17(9,2%) and other 47 (26%)

Based on the mileage of Dr Sardjito , Hospital, from district Bantul 20 people(10,81%) District Gunung Kidul: 18 people(9,7%) District Sleman: 31 people(16,76%) District West Progo 31 people (16,37%) and outside of the region of Yogyakarta 47 people (25,5%)

Conclusion: To prevent failed to follow up we need to build commitment to patients and families to improve patient compliance to take medicines consistently.

HIV TESTING AND ANTIRETROVIRAL DRUG LEVELS

POSTER NUMBER: 280

PROVIRAL DNA TESTING OF HIV TROPISM IN THE MARAVIROC SWITCH COLLABORATIVE STUDY (MARCH) - RESULTS OF THE QULAITY ASSURANCE/QUALITY CONTROL (QA/QC) PROGRAMME

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Introduction: MARCH is a maraviroc switch study in virologically suppressed subjects on stable PI-based therapy. HIV-1 tropism is determined using population-based sequencing of proviral-DNA in aviremic patients. Before initiating the clinical trial, we wished to compare test results from multiple labs using actual clinical samples and implement a proviral-DNA tropism QA/QC programme to ensure competency in multiple MARCH laboratories.

Methods: MARCH QA/QC has three pre-study Phases assessing V3-loop sequencing and tropism determination via geno2pheno algorithm. FPR-threshold, originally 20%, was lowered to 10% (Phase 2/3) after re-analysis of Phase 2 results and emergent data favouring FPR 10%. Phase 1: interpretation of 10 chromatograms; "pass" was 100% concordance with reference laboratory. Phase 2: 20 DNA samples from HIV-positive volunteers (VL<50cp/mL (n=18); 10/15 X4-tropic on phenotypic testing). All samples

were sequenced in triplicate; and the lowest FPR of any replicate determined overall tropism. Phase 2/3: two clonal and 10 Phase 2 samples. Laboratories (n=13) passed if \leq 2 R5 and \leq 1 X4 were miscalled vs. consensus.

Results: All 13 laboratories met 100% acceptable performance in Phase 1. For several samples, Phase 2 triplicate testing revealed marked DNA variability (FPR range 0-96.7%). Therefore, the tropism result for each volunteer was determined by a consensus approach i.e. the lowest FPR reported by each laboratory for that sample was used to generate a median FPR. Of the 13 laboratories, 7 passed Phase 2 and 6 miscalled X4/R5 samples. For Phase 2/3, 8/13 laboratories passed and 5/13 laboratories required further investigation.

Conclusion: Use of samples from volunteers who for the most part matched participants likely to enroll in MARCH, revealed high variability of proviral-DNA for tropism determination. This variability would have been missed had a single or duplicate sequencing approach been used and highlights the importance of intensive QA/QC of tropism labs before embarking on clinical studies.

Disclosure of Interest Statement: Funding for the MARCH study received from Pfizer/ ViiV Healthcare. Three members of the MARCH study protocol steering committee are employees of either Pfizer or ViiV Healthcare, Simon Portsmouth, Fraser Drummond, Eric LeFevre.

POSTER NUMBER: 281

DETERMINATION OF RILPIVIRINE (TMC-278) PLASMA CONCENTRATIONS BY THE CONVENTIONAL LC-MS METHOD

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Background: Rilpivirine (TMC-278) is a second-generation NNRTI that is high potent against both wild-type and drug-resistant HIV-1 strains. The quantification of rilpivirine in human plasma is important to support clinical studies and determine pharmacokinetic parameters of rilpivirine. Until now there has been a methodological report for the determination of rilpivirine using LC-MS/MS. However, the MS-MS detector needs to be delicately set and it is expensive. To bypass these difficulties, we aimed to develop more conventional procedures for determining rilpivirine plasma concentration by LC-MS method.

Methods: A Waters Alliance 2695 HPLC and a Micromass ZQ-2000 MS, controlled with MassLynx version 4.0 software, were used for detection. Our method involves rapid liquid-liquid drug extraction from plasma and use of gradient elution on a reversed-phase C_{18} column. The mobile phase comprised 0.1 mM EDTA in 0.1% acetic acid (65%), acetonitrile (15%), and methanol (20%). Quantitative analysis detected rilpivirine at m/z 367, and the internal standard, at m/z 313, all in the form of ions.

Results: The established LC-MS method was validated by estimating the precision and accuracy for inter- and intraday analysis in the concentration range of 18-715 ng/ml. The calibration curve was linear in this range. Average accuracy ranged from 100.0 to 100.6%. Relative standard deviations of both inter- and intraday assays were less than 3.3%. Recovery of rilpivirine was more than 82.0%.

Conclusion: Our newly developed LC-MS method achieves the same level of reproducibility and accuracy as the LC-MS/MS method. Our method provides a conventional, accurate and precise way to determine rilpivirine in human plasma. This method can be used in routine clinical application for HIV-1 infected patients, and permits management of drug interactions and toxicity for rilpivirine.

LACK OF CORRELATION BETWEEN UGT1A1*6, *28 GENOTYPES, AND PLASMA RALTEGRAVIR CONCENTRATIONS IN JAPANESE HIV-1-INFECTED PATIENTS

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Background: Raltegravir is metabolized by glucuronidation via UGT1A1. Among the genetic polymorphisms of *UGT1A1*, the *6, *27 and *28 alleles are associated with reduced levels of UGT1A1. Among Asians, the *6 and *27 alleles are more commonly found in comparison with white populations. In this study, we aimed to clarify the contribution of *UGT1A1* polymorphisms to plasma raltegravir concentrations in Japanese HIV-1-infected patients.

Methods: We analyzed the presence of genotypic variants (*6, *27 and *28) among the 74 patients recruited at 4 hospitals. Plasma raltegravir concentrations were determined by a LC-MS method.

Results: Among the 74 patients, the *UGT1A1* genotype in 3 patients was *6 homozygote. Heterozygous variants were found in 20 patients for *6, and in 14 patients for *28, while all of the patients were found to carry wild-type sequences at the position corresponding to the *27 allele. The *6 homozygote patient had modestly higher plasma raltegravir concentration (0.53 μ g/ml) than other patients who were wild type (0.12 μ g/ml) or heterozygous (0.16 μ g/ml) for the *6 polymorphism. Other two *UGT1A1**6 homozygote patients had a lower plasma raltegravir concentration (0.03 and 0.05 μ g/ml). On the other hand, plasma raltegravir concentrations were 0.12 μ g/ml (*6-/-*28-/-; n=37), 0.11 μ g/ml (*6-/-*28-/+; n=14), 0.16 μ g/ml (*6-/-*28-/-; n=20). There were no statistically significant differences in the plasma raltegravir concentrations between patients carrying wild-type alleles and those heterozygous for *6 or *28.

Conclusion: Patients heterozygous for the *6 or *28 allele did not display significantly different plasma raltegravir concentrations compared to patients homozygous for the respective wild-type allele. In this study, we showed that heterozygosity for the reduced-function *6 and *28 alleles had no significant effect on plasma raltegravir concentrations in Japanese HIV-1-infected patients.

POSTER NUMBER: 283

NO CHANGE OF PLASMA DARUNAVIR CONCENTRATIONS BY SWITCHING FROM RITONAVIR SOFT CAPSULE TO TABLET

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Background: Darunavir, a second-generation protease inihibitor, is used with a low boosting dose of rotonavir to improve its clinical efficacy. The boosting dose of ritonavir acts as an inhibitor of CYP3A4, thereby increasing darunavir bioavailability. Recently, ritonavir tablet has been on sale in place of soft capsule. However, pharmacokinetic study of darunavir by changing ritonavir form is still not clear. In this study, we aimed to compare with plasma darunavir concentrations by switching ritinavir soft capsule to tablet in Japanese HIV-1-infected patients.

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Methods: We analyzed 34 Japanese HIV-1-infected patients (32 males: 2 females) recruited at the National Hospital Organization Nagoya Medical Center. All patients had been administered with 800/100mg darunavir/ritonavir once daily in combination with other antiretrovirals. Plasma darunavir concentrations were determined by an HPLC method. A pared t-test was used to compare with their concentrations by switching from ritonavir soft capsule to tablet.

Results: The mean of age, body weight, and duration of antiretroviral therapy for 34 patients were 41.9 (range: 24-62) years, 66.3 (range: 51.4-90.0) kg, and 436 (range: 182-739) days, respectively. The mean \pm SD of darunavir concentration was 3.44 \pm 1.78 µg/ml when ritonavir soft capsule was co-administered. After switching to ritonavir tablet, the mean \pm SD of darunavir concentration was 3.30 \pm 2.02 µg/ml. Statistical difference was not found in plasma trough darunavir concentration between ritonavir soft capsule and tablet (*P*=0.826). On the other hand, the mean of viral load was 78 copies/ml when ritonavir soft capsule was administered. After switching to ritonavir tablet, the mean of viral load was 33 copies/ml.

Conclusion: Recruited all patients have been sustained an undetectable viral load (less than 40 copies/mL) after switching to ritonavir tablet. In this study, switching to ritonavir tablet had no significant difference on plasma darunavir concentrations in Japanese HIV-1-infected patients.

POSTER NUMBER: 284

CORRELATION BETWEEN TWO METHODS FOR HIV-1 VIRAL LOAD TESTING

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Introduction: There are more and more of HIV positive patients received ART in Viet Nam and viral load is one of the most important tools for monitoring patients under treatment. With the aim to find out one viral load testing method suitable for the condition of developing countries like Viet Nam, we evaluated the correlation between real-time PCR assay using Generic HIV Charge viral kit (Biocentric-France) and AMPLICOR* HIV-1 MONITOR Test (version 1.5-Roche) for quantitation of HIV-1 RNA in plasma.

Methods: 4ml of blood from each of 69 HIV Positive patients were collected in EDTA tubes. Plasma were separated within 6 hours and aliquoted into 3 tubes. Testing was performed using Generic HIV Charge Viral kit (Biocentric, France) and AMPLICOR* HIV-1 MONITOR Test (version 1.5)...

Results: Pairwise determinations were possible in all 69 intended plasma. The HIV RNA levels (ranging from 0 – 6.87 \log_{10} copies/ml) measured by the Generic HIV Charge Viral kit were correlated very well with those obtained with the AMPLICOR* (r = 0.992, p<0.001). The mean difference between two samples measured was 0.03 \log cps/ml (95% CI: -0.03 – 0.09) (std=0.26) (p=0.34).

Conclusion: The real-time PCR assay using Generic HIV Charge viral kit (Biocentric-France) is an useful tool with suitable price for monitoring of HIV-1 RNA levels in HIV positive patients under ARV treatment, especially in developing countries.

Disclosure of interest statement: Thank to CDC, USA for supporting us to perform this testing (This abstract based on CDC-funded activities) and thank to Dr. Michelle McConnell reviewed it for us.

ANTIRETROVIRAL TREATMENT AND RESISTANCE

POSTER NUMBER: 285

ANALYSIS OF EFFICACY BY BASELINE VIRAL LOAD - PHASE 3 STUDY COMPARING ELVITEGRAVIR/COBICISTAT/EMTRICITABINE/TENOFOVIR DF (QUAD) VERSUS RITONAVIR-BOOSTED ATAZANAVIR PLUS EMTRICITABINE/TENOFOVIR DF IN TREATMENT NAÃ VE HIV-1 INFECTED SUBJECTS: WEEK 48 RESULTS

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Introduction: Elvitegravir(EVG)/cobicistat(COBI)/emtricitabine(FTC)/tenofovir disoproxil fumarate(TDF)("Quad") is the first once-daily integrase inhibitor-based single tablet regimen in clinical development.

Methods: Subjects with HIV RNA (VL) \geq 5000 c/mL, CL_{cr} \geq 70 mL/min, no prior HIV therapy, and no resistance to ATV, FTC, or TDF were randomized to receive Quad or ATV/r+FTC/TDF in a multinational, blinded, active-controlled study. Primary endpoint was VL< 50 copies/mL at Week 48 by snapshot algorithm; noninferiority margin was -12%.

Results: 708 subjects were randomised and treated: median VL 4.87 \log_{10} copies mL, 41% with VL ≥100,000 c/mL. Quad was noninferior to ATV/r+FTC/TDF in achieving VL<50 c/mL at Wk48 (90% vs 87%) (difference 3.0%, 95% Cl: -1.9 to 7.8). Virologic response rates were high in both Quad and ATV/r+FTC/TDF group among subjects with high baseline VL >100,000 c/mL) (85% vs. 82%) and those with low baseline VL (≤100,000 c/mL) (93% vs. 90%). Efficacy of Quad was consistent across all subgroups. Overall virologic failure was infrequent (5% in both groups). Mean CD4 increases were similar (207 vs. 211 cells/µL). Discontinuation rates for adverse events (AE) were similar (4% vs. 5%). The rate of Grade 3 or 4 hyperbilirubinemia was lower in Quad (1% vs. 58%). Median CL_{cr} change from baseline was -12.7 in Quad and -9.5 mL/min in ATV/r+FTC/TDF. Median triglyceride increases were 0.9 in Quad and 0.26 mmol/L in ATV/r+FTC/TDF (p=0.006). PK-PD analyses showed ≥ 90% efficacy across all quartiles or octiles for EVG C_{trough}. Median spine BMD changes in Quad vs. ATV/r+FTC/TDF were -2.45% and -3.46%; for hip, changes were -2.87% and -3.59% (p>0.05 for both).

Conclusions: Quad demonstrated non-inferior efficacy and was well-tolerated at 48 weeks. The efficacy of Quad was robust in patients regardless of baseline VL. These data support the use of Quad as a potential new STR option for initial HIV treatment irrespective of baseline VL.

Disclosure of Interest Statement: Dr Bloch has received funding from, acted as an advisor for and/or participated in clinical research for: Gilead, Janssen, Merck, Bristol Myers Squibb.

SPIRIT: SWITCHING TO THE EMTRICITABINE/RILPIVIRINE/TENOFOVIR DF (FTC/RPV/TDF) SINGLE-TABLE REGIMEN (STR) FROM A BOOSTED PI + 2 NRTI REGIMEN

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Background: Antiretroviral regimen simplification improves quality of life and long-term medication adherence while reducing the risk of HIV virologic failure (VF), and long-term drug-related toxicities. FTC/RPV/TDF is a well-tolerated, once daily single-tablet regimen (STR) treatment option. This is the first study to evaluate the efficacy and safety of switching from boosted protease inhibitor (PI+RTV) based HAART to a simplified STR regimen FTC/RPV/TDF.

Methods: A randomised, open-label, international, 48 week study to evaluate the safety and efficacy of switching from PI+RTV regimens to FTC/RPV/TDF in virologically-suppressed (HIV RNA <50 copies/mL), HIV-1 infected subjects. Subjects were randomized 2:1 to switch to FTC/RPV/TDF or maintain their current PI+RTV based regimen. The primary endpoint was non-inferiority (12% margin) of FTC/RPV/TDF relative to PI+RTV based regimens in maintaining plasma HIV-1 RNA <50 copies/mL at Week 24(W24) by Snapshot analysis. Changes in serum lipids from baseline were evaluated.

Results: A total of 476 subjects were randomised and received at least 1 dose of study drug (317 FTC/RPV/TDF; 159 PI+RTV). Switching to FTC/RPV/TDF was non-inferior to maintaining a PI+RTV regimen (93.7% vs. 89.9%) at W24 for HIV RNA <50 copies/mL (95% CI:-1.6%, 9.1%). Fewer subjects in the FTC/RPV/TDF arm than in the PI+RTV arm had VF by Snapshot analysis, defined as HIV RNA \geq 50 copies/mL at W24 or discontinuations of study drug with HIV RNA \geq 50 copies/mL (0.9% vs. 5.0%). Two subjects in the FTC/RPV/TDF arm and one in the PI+RTV arm had emergent resistance. Total cholesterol (-0.65 vs. -0.03 mmol/L), LDL (-0.41 vs. 0 mmol/L), and triglycerides (-0.60 vs. +0.03 mmol/L) decreased from baseline to a significantly (p<0.001) greater extent in FTC/RPV/TDF vs. PI+RTV Subjects.

Conclusions: Switching to the STR FTC/RPV/TDF from a PI+RTV regimen in virologically-suppressed, HIV-1 infected patients maintained virologic suppression, improved total cholesterol, LDL, and triglycerides.

Disclosure of Interest: The corresponding author Dr Wraight is an employee of Gilead.

POSTER NUMBER: 287

ANALYSIS OF EFFICACY BY BASELINE HIV RNA - WEEK 48 RESULTS FROM A PHASE 3 STUDY OF ELVITEGRAVIR/COBICISTAT/EMTRICITABINE/TENOFOVIR DF (QUAD) COMPARED TO EFAVIRENZ/EMTRICITABINE/TENOFOVIR DF IN TREATMENT NAÏVE HIV-1 INFECTED SUBJECTS

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'Brigham and womens Hospital, Harvard Medical School, Boston, MA, US; 'Orlando Immunology Lenter, Orlando, FL, US; 'SAnthony Mills MD, Inc., Los Angeles, US; 'Stanford University, Palo Alto, CA, US; 'Community Research Initiative of New England, Boston, MA, US; 'University of North Carolina, Chapel Hill, NC, US; 'Johns Hopkins School of Medicine, Baltimore, MD, US; 'Gilead Sciences, East Melbourne, Vic, Australia; 'Gilead Sciences, Foster City, CA, US. **Background:** Elvitegravir (EVG)/cobicistat (COBI)/emtricitabine (FTC)/tenofovir disoproxil fumarate (TDF) ("Quad") is the first once-daily integrase inhibitor-based single tablet regimen in clinical development.

Methods: Treatment-naïve subjects with HIV RNA \geq 5,000 copies/mL (c/mL), CLCr > 70mL/min and sensitivity to EFV, FTC, and TDF who gave informed consent were randomized 1:1 to Quad or EFV/FTC/TDF QD. The primary endpoint was the proportion with HIV RNA <50 c/mL at Week 48 (snapshot algorithm, -12% non-inferiority margin).

Results: 700 subjects (89% male, 37% non-white, median baseline HIV RNA of 4.76 log10 c/mL, 33% with VL >100,000 c/mL) were treated. Virologic response to Quad (88%) was non-inferior to EFV/FTC/TDF(84%) at Week 48 (snapshot algorithm, difference +3.6%, 95% CI -1.6%, +8.8%). Among subjects with high (>100,000 c/mL) and low (<100,000 c/mL) baseline HIV RNA, response rates were similar for Quad (84% and 90%, respectively) and EFV/FTC/TDF (82% and 85%, respectively). Virologic failure rates at Week 48 were 7% in both arms. At Week 48, mean CD4 cell increase was 239 cells/µL in Quad and 206 cells/µL in EFV/FTC/TDF (p=0.009). Drug discontinuation rates for adverse events were similar (Quad 4%, EFV/FTC/TDF 5%). There was no difference in the rates of Grade 3 and 4 AEs. Median CLCr decreases were larger with Quad than EFV/FTC/TDF (-14.3 vs. -3.0 mL/min by Week 48, p < 0.001). Total cholesterol, HDL and LDL increases at Week 48 were significantly lower for Quad than EFV/FTC/TDF (p< or = 0.001 for all).

Conclusions: In this first Phase 3 study of 2 single tablet regimens, Quad demonstrated non-inferior efficacy to EFV/FTC/TDF and was well tolerated at 48 weeks. The efficacy of Quad was robust in patients regardless of baseline HIV RNA. These data support the use of Quad as a potential new single tablet regimen option for initial HIV treatment irrespective of baseline viral load.

Disclosure of Interest Statement: the corresponding author Dr Wraight is an employee of Gilead.

POSTER NUMBER: 288

LONG-TERM GENDER-BASED OUTCOMES FOR ATAZANAVIR/ RITONAVIR (ATV/R)-BASED REGIMENS IN HIV-1 POSITIVE TREATMENT-EXPERIENCED PATIENTS IN A CLINICAL SETTING

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Background: Clinical data on antiretroviral effectiveness in women, especially long-term data, is lacking. This sub-analysis evaluated the effect of gender on long-term outcomes of ATV/r-based regimens in treatment-experienced patients.

Methods: Retrospective study including information from three databases (France-DatAids, Germany-KompNet, Sweden-InfCare). Data from ARV-experienced adults starting an ATV/r-regimen between October 2004 and March 2007 were extracted every 6 months (maximum follow-up 5 years). Time to virological failure (VF), defined as two consecutive HIV RNA \geq 50 c/mL or one HIV RNA \geq 50 c/mL followed by discontinuation, was analysed by the Kaplan-Meier method. Associations of gender with VF and treatment discontinuation (TD) were analysed using Cox proportional models.

Results: Data for 1294 ARV-experienced patients (336 female; 958 male) were analysed. With the exception of age, baseline characteristics were comparable between sexes: in females and males respectively, median age was 40 vs. 44 years (p<0.0001); CDC class C AIDS was present in 22% and 21% of patients; median HIV RNA was 1622 and 1260 c/mL; median CD4+ counts were 359 and 373 cells/mm³; median ARV exposure was 5.2 and 5.7 years; and median protease inhibitor exposure was 2.6 and 2.9 years.

After 3 years' follow-up, the probability of no VF was 59% (95% CI 52–65%) and 63% (95% CI 59–67%) for women and men respectively, without difference in time to VF. In the multivariate analyses, female sex was associated with increased risk of TD (hazard ratio [HR]=1.54; 95% 1.28–1.85) but not with a higher risk of VF (HR=0.94; 95% CI 0.75–1.18). Overall, safety profile was comparable between sexes.

Conclusion: In a clinical setting, long-term outcomes of ATV/r regimens were similar by gender. Female sex was associated with a higher risk of discontinuation but not with a higher risk of VF. ATV/r is an effective and well-tolerated therapeutic option for treatment-experienced female and male patients.

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POSTER NUMBER: 289

FACTORS ASSOCIATED WITH OFF-LABEL UNBOOSTED ATAZANAVIR USE IN HIV INFECTED INDIVIDUALS IN A MULTI-SITE MELBOURNE COHORT

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Introduction: Prescribing atazanavir without ritonavir in patients also prescribed tenofovir, and in antiretroviral (ARV) experienced patients is considered "off-label". We aimed to describe, and identify factors associated with, off-label use in Melbourne, Australia.

Methods: Electronic pharmacy data of all atazanavir dispensed in 2011 was obtained from 2 pharmacies dispensing ARVs (Alfred Hospital and Melbourne Sexual Health Centre). Characteristics of off-label ARV-experienced patients were compared to a representative sample comprised of every 3rd individual dispensed atazanavir with ritonavir until a 4:1 ratio with off-label patients was achieved.

Results: 904 patients were dispensed atazanavir in 2011. 95/904(10.5%) were without ritonavir and 67/904(7.4%) were "off-label". 6/67(9.0%) off-label were ARV-naïve and 61/67(91.0%) were ARV-experienced. 29/61(47.5%) off-label ARV-experienced were also dispensed tenofovir, and 44/61(72.1%) had ritonavir dispensed prior to their off-label regimen. The 61 off-label ARV-experienced patients were compared to 244 ARV-experienced patients dispensed atazanavir with ritonavir. Off-label patients were less likely to receive tenofovir (47.5% vs. 70.9%; p<.001), and more likely to receive an integrase inhibitor containing regimen (32.8% vs. 6.1%; p<.001). There was no difference in the number of ARVs dispensed (≤3 ARVs 75.4% vs 75.0%; p=.9), duration of current regimen (>3years 55.8% vs 63.9%, p=0.2), age or gender, while there was a trend for "off-label" use at the tertiary site (31.1% vs. 20.9%; p=.08).

Conclusion: During 2011, 7.4% of individuals receiving atazanavir-containing regimens were "off-label". The majority of this group were ARV-experienced, half of whom were also dispensed tenofovir. Off-label patients did not receive atazanavir for longer periods

or receive more ARVs than patients receiving atazanavir with ritonavir. High prior ritonavir use in off-label patients suggests previous ritonavir intolerance may be a driver of off-label use. Use of pre-existing pharmacy dispensing data is a potential mechanism to identify areas for quality improvement of ARV prescribing across different sites providing care to people living with HIV.

POSTER NUMBER: 290

COMPLEMENTARY MEDICINES USE IN HIV POSITIVE PEOPLE: A NATIONAL SURVEY

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Background: Complementary medicine (CM) use by HIV-positive people in Australia has not been studied in the last decade, since the introduction of newer combination antiretroviral therapy (cART) regimens. The primary aim of this study is to identify patterns of CM use by HIV-positive people taking cART. Secondary aims are to identify information sources, reasons for use and prevalence of adverse reactions to CMs.

Methods: Over 1000 HIV-positive people attending one of 9 participating hospital or sexual health centre sites around Australia are recruited by pharmacists to complete a survey designed to meet the aims of the study.

Results: Provisional results from 545 people (91% response rate) attending sites in Victoria and NSW reveal that 54% have used CM products in the last 12 months. Among these, multivitamins (71%), fish oils (54%), vitamins D and C (38%, 26%), green tea (24%), vitamin B group (24%), protein and probiotic supplements (23%, 22%) are most popular. Most (79%) take these daily and 60% feel they are effective or effective enough.

Most people (78%) have told their doctor about CM use; 38% have told their pharmacist. Medical doctors are the most common information source (54%), followed by the internet, friends, and pharmacists (34%, 23%, 21%). Reasons for use include: to improve general health (62%), improve immune function (54%), increase energy (48%), reduce stress (23%), increase strength (20%), and address cART side effects (20%).

Of those using CM products, 9% suspect they have experienced a side effect to a CM product (n=28), most classifying this reaction as mild (56%;n=14) or moderate (40%;n=10).

Conclusion: Provisional results indicate that CM use is popular amongst this group. Usage patterns and reasons for use differ slightly from those of the general population. Final conclusions will be available when data collection is complete.

POSTER NUMBER: 291

A REVIEW OF THE EXTENT OF HIV DRUG RESISTANCE IN VIETNAM

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Introduction: In 2005, free antiretroviral therapy (ART) was rolled-out as a national program in Viet Nam. The estimated population of people living with HIV reached 254,000 in 2010 and this leads to increasing demand of ART in the near future. By 2009, ART coverage reached 53.7% for adults and adolescents and 49.7% for children. This study aims to describe the prevalence of HIV acquired drug resistance (ADR) among people receiving ART and prevalence of transmitted drug resistance (TDR) among recently HIV-infected persons in Vietnam, and their associated ART coverage, antiretroviral treatment adherence, and risk behaviors.

Methods: We performed a comprehensive review of published English literature containing relevant epidemiological and behavioral indicators through internet searches.

Results: Twenty-one relevant publications were included in this review. TDR prevalence among people recently infected with HIV increased from below 5% in 2006 to a higher level of 5-15% during 2007-2008 in urban Vietnam, whereas TDR prevalence among chronic antiretroviral-naïve HIV-infected adults stabilized between 6-8% across the country. About half of all adults and children with clinical or immunological criteria of therapeutic failure had evidence of developing resistance to antiretroviral drugs. Non-adherence among adults on ART ranged between 25-32% and the level of viral suppression (< 1,000 copies/ml) fluctuated from 68% to more than 83% at 12 month after initiating ART. However, relevant data concerning children were mostly absent

Conclusion: Increasing trend of transmission of HIV drug resistance was observed in urban Vietnam, suggesting an urgency of the establishment of regular surveillance for TDR. Viral load testing and availability of second or third line ART are recommended for the early diagnosis of drug resistance and prevention of its accumulation and transmission.

POSTER NUMBER: 292

AN AUDIT OF HIV TREATMENT RESPONSE RATES IN A HIGH CASELOAD PRACTICE: THE TAYLOR SOUARE PRIVATE CLINIC EXPERIENCE

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Background: Responses to HIV treatment have varied according to year of treatment, treatment experience, community or clinical trial setting. Taylor Square Private Clinic (TSPC) is a high caseload practice located in Darlinghurst, Sydney. All practitioners are S100 prescribers and 50% are specialist sexual health physicians. TSPC has 1500 patients on HIV therapy.

Objectives: To review treatment response rates in a random selection of patients receiving current ART therapy. To explore the variables associated with treatment response or failure to current ART treatment. To also analyse the reasons responsible for not achieving undetectable HIV RNA load (<40 copies/mL) while on the treatment.

Methods: An audit of first 500 random patients receiving ART therapy who attended the clinic for six months and were venepunctured was performed via a clinical database. The data collection commenced from September 2011 until February 2012.

Results: We examined 500 patients on current ART therapy, 98% males, 1.2% females and 0.8% transgender. 90.80% of the population had a viral load of <40 copies/mL. 8.60% cohort exhibited two or more consecutive detectable viral load readings of >40 copies/mL and the remaining 0.6% had a viral load of 40 copies/mL. A review of these patients showed that the most common ART regimens prescribed were Tenofovir disproxil fumerate, emtrictabine and efavirenz (Atripla); Abacavir, lamivudine (Kivexa) and nevirapine (Viramune); Tenofovir disoproxil fumarate, emitricitabine (Truvada) and nevirapine (Viramune).

Conclusion: The percentage of patients on ART with detectable HIV RNA load is low. The reasons for not achieving undetectable HIV RNA load while on treatment and the variables associated with treatment success or failure will be elaborated. The results will reveal important guiding factors for treatment provision and management of detectable HIV RNA load.

Disclosure of Financial Support: The study is funded by ViiV healthcare.

CLINICAL PRESENTATIONS, DIAGNOSIS AND

MANAGEMENT AND OUTCOMES

POSTER NUMBER: 293

THE BURDEN OF LATE PRESENTATION AND ADMISSION OF HIV POSITIVE PATIENTS TO HOSPITAL: A SINGLE CENTRE TERTIARY REFERRAL CENTRE REVIEW OF 59 CASES OF 11 YEARS

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Introduction: In HIV, late presentation is defined as presenting with an AIDS defining illness or CD4 count <350 cells/microL. While there is some research addressing morbidity, mortality and optimal starting time of antiretrovirals in HIV-infected patients who present late, little is known about reasons for admission, co-morbidities, length of stay, re-admissions and engagement with healthcare providers after diagnosis.

Methods: A retrospective analysis of morbidity and mortality, admission data and viral parameters for patients presenting to a tertiary referral hospital with first diagnosis of HIV and CD4 count <350 between 2000-2010.

Results: 59 patients fulfilled the criteria over 11 years.

The majority of patients were male (83%) reflecting the epidemic in Australia. Average age was 47 years. 63% percent were born overseas and at least 24% were non-English speaking.

The average CD4 count at presentation and at 12 months was 89 (9%) and 297 (17%) respectively. Many patients had existing co-morbidities unrelated to HIV. Admissions were mainly for opportunistic infections, the most common being *pneumocystis* jirovecii pneumonia.

Although most patients had only one admission in the first 12 months after diagnosis, some had multiple admissions related to opportunistic infections or complications related to prophylaxis for opportunistic infections.

Average time to starting anti-retroviral medication was 31 days and 30% of patients required changes to their antiretroviral regimen in the first 12 months, most commonly due to side effects.

Eight patients (14.54)% died in the first 12 months after diagnosis.

Conclusion: Despite increased understanding of the importance for early diagnosis of HIV infection, some patients, particularly non English speaking and those born in countries outside Australia continue to have delayed presentation. The absolute number per year has not changed over 11 years. This group have a high mortality rate and consume considerable health resources given their re-admissions over the first 12 months.

POSTER NUMBER: 294

REVIEWING THE EXPERIENCE OF ISONIAZID PROPHYLACTIC THERAPY FOR TREATMENT OF LATENT TUBERCULOSIS INFECTION IN HIV-POSITIVE PATIENTS AT A BRISBANE SEXUAL HEALTH AND HIV CLINIC

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Introduction: Nine-months of isoniazid prophylactic therapy (IPT) is recommended for patients with latent tuberculosis infection (LTBI) and HIV-coinfection. Although usually well tolerated, adverse reactions, including hepatitis and peripheral neuropathy compromise IPT completion. We aimed to review the experience with IPT at our clinic, and determine risk factors for all-cause premature cessation of IPT.

Methods: We conducted a retrospective cohort study at the Brisbane Sexual Health and HIV Service. Patients receiving IPT after a positive TST since 2000 were included. Those lost to follow-up, or receiving isoniazid for other causes were excluded. Patient factors, including age, race, sex, smoking and alcohol use were correlated with risk of IPT cessation using the chi-squared test.

Results: 69 isoniazid experiences have been identified, with 57 eligible for inclusion. 18 patients (31.58%) ceased IPT prematurely, after a median duration of 4 months (IQR: 1.25-5). Reasons for cessation included gastrointestinal symptoms (n=3), hepatotoxicity (n=3), peripheral neuropathy (n=1), immune reconstitution syndrome (n=1), dizziness (n=1), and pill burden (n=1). Eight patients had no documented reason for cessation. Patients without ART were less likely to cease IPT than those on ART (p= 0.034). More women (43.75%) than men (23.39%) ceased IPT, but this was not significant (p=0.14). Similarly, more patients with documented ethanol use ceased IPT early (36.84%), than those without (12.5%), but was not statistically significant (p=0.17). No association with IPT cessation was evident when patients were stratified by age (<35, 35-54 and ≥55), race or smoking status.

Conclusion: Completion rates for IPT are approximately 70% at our clinic. Premature cessation was associated with concurrent use of ART, suggesting IPT completion is better prior to ART initiation. Further investigation is required to determine any significant relationship between alcohol consumption, and female gender with early cessation. Hepatitis and peripheral neuropathy were not common in this cohort.

POSTER NUMBER: 295

TUBERCULOSIS IN AN HIV POSITIVE PATIENT AFTER ISONIAZID PROPHYLAXIS AND IMMUNE RECONSTITUTION WITH ANTIRETROVIRAL THERAPY: A CASE REPORT

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Introduction: The management of latent tuberculosis infection (LTBI) in patients with HIV is contentious in well-resourced settings, like Australia. Patients with LTBI are thought to benefit from prophylactic therapy, but it is unclear which patients benefit most following the success of combination antiretroviral therapy (ART). We present the case of an HIV-positive woman who developed tuberculosis after early cessation of isoniazid prophylactic therapy (IPT) and immune reconstitution with ART.

Case study: A 33-year-old HIV positive Zimbabwean-born woman presented with a three-month history of nausea, anorexia, night sweats, and involuntary weight-loss (>10%). This was associated with a spontaneously resolving, unilateral pleuritic chest pain, without concomitant respiratory symptoms. A left-sided pleural effusion was the only abnormal physical finding. The patient had completed treatment for LTBI with six months of IPT. She was diagnosed with HIV co-infection 6 months later, after a negative test in Zimbabwe in 2005. At HIV diagnosis, the CD4 count was 370 cells/µL (15%).

As it was unclear when the patient had acquired HIV infection, an additional course of IPT was prescribed. However, the patient developed symptomatic peripheral neuropathy after only three weeks of treatment. IPT was ceased, and the patient immediately commenced ART. At the time of the current presentation, ten months after ART initiation, her CD4 count was 320/µL (38%) with an undetectable viral load.

Pleural biopsy revealed a granulomatous pleuritis, and *M. tuberculosis* was isolated from pleural fluid and induced sputum. All isolates were sensitive to first-line agents, and the patient was treated with four-drug therapy with resolution of the systemic symptoms.

Discussion: This case highlights contemporary management issues for patients with HIV and TB co-infection, including determining those who will benefit from IPT, the optimal duration of prophylactic therapy in co-infected patients, the role of HIV co-infection in outcomes from LTBI prophylaxis and alternatives to isoniazid.

POSTER NUMBER: 296

RETROSPECTIVE STUDY OF PROGRESSION OF BONE LOSS IN HIV POSITIVE PATIENTS

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Introduction: The association between HIV infection, combination antiretroviral therapy and low bone mineral density has been reported, however, cohort analyses of the rate of bone mineral density change over time and associated contributory factors are limited.

Methods: A retrospective analysis of patients with HIV known to the Victorian HIV Service with available dual energy X-ray absorptiometry (DXA) scans between January 1996 and November 2011 was conducted with Ethics approval. The rate of change in bone mineral density was conducted in patients with two or more scans.

Results: 461 patients underwent at least 1 DXA scan, of which 280 had spine and/hip specific scans, and 88 had a second scan. Only 77 (27.5%) had normal BMD at first scan, 55 (19.6%) were osteoporotic, and 148 (52.9%) were osteopenic. Median age, body mass index (BMI), nadir CD4 cell count and known duration of HIV infection were significantly different between bone density groups. None of those with normal BMD and 17.4% osteopenic patients progressed to osteoporosis between scans in 88 patients. Significant median change (adjusted for age and gender) in spine T score was -0.01/year (p=0.001) and, hip T score -0.13/year (p=001). Current CD4 cell count at first scan significantly predicted change in hip and spine bone BMD (adjusted for age, gender and time between scans), but not BMI, nadir CD4 cell count nor detectable HIV. 59/280 (21.1%) patients experienced one or more fractures, of whom 36% were osteoporotic, 51% were osteopenic and 13% had normal BMD.

Conclusion: A significant proportion of the HIV cohort had low BMD and experienced fractures. Loss of bone was greatest at the hip. Current level of immunodeficiency significantly predicted bone loss.

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COGNITIVE IMPAIRMENT PROFILE AND ITS RISK FACTORS AMONG HIV ARV-NAAIVE PATIENTS AT HIV SERVICE UNIT, CIPTO MANGUNKUSUMO HOSPITAL, JAKARTA, INDONESIA

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Background: HIV/AIDS is a world tragedy. The incidence and its prevalence tends to increase in the last 10 years. In our clinic (POKDISUS HIV/AIDS Faculty of Medicine University of Indonesia – Cipto Mangunkusumo Hospital, Jakarta – Indonesia) we found around 700 – 800 new cases each year, while in our country, according to 2010's report, there are around 25.000 people infected with HIV. Jakarta is the capital of Indonesia with around 10 million population (662 km2), while Indonesia is a big country with around 240 millions population (1.9 million mile2). Prevalence among male patient is higher than female. Promiscuity is the most frequent transmission of HIV, and IV drug abuse as the second. HIV infection deranges the whole system of the body and causes damages in CNS which leads to neurocognitive impairment. Neurocognitive impairment itself worsen the quality of life. HAART at early stage gives significant improvement in the neurocognitive impairment related to HIV. In our clinic, there isn't any data about neurocognitive impairment among HIV ARV-naïve patient. We need to perform a study to get data of cognitive impairment among HIV ARV-naïve patient to improve our service in management of HIV patient.

Methods: this is a cross sectional study with 97 HIV ARV-naïve subjects involved. We used 15 neuropsychological test (Mini Mental State Evaluation, Forward Digit Span, Backward Digit Span, Boston Naming Test CERAD, Ray Auditory Verbal Learning Test (1-5, 6, 7, Recognition A and B), Ray Osterrieth Complex Figure Test, Pegboard Group Test, Verbal Learning Test, Trail Making Test A, Trail making Test B) to explore the prevalence of neurocognitive impairment related to HIV infection.

Results: We had 147 subjects along September to December 2011. Ninety seven fulfilled the inclusion criteria, while the rest were excluded because of some reasons. Around 88.7% subjects aged < 40 years old. Male subjects are 1.5 times fold compare to female. Mostly have 9-12 years of education. Around two third subjects had CD4 count < 350. Around 30% were IV drug abuser, and mostly were HIV infected in AIDS stadium patients. The prevalence of neurocognitive impairment is 93.8%. We found 88.7% neurocognitive impairment among younger age group (< 40 years). Mild Neurocognitive Disorder (MND) is the most frequent type of cognitive impairment (71.1%). There is no significant correlation between age, sex, level of education, level Hb, CD4 count, and neurocognitive impairment related to HIV.

Discussion: the prevalence of neurocognitive impairment in our study is similar to many previous studies in Africa Sub-Saharan (70%-90%). The characteristic of the population between these regions are closely similar. While using a complete test (Verbal Learning, Rey Auditory Learning, Rey Osterrieth Complete Figure Test, etc), the results seem higher (the prevalence is > 80%) than using screening test such as MMSE (Mini Mental State Evaluation) and IHDS (International HIV Dementia Scale) (prevalence is around 30%). Screening for neurocognitive impairment using IHDS or MMSE do not include test for executive and psychomotor function. Among HIV patient, impairment in executive function, working memory, and psychomotor function are the most frequent ones. As the theory said that metalloproteinase matrix deranges white matter around

frontal lobe area which we recognize as the area responsible for executive and psychomotor function of human being. There is no significant correlation between risk factors and cognitive impairment related to HIV. According to the theory, macrophages which has been invaded by HIV released matrix metalloproteinase in the CNS. This matrix then causes the neuron damage which leads to neuron loss. Perhaps, the factor which related to cognitive impairment in HIV infection is volume of the matrix metalloproteinase which is released by macrophages which we didn't observe in this study.

Conclusion: the prevalence of neurocognitive impairment related to HIV is high. HIV infect younger age group with low education level. It needs to perform continuous study about cognitive impairment in HIV infection in order to improve management of HIV and also to improve the quality of life of HIV patients.

POSTER NUMBER: 298

IT'S NOT THE END IT'S THE BEGINNING: ASSESSING EARLY NEUROCOGNITIVE DISTURBANCE

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The introduction of combination antiretroviral therapy (cART) for HIV has had a substantial impact on morbidity and mortality in those with HIV infection. Despite virologic suppression and immune recovery HAND may still persist. This presentation will report descriptive data from a study at the HIV clinics at RPAH. One aim of this study is to ascertain whether using the booklet "Early Signs of Mild Cognitive Impairment (MND)", a self-assessment tool can predict MND. Clients as well as significant others that they identified were recruited at their regular medical appointment.

Results: 89 participants. 96% male. Mean age 50years. 39% identified noticing mental change. 39% had a history of depression with 29% currently on treatment for depression. 95% had an viral load <50 copies/ml. The mean results for CD4 count – 580 X10⁶l; nadir of 140 X10⁶l; years HIV positive 12 years. 94% were taking cART with a mean duration of treatment of 9 years. Tenofovir® was the most commonly prescribed drug in multiple fixed dose combination (53%).

60% (53) expressed concern (> 3 symptoms identified from the booklet) with a median of 9 symptoms. There were 32 significant others with 53% (17) identifying > 3 symptoms.

Comparison of data with published screening algorithm for HIV associated neurocognitive disorders only 13 (14%) of the 89 were rated at risk by the algorithm. Of these 13, 10 self reported symptoms, however 43 of the 53 with concerns (81%) were not considered at risk using this algorithm. This represented a poor level of agreement using the kappa statistic (Kappa = 0.089, P = 0.167)

Conclusion: The long-term clinical significance remains unclear but we hope this study will add to the body of evidence, which is being collected regarding baseline screening, assessment and treatment of MND.

Disclosure of Interest Statement: Abbott provided an unrestricted educational grant to be used for statistical analysis.

PREDICTORS OF DAILY TENOFOVIR EXPOSURE IN THAI SUBJECTS TAKING COMBINATION ANTIRETROVIRAL THERAPY

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Introduction: Cumulative duration of tenofovir (TDF) exposure is associated with an increased risk of kidney disease, and plasma concentrations are increased in subjects taking ritonavir (RTV)-boosted protease inhibitors (PI). We compared TDF pharmacokinetics in Thai subjects to assess factors influencing total daily exposure.

Methods: 31 participants (48% female) taking 300mg TDF QD with EFV QD (n=14, 45%) or PI (n = 17, 55%) [lopinavir/RTV BD (n = 12) or atazanavir/RTV QD (n=5)] had intensive pharmacokinetic (PK) sampling at t = 0 (pre-dose), then 1, 2, 4, 6, 8, 10,12 and 24 hours. PK parameters were determined using WinNonLin; statistical analysis was done with Stata. Multivariate geometric mean (GM) regression models were developed adjusting for covariates with P < 0.1 in univariate analysis.

Results: Median age and body surface area (BSA) were 42 years and 1.62m^2 , respectively. Four participants (2 each taking PI and EFV, respectively) had mild renal dysfunction (eGFR <90mL/min/1.73m²; range 72-86); median duration of TDF exposure was 4 years in these participants vs 3 years in those with normal renal function. In participants taking EFV vs PI, GM (%CV) AUC₀₋₂₄, were 3045 (31) vs 3488 (30) ng*h/mL; C_{max} were 402 (33) vs 400 (48) ng/mL and C_{trough} were 60 (37) vs 69 (34) ng/mL. In multivariate models adjusting for BSA, TDF AUC₀₋₂₄ was 22% (95%CI 1 – 48%; p=0.04) higher in those taking PI-based cART, and 39% higher (95%CI 6 – 83%; p = 0.02) in those with mild renal dysfunction. In PI-treated participants, TDF AUC₀₋₂₄ was significantly related to RTV AUC₀₋₂₄ (GM ratio 1.03 (95%CI 1.001 – 1.06; p = 0.04) after adjusting for BSA and renal impairment.

Conclusion: Significantly higher daily TDF exposures were independently associated with mild renal impairment and RTV-containing cART. Renal function in patients taking TDF should be carefully monitored once their eGFR falls below 90mL/min/1.73m².

Disclosure of Interest Statement: This study was funded by the Thailand Research Council.

POSTER NUMBER: 300

DETERMINANTS OF 25-HYDROXYVITAMIN D CONCENTRATIONS IN HIV-INFECTED ADULTS IN BRISBANE

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Introduction: Lower 25-hydroxyvitamin D concentrations [25(OH)D] in HIV-infected persons have been seen in those with darker skin, those using efavirenz and when measured during the winter. Little is known about the prevalence of vitamin D deficiency in HIV-infected subjects, nor if the determinants are similar in a sub-tropical climate such as Brisbane (latitude 27°S). The aim of this study was to describe the prevalence of vitamin D deficiency, and to evaluate potential determinants of 25(OH)D.

Methods: A retrospective case notes review examined those who had 25(OH)D measured between 2010 and 2012. Potential determinants included: demographics, biochemistry, season and HIV-related factors.

Results: Preliminary results were available for 103 participants. 82% were male, 13% were born in Asia, 11% were born in Africa, 79% were receiving antiretroviral therapy and the median age was 43 (interquartile range (IQR) 35-49), median CD4+ 510 (IQR 410-680).

Mean vitamin D levels were 92 nmol/L (range 13 to 219). Twelve (12%) were vitamin D deficient (<50 nmol/L), 37 (36%) insufficient (<75mmol/L) and seven (7%) had high (>150 nmol/L) levels.

In multivariate analysis, 25(OH)D was negatively associated with being born in Asia (β -0.22, p=0.02), glomerular filtration rate (β -0.31 p=0.001), LDL-cholesterol (β -0.30 p=0.003), at least one incidence of hyposphosphataemia in the past 24 months (β -0.23 p=0.01), and measurement taken in the winter months (β -0.35 p<0.0001), and positively associated with protease inhibitor use (β 0.32 p=0.003) and use of non-nucleoside reverse transcriptase inhibitor use (NNRTI) (β 0.20 p=0.05).

Conclusion: In our preliminary results, 25(OH)D was associated with many determinants that have been previously described. It was also marginally, positively associated with NNRTIs in our multivariate model, although in univariate analysis, this association was negative. This is possibly due to the adjustment for LDL-cholesterol in the multivariate model and this finding needs further exploration.

POSTER NUMBER: 301

PREVALENCE OF VIRAL HEPATITIS INFECTION AND IMMUNOLOGICAL RESPONSE TO ANTIRETROVIRAL THERAPY AMONG ADULT HIV PATIENTS IN VIETNAM

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Background: The HIV epidemic in Vietnam is primarily driven by injecting drug use (IDU). Viral hepatitis co-infection may be associated with immunologic recovery in HIV-infected patients. We assessed immunological response to antiretroviral therapy (ART) among HIV/viral hepatitis co-infected adult patients in Vietnam.

Methods: Medical records from patients at 30 ART clinics nationwide from 2005-2009 were randomly selected and abstracted, including documented viral hepatitis B (HBV) or hepatitis C (HCV) status. Patient-level data were weighted based on probability of selection and analyzed to control for survey design using Stata version 11.

Results: Of the 7,587 patient records, 2,565 (33.8%) HIV-infected patients had documented viral hepatitis status and were included in this analysis. The overall hepatitis prevalence was 45.4% (95%Cl:43.4%-47.3%); 4.8% were HBV/HCV positive, 9.0% were HBV positive, and 31.6% were HCV positive. At baseline, all patients had median CD4 <100 cells/mm³; 69.3% had HIV stage III or IV. A d4T/3TC/ NVP or EFV regimen was prescribed for 90.1% of patients. Proportions reporting IDU were significantly different among hepatitis groups (p<0.001): HCV 60.1%, HBV/HCV 59.8%, HBV 43.5%, and non-hepatitis 35.8%. Median CD4 change from baseline was significantly different between hepatitis groups at 6, 12, 24 months (p<0.05): HBV/HCV 63 and 195 cells/mm³, HBV 101 and 242 cells/mm³, HCV 79 and 161 cells/mm³, and no hepatitis 96 and 208 cells/mm³ at 6 and 24 months, respectively. At 24 months, all patients with hepatitis had median CD4 between 250-350 cells/mm³. Overall retention was 78.8% and 75.9% at 24 and 36 months, respectively, with no difference between hepatitis groups.

Conclusion: Viral hepatitis prevalence, especially HCV, was high in this cohort of ART patients. Patients with HCV co-infection had slower immunologic recovery than other groups with hepatitis. This analysis is limited to those with a documented hepatitis status, and additional data are needed on immunologic recovery in HIV patients with hepatitis co-infection.

Disclosure of Interest Statement: Vietnam national ART program evaluation (data) was supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through the US Centers for Disease Control and Prevention's cooperative agreement with Vietnam Administration for HIV/AIDS Control. No pharmaceutical grants were received in the development of this study

POSTER NUMBER: 302

ASSESSING CLINICAL OUTCOME OF HUMAN IMMUNODEFICIENCY VIRUS (HIV) EXPOSED CHILDREN IN THE ANTI-RETROVIRAL THERAPY (ART) ERA IN A RESOURCE LIMITED SETTING (RLS).

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Background: ART is being scaled up in PNG. There is currently no published literature about clinical outcome of paediatric HIV in PNG in ART era hence this study.

Methods used: Observational retrospective/prospective one centre study at PMGH, Port Moresby, PNG. Inclusive of all HIV exposed children born between 2007-2010 and attending PMGH. Carers refused participation, prematurity and missing records were excluded. SPSS version 10 and Stata Version 8 were analysis tools. P value of <0.05 was significant.

Results: 49/153 were females and mean age was 25 months. 93/153 were HIV deoxyribonucleic acid [DNA] polymerase chain reaction [PCR] negative at 6 weeks while 60/153 were positive hence on ART. At 18 months of age 90/153 were HIV antibody negative; 1/153 dropped out; 62/153 infected with HIV. HIV positivity rate with ART used as part of prevention of parent to child transmission (PPTCT) is 38% compared to 83% amongst those who had no ART. Case fatality rate amongst HIV exposed infected/uninfected children was 12%. 26% mortality amongst HIV infected children versus 3% amongst uninfected. Significant proportion of children who were HIV DNA PCR positive at 6 weeks of age died by 18 months of age(p=0.001). Independent predictors of HIV positivity upon univariate analysis included weight for age ranged between 60-80% (OR 0.17; p =0.001) and not having feeding option counselling before birth (OR 11.9;p=0.002). Multivariate analysis showed that not receiving ART as part of PPTCT (OR 31.1; p=0.001), not exclusively breastfeeding for 1st 6 months of life (OR 2.9; p=0.05) and having hospital admissions in last 12 months (OR 17.9; p=0.001) were independent predictors of HIV positivity. Lots of lost to follow-up identified and 72% of fathers were not accessing HIV services.

Conclusion: ART use is associated with better outcome. Gender friendly PPTCT/ART programs should be rolled out to all provinces.

Disclosure of Interest Statement: This study received academic support from the co-authors from the University of Papua New Guinea and University of New South Wales. Personal finance was used where necessary and no conflict of interest was encountered during this study.

STRATEGIC TIMING OF ANTIRETROVIRAL TREATMENT: THE START STUDY

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Introduction: START is a randomized clinical trial designed to provide definitive evidence of the risks and benefits of early antiretroviral treatment. It seeks to determine if immediate antiretroviral therapy among HIV-infected individuals (N=4,000) with CD4 levels above 500 cells/mm³ is better than deferring treatment until CD4 counts fall below 350 cells/mm³ in terms of morbidity and mortality, such as developing AIDS and other serious illnesses, including cardiovascular disease, cancer, kidney failure, and liver disease, or death.

Methods: This paper will review the baseline characteristics for the recruitment to-date in the START study

Results: 2417 participants were enrolled into the START study as of 23 May 2012. Their median age was 35 (IQR: 29-43) years; 17% female; and 58% white. 67% of participants were most likely to have become HIV infected through sexual contact with a person of the same gender. The median estimated time since HIV diagnosis was 1.1 years (IQR: 0.4 to 2.9 years). 2.3% and 5.0% of patients were co-infected with hepatitis B and C virus, respectively. The median HIV RNA level is 4.2 (IQR: 3.6-4.7) log copies/mL. Median CD4+count is 642 (IQR: 580-744) cells/μL.

Conclusion: It is estimated that, with just over 60% of total enrolment to-date, the goal of 4,000 participants will be reached by the end of 2012. START remains a very important study in HIV medicine.

Disclosure of Interest: START antiretrovirals are donated by the following: Abbott -- ritonavir, lopinavir/ritonavir; Bristol-Myers Squibb -- efavirenz, atazanavir, Atripla*; Gilead -- Truvada*, Atripla*; GlaxoSmithKline -- fosamprenavir, Epzicom*/Kivexa*; Merck -- efavirenz, raltegravir; Tibotec -- darunavir

START is funded by: DAIDS, NIAID, NIH; Agence Nationale de Recherche sur le SIDA et les hépatites virales (ANRS), France; Bundesministerium für Bildung und Forschung (BMBF), Germany; European AIDS Treatment Network (NEAT); Australian National Health & Medical Research Council (NHMRC); Dept. of Bioethics, The Clinical Center, NIH; Div. of Clinical Research, NIAID, NIH; National Cancer Institute (NCI), NIH; National Institute for Mental Health (NIMH), NIH; National Institute of Neurological Disorders and Stroke (NINDS), NIH; National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), NIH

POSTER NUMBER: 304

START: ALL THOSE SUBSTUDIES

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Introduction: The Strategic Timing of Antiretroviral Treatment (START) study aims to determine whether immediate initiation of antiretroviral treatment (ART) is superior to deferral of ART until the CD4+ declines below 350 cells/mm in terms of morbidity and mortality in HIV-1-infected persons who are ART-naïve with CD4+ T-cell counts >500 cells/mm.

The eight substudies comprise: Genomics, Informed Consent, Neurology, Arterial Elasticity, Pulmonary Function, Bone Mineral Density, Liver Fibrosis Progression and Malignancy Tissue Collection.

Methods: This paper will review recruitment to-date and substudy specific baseline characteristics for five of the eight substudies with ongoing visits post randomization.

The impact of the early vs. deferred ART is explored across all substudies; on small and large artery elasticity - Arterial Elasticity (AE) Substudy: (n=325); with respect to neurocognitive function - Neurology Substudy (n=600); the rate of lung function decline and overall respiratory health - Pulmonary Substudy (n=1000); to quantify the contributions on bone mineral density loss - Bone Mineral Density substudy (n=400) and to examine the effect on rates of liver fibrosis progression - Liver Fibrosis Progression (LFP) (n=990).

Results: As of 23 May, 2417 participants had enrolled into the START study. Co-enrolment has met expectation across the majority of substudies with Neurology reaching their target n=605, AE at 72% n=235, Pulmonary at 46% n=460, BMD at 31% n=125 and LFP opened in 2012 and has 3% of target n=28.

Baseline clinical data for AE included 32% current smokers, with a median BMI 22.8kg/ m^2 [21.0, 25.6], median pulse 74 [IQR: 66, 83] and 6.5% on BP lowering drugs. Neurology participants had 53% with >12 years education; a median of 14 years [IQR: 12, 16], 31.5% were depressed with a CES-D score \geq 16. Pulmonary participants had 35% current smokers, 13% former smokers and 52% who had never smoked, median FEV1 was 3.6L [IQR: 2.9, 4.2] and median FVC was 4.4L [3.6, 5.1].

Conclusion: Overall recruitment is going well. Based on current co-enrolment figures recruitment is expected to be achieved by the end of 2012 for all START substudies with the exception of Liver Fibrosis substudy.

Disclosure of Interest: START substudies are funded by collaborating NIH institutes namely Genomics (NIAID, NCI); Neurology (NIMH, NINDS); Informed Consent (NIH Clinical Bioethics Dept.); Arterial Elasticity (NHLBI); Pulmonary (NHLBI) and Bone Density (NIAMS)

POSTER NUMBER: 305

CARDIOVASCULAR AND RENAL RISK FACTOR AUDIT, CAIRNS SEXUAL HEALTH SERVICE

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Introduction: The increased risk of renal and cardiovascular disease (CVD) in people living with HIV requires services providing HIV care to develop a standardized approach to monitoring and management of risk factors. We conducted an audit of HIV positive clients attending Cairns Sexual Health Service (CSHS) to review current practice and identify areas for improvement.

Methods: A list of all HIV positive clients attending CSHS between 31/10/2009 and 31/10/2011 was generated. 313 client records were assessed of which 87 were excluded from the audit. The remaining 226 client records were audited using a data collection tool based on the Gilead 'HIV and the Body clinical audit'. Data was entered into a web based database from which a line list of data in excel format was generated for analysis. Individual chart reviews of clients identified with selected risk factors were conducted.

Results: Eighty-one (36%) clients were current smokers or had ceased within the past 12 months, however 95 (42%) did not have smoking status documented. Few (3%) were diabetic. Of the 13 (6%) clients identified with a raised blood pressure, 4 were recalled for review. Forty-six (20%) did not have a blood pressure recorded in the past 12 months. Thirty-nine clients on Tenofovir had an abnormal urine protein/creatinine ratio, 3 were recalled for review. Only 3 (1%) of clients had a documented CVD risk calculation.

Conclusion: This audit identified 6 clients requiring recall for risk factor review. Chart notes were made for those needing review at next visit. Processes are being developed to ensure appropriate risk factor monitoring and to improve documentation. A repeat audit will be required to evaluate clinic performance.

Disclosure of Interest Statement: This audit was funded by Gilead Sciences Pty Ltd.

POSTER NUMBER: 306

NEUROCOGNITIVE IMPAIRMENT AND CEREBROSPINAL FLUID HIV-RNA IN THAI HIV-INFECTED ADULTS FAILING NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR BASED ANTIRETROVIRAL THERAPY

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Introduction: There are limited data of prevalence and predictor of neurocognitive impairment (NCI) in HIV-infected adults in Asia. We evaluated the neurocognitive impairment in Thai HIV-infected adults failing non-nucleoside reverse transcriptase inhibitor based antiretroviral therapy (NNRTI-based HAART).

Material and Methods: This is a cross-sectional study in 98 Thai adults failing NNRTI-based HAART with plasma HIV-RNA>1,000 copies/ml. The patients underwent 5 test batteries; Color trails 1 and 2, EIWA Digit Symbol, Grooved Pegboard (dominant and non-dominant hand). Z-score was calculated using 277 age- and education-matched Thai HIV negative healthy controls. Neurocognitive impairment (NCI) was defined as having z-score <-1 standard deviation (SD) on ≥ 2 tests. Lumbar puncture was optional.

Results: Mean (SD) age was 37.1 (7.0) years, 60% were male, %CDC A:B:C was 25:33:42%. Nevirapine and efavirenz were used in 93%, and 7%, respectively. Mean CD4 (SD) count was 211 (140) cells/mm³, plasma HIV-RNA log₁₀ was 4.1 (0.5). Almost all (97%) had circulating recombinant CRF01_AE and 3% had subtype B.

Twenty-five (26%) patients met NCI criteria. By multivariate analysis, age>40 years was associated with NCI [OR 7.2, 95% CI 2.6-9.8; p<0.01]. Gender, transmission route, education level, monthly income, CDC class, time on NNRTI-based HAART, nadir CD4, CD4 count and plasma HIV-RNA at week 0 were not associated with NCI at 48 weeks.

Twenty-five patients were performed lumbar puncture. The mean (SD) \log_{10} cerebrospinal fluid (CSF) HIV-RNA was 2.5 (0.5). Eight of 25 (32%) patients had CSF HIV-RNA<50 copies/ml. For each 1 \log_{10} rise in plasma HIV-RNA, CSF HIV-RNA rose by 0.56 \log_{10} (p=0.02). CSF HIV-RNA did not correlate with NCI.

Conclusion: One-fourth of Thais failing first line NNRTI-based HAART had NCI. Only age>40 years was associated with NCI. CSF-VL was undetectable in 32% despite plasma viremia. CSF HIV-RNA correlated with plasma HIV-RNA but not with NCI.

Disclosure of Interest Statement: The HIV-Netherlands Australia Thailand research collaboration (HIV-NAT), Khon Kaen University, Taksin Hospital, Chonburi Hospital, Faculty of Medicine, University of Bangkok Metropolitan Administration, Sanpatong Hospital, Bamrasnaradura Institute and Faculty of Medicine, Chulalongkorn University: No industry grants were received in the development of this abstract. All site do receive funding from government agencies, various pharmaceutical companies, academic organisations and research organizations for wide range of its activities.

Memory and Aging Center, University of California, San Francisco (UCSF) is a leading university dedicated to promoting health worldwide through advanced biomedical research, graduate-level education in the life sciences and health professions, and excellence in patient care. It is the only UC campus in the 10-campus system dedicated exclusively to the health sciences.

Geneva University is an institution devoted to research, teaching and dialogue. It is the site of academic creativity and the transmission of knowledge. The UNIGE also shares the international calling of its host city, Geneva, a centre of international and multicultural activities with a venerable cosmopolitan tradition. Its desire to expand its collaboration with partner institutions and broaden its appeal to researchers and students from around the world has made the UNIGE a "globalised university", a meeting place for academic disciplines and various cultures, and a forum for ideas.

SEARCH is a partnership that began in 2005 with a goal of accomplishing mutual objectives in HIV/AIDS research and training in the South East Asia region among three partners: the Thai Red Cross AIDS Research Centre (TRCARC) and HIV-NAT in Bangkok, the Hawaii Center for AIDS of the John A. Burns School of Medicine, University of Hawaii (UH) at Manoa in Honolulu, and the Armed Forces Medical Sciences (AFRIMS) in Bangkok. SEARCH conducts its activities in Thailand under the TRCARC.

POSTER NUMBER: 307

PREVALENCE OF VITAMIN D DEFICIENCY AND INSUFFICIENCY IN HIV POSITIVE CLIENTS ATTENDING CAIRNS SEXUAL HEALTH SERVICE

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Background: Vitamin D is important for maintaining calcium homeostasis and bone density. Sun exposure is the primary source of Vitamin D synthesis and very little is gained through diet. Low levels have been linked to various health problems including osteoporosis and fractures. High rates of Vitamin D deficiency in HIV positive clients have been identified in multiple studies and routine testing of Vitamin D levels is now common. Many of these studies have been conducted in locations of high latitude and therefore it is unknown whether these findings apply to populations closer to the equator with greater opportunity for sun exposure, such as Cairns.

Methods: During 2011, Vitamin D levels of 180 HIV positive clients at Cairns Sexual Health Service (CSHS) were measured during routine screening. Vitamin D was measured in the form of 25-hydroxyvitamin D (25-(OH)D). Insufficiency was defined as a 25-(OH)D level of 50-74nmol/L, while a level lower than 50nmol/L was identified as a deficiency.

Specific characteristics of those with normal, insufficient and deficient 25-(OH)D levels were analysed. Age, gender, country of birth and indigenous status were compared between groups.

Results: Vitamin D deficiency was found in 10 cases (6%) and insufficiency in 34 cases (13%) of the 180 clients tested. There was no statistically significant difference between the groups in terms of gender or age.

Of the 10 clients with Vitamin D deficiency, six (60%) had dark skin pigmentation. Three of the remaining four clients with deficiency had other known risk factors identified.

Conclusion: The small number of Vitamin D deficiencies identified suggested that routine screening in this setting is not required. Targeted screening of clients with identified risk factors or where clinically indicated should be considered. A larger study of Vitamin D levels in HIV positive clients residing in tropical climates would improve understanding of risk factors in this group.

POSTER NUMBER: 308

CERVICAL SCREENING OUTCOMES IN A COHORT OF HIV POSITIVE WOMEN

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Background: HIV positive women are more likely to have infection with oncogenic HPV types and have a five-fold higher risk of Cervical Intraepithelial Neoplasia (CIN). Current guidelines for women with HIV recommend annual cervical screening and referral for colposcopy for all women with abnormal Pap smear results.

Sexual Health and HIV Service (SHHS), Brisbane conducted an audit of cervical screening outcomes in HIV positive women accessing care between 2007 – 2011.

Method: Demographic and Pap smear data was extracted from the clinic database. Ninety-nine HIV positive women who attended the service during the audit period were included. Information was substantiated through review of the medical records.

Results: The cohort had a mean age of 40 years (18-66yrs).

Mean age at HIV diagnosis was 31 years (19-53 yrs), 60% were from culturally and linguistically diverse (CALD) backgrounds.

Twelve percent attended a general practitioner for regular cervical screening, the remainder attended SHHS. 77% had a pap smear in 2011, while 99% were screened in 2010 – 2011.

30% of the cohort of 99 women had an abnormal smear in the audit period.

Eleven women all from CALD background had a high grade abnormality. For eight of these women it was their first pap smear.

All women with a smear abnormality were referred for specialist care. Nine of these 30 women had to meet their treatment costs as they were medicare ineligible. Community organisations were able to assist five women.

Ten women required excisional treatment. Three women had hysterectomies, two for failed local treatment and one for adenocarcinoma.

Conclusion: The high incidence of cervical abnormalities in this cohort emphasises the importance of promoting access to cervical screening for HIV positive women particularly women from CALD backgrounds.

For some women, medicare ineligiblity can be a barrier to cervical screening and specialist care.

AN AUDIT OF CARDIOVASCULAR RISK AS PREDICTED BY HIV SPECIFIC AND NON-SPECIFIC RISK EQUATIONS IN HIV INFECTED MEN

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Background: With increased awareness of cardiovascular disease (CVD) for people living with HIV, there has been an increased focus on CVD prevention. Two methods of CVD risk assessment were compared in 2 cohort studies in a tertiary HIV clinic setting.

Methods: The Framingham (FRS) and the HIV specific D:A:D CVD risk scores were calculated for two cohorts of patients examined in the same clinic at two time points: 1998 and 2010, and the CVD risk scores for the 1998 cohort were compared with observed CVD events during 5 and 10 year follow-up.

Results: For the 1998 cohort of 113 HIV positive men, the median (IQR) 5 year CVD risk was 3.4% (1.5-5.9) using the Framingham equation and 1.9% (1.2-3.5) using the D:A:D score. The median (IQR) 10 year FRS of 8.2% (4.5-13.0) would have predicted 9.3 cardiac events in the 113 person cohort in the following 10 years. The 5 year FRS would have predicted 3.8 cardiac events and D:A:D score 2.2 events in the following 5 years. During 5 years follow-up of the 113 person cohort, 3 CVD events occurred and over 10 years, 13 events occurred. In the 2010 cohort, (n=100) there was only a slight trend towards higher CVD risk scores compared with 1998: median (IQR) 5 and 10 year FRS was 6.1% (3-9.7) and 9.9% (5.7-9.9) respectively and D:A:D score was 4.3% (2.4-8.3) despite being a significantly older population (1998 mean age 42.1±8.8 vs 2010: 51.8±8.7 p-value <0.0001). This stable CVD risk in setting of older age, was largely driven by reduction in smoking and better lipid control.

Conclusion: 10 year FRS under-predicted clinical events, while the 5 year FRS and D:A:D scores provided more accurate prediction of clinical events. Despite an ageing HIV population, CVD risk scores are relatively stable in this cohort of men.

Disclosure of Interest Statement: Funding was provided by Gilead Science: J Price has previously received funding from Bristol Myers Squibb.

POSTER NUMBER: 310

SOCIAL IMPACT OF SCULPTRA TREATMENT OF HIV HAART TREATMENT-INDUCED SEVERE FACIAL LIPOATROPHY

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Introduction: Previous trials in Australia including FLASH and QFLASH have demonstrated the effectiveness of poly-l-lactic acid Sculptra®, the treatment of HIV HAART treatment - induced facial lipoatrophy. An assumption is that this improvement changes individual's lives but this has not been documented previously. There are currently 65 individuals enrolled in this trial, 11 have completed treatment thus far and their results are presented in this document.

Methods: Each participant was given 5 treatment episodes at 6 week intervals. Each treatment consisted of photographs (face on, 30% and 90% facial turn), application of Lignocaine 4% w/w topical anaesthetic cream (L-M-X4°) which was left in place for 20 mins and facial injection of 2 vials of Poly-I-lactic acid (Sculptra°) each diluted with 6mL of Water for Injection and 2mL of Lignocaine 2%. A qualified massage therapist then gave a facial massage and recipients were taught massage technique.

Subjective and objective ratings used at beginning and end; a. 100mm visual analogue scale (VAS) to measure individual subjective distress related to facial appearance; b. the Derriford Appearance Scale (DAS 24) a 24 part questionnaire measuring emotional and behavioural consequences of changes in appearance; and c. photographs were taken prior to each treatment and 6 weeks post the final treatment.

Results: Improvement was noted in all measures for each individual included in the trial. 54.5% had lower VAS scores at the end of treatment than mid way through treatment.

Conclusions: Subjective and objective measures demonstrated significant improvement over the course of treatment. Are the low end VAS scores perhaps an indication of normalisation of results post treatment? It would be interesting to incorporate some VAS results from the general population to further explore this idea.

POSTER NUMBER: 311

LONG-TERM OUTCOMES OF HIGHLY ACTIVE ANTIRETROVIRAL THERAPY (HAART) IN HIV-1 INFECTED PATIENTS WITH AND WITHOUT TUBERCULOISIS (TB) AND LATENT TB INFECTION (LTBI): AN OBSERVATIONAL COHORT STUDY IN ADDIS ABABA, ETHIOPIA

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Introduction: Long-term outcomes of ART in patients with and without TB and LTBI are poorly investigated.

Methods: 208 adults were recruited: 59 HIV patients with TB (HIV+TB+), and 126 without TB (HIV+TB-) [sub-group as 43 HIV+TST+, 82 HIV+TST-], 13 HIV-TB+, and 10 HIV-TST+. HAART was initiated for 113 patients (28 HIV+TB+, 85 HIV+TB-) and followed for 2 years. CD4+ count, HIV-RNA (PVL) and IFN-γ responses to Early Secretory Antigenic Target-6/Culture Filtrate Protein-10 (ESAT-6/CFP-10) were measured at baseline, six month (M6), M18 and M24 on HAART.

Results: By M6, M18 and M24 of HAART: although there was no difference in CD4+ cells achieved in HIV+TB+ vs. HIV+TB- (245 vs. 203, 336 vs. 311, 332 vs. 290 cells/ μ l); and in HIV+TST+ vs. HIV+TST- (249 vs. 237, 346 vs. 321, 348 vs. 319 cells/ μ l) (p>0.05 for all), the trend of CD4+ cell increase was reduced in those with TB and LTBI. Percentages achieved PVL<50 copies/ml in HIV+TB- vs. HIV+TB+ was very good (70 vs. 60%, 81 vs.77%, and 84 vs.80%, respectively), although the pattern of viral suppression was reduced in those with TB. IFN- γ secretion at baseline was depleted in HIV+TB+ (3.6 pg/ml) compared to HIV-TB+ (34.4 pg/ml), HIV+TST+ (46.3 pg/ml), and HIV-TST+ (491.2 pg/ml) (p=0.02, 0.05, 0.004, respectively); and in HIV+TST+ than HIV-TST+ (p=0.002). By M18 on HAART, IFN- γ restoration was remained impaired in HIV+TB+ (18.1 pg/ml) (p<0.05), while normalized in HIV+TST+ (414.2 Pg/ml) (p>0.05), as compared to HIV-TST+.

Conclusions: We confirmed positive outcomes of long-term of HAART in patients with/without TB and LTBI. However, TB was reduced the pattern of viral suppression, while TB and LTBI reduced CD4+ recovery. HAART was unable to restore optimal IFN-γ in TB/HIV patients despite viral suppression. Eearlier management of TB and initiation of HAART could improve treatment outcomes

FACTORS ASSOCIATED WITH SURVIVAL AMONG PEOPLE TAKING ART IN AMERTHA CLINIC, DENPASAR, BALI, 2004-2011

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Introduction: There are 1500 people are taking antiretroviral treatment (ART) in Bali. One of the Clinic who provide ARV in Bali is Amertha Clinic. This clinic is unique since that of the only one NGO based clinic in Bali who serve "key affected populations" (KAP) with education, support and ARV treatment. The aims of this study are to analyze the survival rate and factor associate with survival of people receiving ART in Amertha Clinic.

Methods: Data retrieved from medical records of patients receiving ART who register between January 2004- Dec 2011. Patients' characteristics will be described by using frequencies (%). The Kaplan-Meier test is used to estimate the probability of death and the median time to death after starting ART. The Cox proportional hazard model will be used to determine factors associated with loss to follow up and death. Medical records which are not completed is not involved in this study.

Results: A total of 424 HIV infected patients were recorded during period of time January 2004 and December 2011. From this, only 373 patients are involved in analysis. The number of patients who still a life 223 (59.8%), died 37 (9.9%), and lost to follow up72 (19%). Majority of the patients were male 190 (52.3%), female 161 (43.2%) and Transgender 17 (4.5%). The mean age is 30,9 years. The CD4 count when the first time visit were <50 cell/ul 132 (35.4%), 51-200 cell/Ul 155 (41.6%) and > 200 cell/ul 79 (21.2%). Cumulative Proportion is 0,974. By using Cox regression univariate analysis, we found that adherence (Hazard Ratio (HR) 0.2 CI 0.079-0.64 P=0.005) and lost to follow up factors (HR 10.32 CI 5.108-20.87 P=0.000) related to survival among patients who taking ARV in Amertha Clinics.

Conclusion: Management of adherence and lost to follow up are essential to improve patient's survival

Disclosure of Interest Statement: This study is part of the Udayana University Field Research Training Program (FRTP) trainee's project. This program is funded by the Kirbi Institute. No conflict of interest in this study.

POSTER NUMBER: 313

CLINICAL OUTCOME OF CRYPTOCOCCAL MENINGITIS IN HIV POSITIVE PATIENTS

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Introduction: Cryptococcal meningitis usually presents in advanced HIV disease and is associated significant mortality. Management with antifungal drugs is often associated with side effects and is complicated by timing of Antiretroviral Treatment(ART) and issues like IRIS(Immune reconstitution inflammatory syndrome). Few studies had addressed this issue in India

Methods: Retrospective study of 3 yrs duration from January 20009 to December 2011. Adult HIV positive patients with CSF culture positive for cryptococcus and who at least 3

months follow up were included. Patient's clinical presentation, CSF analysis, CD4 count, treatment details, timing of ART were noted.

Results: 29 patients were included in the study. Average age was 33.3yrs and 23(79%) patients were male.27(93%) patients didn't receive prior ART. Average CD4 count at presentation was 55 cells/mm3. 17(58%) had very low CSF glucose. 12(41%) patients received Amphotericin B as initial treatment, rest of the patients were started on Fluconazole. Average duration of intensive treatment was 12 days with Amphotericin B and 18 days with Fluconazole. 3 patients had Amphotericin B induced renal failure. ART was started average of 18 days after initiation of Cryptococcal treatment. 2 patients had IRIS after starting ART .5(17%) patients have died and all of them within 3 weeks of anticrptococcal treatment. All the patients who expired had CD4 count less than 50, CSF glucose less 40 mg and were not started on ART.

Conclusion: We found that treatment failure of Cryptococcal meningitis mostly in first month of initiation of treatment. IRIS is uncommon and early initiation of ART may improve treatment outcome.

SERVICE DELIVERY IMPLEMENTATION AND PLWHIV NEEDS

POSTER NUMBER: 314

HIVQUAL PNG QUALITY HIV SERVICE DELIVERY INITIATIVE IMPLEMENTATED AT TININGA PAEDIATRIC HIV CLINIC, MT HAGEN GENERAL HOSPITAL, PNG

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Background: Paediatric HIVQUAL-PNG (PaedHIVQUAL-PNG) is a HIV/AIDS care and treatment quality improvement (QI) initiative designed to build capacity for performance measurement and QI in PNG pediatric HIV care clinics. We described our experience in paedHIVQUAL-PNG implementation.

Method: A biannual random sample of patient records from pediatric HIV clinic at Tininga HIV care and treatment centre was selected for chart reviews. From July 2009 to June 2011, four biannual reviews were conducted. Eligible criteria were HIV-infected children aged <15 years attending clinic once during the six months review period. The proportion of eligible patients receiving indicated services was calculated. Data were used to identify priority areas for QI activities designed by clinic teams. The paedHIVQUAL-PNG indicators include continuity of care (COC), monitoring HIV status (CD4), TB preventive therapy, TB screening/investigation, cotrimoxazole prophylaxis, ART initiation and ART adherence, growth monitoring, and nutritional status assessment and support. We compared performance indicators between July-December 2009 and January-June 2011.

Results: During July-December 2009 and January-June 2011, 40 and 78 HIV-infected children received care at pediatric HIV clinic in Tininga, respectively. Thirty four and 52 cases, respectively, were selected for chart reviews. Chart reviews, data collections, data entry, and report generated for each review were conducted within 7 days by two part time staff (10% of full time equivalent). Indicators were improved following QI activities; namely COC from 82% to 96%; monitoring CD4 status from 20% to 58%; growth assessment from 61% to 98%; and nutritional status assessment from 36% to 88%. Indicators with high uptake (>90%) which substantial changes during 2009 to 2011 were ART, cotrimoxazole prophylaxis, and clinical TB screening.

Conclusions: PaedHIVQUAL-PNG is a systematic process that promotes data utilization for program improvement at hospital level. Ongoing QI activities are needed to improve coverage of CD4 status monitoring and maintain quality of services.

INTEGRATION OF HIV AND AIDS-RELATED HEALTH SERVICES INTO EXISTING HEALTHCARE PROGRAMS AT PRIMARY HEALTHCARE SETTINGS IN BALI

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Introduction: HIV and AIDS control in Bali is primarily driven by a disease-specific approach. This approach has several negative consequences including program duplication, program fragmentation and lack of service integration. HIV and AIDS-related services in Bali are still delivered separately from the existing healthcare systems with limited integration on its point of delivery. These conditions result in a lack of efficiency and long term sustainability. Studies in developing countries found that adding on HIV and AIDS-related services into existing healthcare programs at primary care can increase service utilization; health system strengthening; quality improvement; improving coverage, accessibility and efficiency; and reducing HIV-related stigma.

Methods: Critical review of literatures

Results: The integration of HIV and AIDS-related services into primary healthcare is highly relevant to Bali contexts. The major source of transmission is heterosexual with Female Sex Workers (FSWs) as the epicentre. This is identified as the bridge towards generalised epidemic. The inconsistency of condom-use among FSWs and their clients are evident. The transmission of HIV and AIDS among household women is found to be increased. This is the precursor of increasing peri-natal transmission. The primary health centre (Puskesmas) is available in all areas in Bali up to village level. The integration of HIV and AIDS-related services into existing healthcare programs at Puskesmas will enable a greater coverage and improve accessibility of services.

Conclusion: The integration of HIV and AIDS-related services into existing healthcare services at Puskesmas need to be implemented in Bali. Further exploration needs to be conducted related to stakeholders' beliefs, health system readiness and clients' perceptions towards this integration.

POSTER NUMBER: 316

HIVQUAL, MEASURING AND IMPROVING THE QUALITY OF HIV CARE IN GOROKA GENERAL HOSPITAL, PAPUA NEW GUINEA FROM 2010-2011

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Background: As antiretroviral treatment (ART) is scaled up in PNG, a systematic process is needed to measure and improve quality of HIV care and treatment services.

Methods: HIVQUAL, a model for performance measurement and quality improvement (QI), was adapted from the Thailand HIVQUAL model and key performance indicators developed in accordance with national guidelines. In 2010-2011, clinical data abstracted from randomly selected patients records from adult and paediatric HIV clinics at GGH, were used to identify priority areas for QI. Improvement strategies were designed in our care system areas, and key indicators were remeasured biannually.

Results: 69 HIV- infected children ≤ 15 years in 2010 and 80 in 2011- of whom 40 and 60 were selected for chart review, respectively. Of those eligible; >90 % children received continuum of care (COC), weight for age assessment, nutritional supplementation, tuberculosis(TB) screening, ART and adherence assessments; 60-90% received *Pneumocystis jiroveci* (PCP) prophylaxis, and CD4 /TLC test. An indicator with a score

less than 10% in 2010 but with substantial improvement in 2010 – 2011 following QI activities was Isoniazide prophylaxis. Of 1,556 HIV- infected adults > 15 years in 2010 and 1,900 in 2011 – 105 cases each, were randomly selected for chart review respectively; ≥90 % adults received COC, CD4 /TLC, clinical TB screening, ART, and ART adherence assessments in both years respectively. Counselling on herbal and religious impact on ART fell from 100 % in 2010 to 67 % in 2011. Isoniazide prophylaxis also substantially increased from 0 % in 2010 to 30 % in 2011.

Conclusion: Despite the availability of national guidelines, performance rates of some HIV indicators needed improvement. Performance indicators were substantially improved following QI implementation. The HIVQUAL model facilitates the use of hospital data for HIV care improvement and indicates that the Thailand HIVQUAL model is adaptable to least developed countries.

POSTER NUMBER: 317

phone line.

MEETING THE DEMAND FOR ACCESS: PROVISION OF HIV RESULTS VIA PHONE FOR LOW RISK CLIENTS - EVALUATION OF POLICY CHANGE AT A BUSY METROPOLITAN CLINIC.

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Background: In 2010, Sydney Sexual Health Centre changed their HIV result provision policy from all clients receiving their HIV result in person to low-risk heterosexuals receiving their HIV result via phone. We assessed the impact of this change on the clinic and

Methods: We conducted a before and after evaluation. The intervention period related to the first 12 months after the policy change (Jan-Dec 2010). The before period was 12 months from Oct 2008-Sep 2009. In the intervention period, a second phone line nurse was allocated to assist with identified peak call times. During both periods, we calculated the number of clients attending, number of result calls made, number of consultations for results, and percentage of results calls abandoned. In the intervention period, we

also calculated the uptake of receiving results by phone among low-risk heterosexuals.

Results: Overall there were 6,209 result calls received in the intervention period, 34% more than 4,629 calls received in the before period. The proportion of result calls abandoned declined; 7.1% in the before period compared with 4.8% in the intervention period (p<0.01). Wait time on the phone line was unchanged. In the intervention period, the uptake of receiving results by phone was 54% among the 1286 low-risk heterosexuals who received their HIV results. There were 530 more result calls and 467 fewer result consultations among low-risk heterosexuals in the intervention period, compared with the before period. Overall, 16,446 clients attended the clinic in the intervention period, 1.8% more than the 16,161 in the before period.

Conclusions: Our evaluation has demonstrated that the change in policy lead to more than half of the low-risk heterosexuals receiving their HIV test results by phone, rather than in clinic. This change has not impacted on the phone line and has opened up opportunities for more clients to be seen.

Disclosure of Interest Statement: Sydney Sexual Health Centre comes under the auspice of Sydney Hospital and Sydney Eye Hospital and is funded by NSW Ministry of Health. No grants were received in the development of this study.

AN IMPLEMENTATION TB-HIV COLLABORATION IN HASAN SADIKIN HOSPITAL BANDUNG, INDONESIA

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Background: Collaboration of TB-HIV program was launched in 2004, but the implementation in the field is difficult. The important of TB-HIV collaboration in the hospital was to get access care and treatment in high quality. We still had high percentage of failure to conduct for TB disease diagnosis. Assessing the three I's, intensified TB screening has not been achieved.

Aims of study is to determine factors that is influence the program, to establish a good collaboration in order to improve case management and control of TB-HIV.

Methods: This is the operational research with realistic evaluation approach. This study was conducted at Hasan Sadikin Hospital in Bandung, since June 2012 until November 2012. We explore the problems that influence for the collaboration, then design the effective strategies to improve the collaboration. Improvement is provided while conducting evaluation. Evaluation was done every two months. We are also looking at various factors, such as the management, organization, procedures, and outcome indicator for TB-HIV collaboration program.

Results and discussions: The results of study are we suggest that some barrier occurred due to the system in the hole process. Hasan Sadikin hospital is a general hospital and provincial referral hospital in West Java, had average 1,200 bed and more than 600 spesialist. TB program manage in DOTS clinic and HIV program manage in HIV clinic

Conclusion: Need commitment and supporting for the policy maker to improve the program TB-HIV collaboration. However the job description of team-work also necessary.

POSTER NUMBER: 319

AN INTER-DEPARTMENTAL, HOLISTIC APPROACH IS REQUIRED TO IMPROVE REFERRAL AND UPTAKE OF ORAL HEALTH CLINICAL SERVICES FOR PEOPLE WITH HIV.

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Background: HIV-specific oral health services are provided in Sydney and South Western Sydney Local Health Districts (S&SWSLHD) for People with HIV (PWHIV) with health care cards. The clinics are AIDS Program funded and were established to provide priority access for PWHIV and as an extension to the Enhanced Primary Care Program. Clinics are however under-utilised due to varied levels of referral and high levels of client failure to attend.

Method: In partnership with S&SWSLHD Oral Health Service a promotion and education program was conducted to increase service provider capacity to identify the need for intervention and referral. Concurrently, an evaluation of the oral health program was undertaken including interviews, an online survey and reviewing usage data.

Results: 56 clinicians received education; 98% reported increased knowledge of referral criteria and processes. Further evaluation revealed that 60% of clinicians who recalled attending the training had changed the way they address oral health with clients as a result.

31 clinicians participated in evaluating oral health services; 61% reported incorporating oral health into service provision and 87% reported making a referral. The majority of feedback was positive.

Although direct client feedback was sought very little data was obtained and therefore could not be considered in the analysis.

Recommendations for improvement included: ongoing two-way education and follow-up between HIV clinicians and oral health service providers, enhanced communication regarding referrals and failure to attend, addressing misinformation within clients and workforce and ensuring referral processes are clear, consistent and accurate.

Conclusion: Improving access to oral health services for PWHIV requires up-skilling of HIV clinicians to ensure they maintain knowledge and awareness of oral health, incorporating oral health into clinical assessment practices and clear referral and follow-up pathways between services.

Further exploration is required regarding barriers to client uptake, failure to attend appointments and levels of service satisfaction.

POSTER NUMBER: 320

EVALUATION OF ANTI-RETROVIRAL THERAPY SERVICES IN SHIMLA (HIMACHAL PRADESH)

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Aims & Objectives: To Evaluate ART Services in Shimla Hills To determine patient adherence to ART and associated Factors To assess the level of Clint satisfaction and perceived quality of life

Material & Methods: Study area: ART Centre at IG Medical College Shimla

Study Design: A cross sectional

Study Subjects: All adult people (18yeras & above)living with HIV/AIDS(PLHA) registered and receiving ART Services at ART centre of IG Medical College Shimla. All health personnel working at ART Centre i.e. Medical officer, Staff Nurse, Lab techinician, Councelor, pharma cist & store keeper.

Sample Size; 400 after strict inclusion and exclusion criteria

Results: A total of 400 HIV Patients on ART Were interviewed. The socio-demographic information of HIV patients on ART Like age, sex, marital status, religion, educational status, occupation, type of family, place of family, place of residence, risk factor and personnel history was also obtained during interview. The details will be discussed during the presentation of study.

Recommendations: As ART Programme demands sustained dedicated work from staff employed, mechanism need to be developed to retain such staff for longer duration. High turnover among staff members hampers programme activities.

- ART Drug supply to be streamlined
- · Patients needs to be aware of programme activities
- Specialists needs to be sensitized
- ART Staff need to focus on key issues
- Resources need to be allocated
- Strengthen education to enhance awareness
- · Creating awareness of health professionals

Disclosure of Interest: I am greatful to Government of Himchal Pradesh for Giving free transport and medicine to all clients reaching ART Centre

CURRENT NEEDS OF PEOPLE LIVING WITH HIV IN AUSTRALIA: UNDERSTANDING STAKEHOLDER CONCEPTUAL FRAMEWORKS

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Background: The HealthMap project is developing an intervention to reduce chronic disease risk in people living with HIV in Australia. As part of the formative stages of the intervention design we sought to understand the current needs of people living with HIV.

Methods: We conducted two workshops with people living with HIV in Melbourne and Sydney and one with HIV care providers in Melbourne. The workshops utilised a concept mapping process with three stages: a) listing of ideas by individuals in response to a broad seeding statement, which were then shared with the group using a modified nominal group technique; b) sorting of all statements into groups by each individual and rating of each statement by importance and the degree to which this need is currently met; and c) group refinement of computer-generated maps derived from the statement clustering performed during the second stage.

Results: Current needs of people living with HIV in Australia were described as concept clusters related to knowledge, control and choice; social and emotional connection and support; access to good quality, comprehensive and appropriate services; service integration and coordination; basic financial, housing and employment needs; clinical research and better treatments; human rights, stigma and acceptance; and a positive attitude. The most significant gaps between perceived importance and current reality identified by people living with HIV were concept clusters related to empowerment and autonomy; age-specific services; frank lifestyle advice; better treatments and research; and human rights. For care providers the most significant gaps were connection and belonging; and service integration and organisation.

Conclusion: Using concept mapping methodology we have described the conceptual frameworks of stakeholders in relation to the current needs of people living with HIV. These concepts span personal, social and service characteristics and provide a starting point for system responses.

Disclosure of Interest: The HealthMap project is funded by the National Health and Medical Research Council.

POSTER NUMBER: 322

ONE YEAR ON: SURVIVING THE GLOBAL FUND AS A CORPORATE SECTOR PRINCIPAL RECIPIENT IN PAPUA NEW GUINEA

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Background: Oil Search Limited is a petroleum exploration and development company working in remote areas of Papua New Guinea. In 2011, Oil Search was selected to be the sole Principal Recipient (PR) for Round 10 of the Global Fund to Fight AIDS, Tuberculosis & Malaria (GF), one of only three companies worldwide to be in such a position.

Methods: This presentation charts the challenges and milestones achieved in the first year, demonstrating the value that corporate sector partners can bring to national level programs.

Results: GF demands extremely stringent and legally binding processes in order for a PR to reach 'grant signature'. Furthermore, 'additional safeguards' imposed on PNG resulting from previous GF grant suspension, placed added pressures on Oil Search as the new PR.

Drawing from its existing resource pool, Oil Search was able to provide legal, financial, human resource and project management expertise to establish the Oil Search Health Foundation as the tax-exempt entity that would administer the GF grant. Within a six month period the 'backend' of The Foundation was developed, including the legal, HR and accounting structures; capacity assessment and contract negotiations with the nine Sub Recipients took place; M&E, training, and procurement and supply plans were developed; a GF specific performance framework was agreed with key stakeholders; and, contractual arrangements with the National Department of Health (NDoH) were negotiated and approved. Key challenges included meeting the demands of GF, particularly through their own evolving financial crisis; working in the context of a changing NDoH management structure; re-programming within a fluctuating financial exchange market; and harnessing the energy, motivation and commitment of the various HIV development partners in PNG.

Conclusion: Whilst it took nearly ten months to reach grant signature, the Oil Search Health Foundation has established itself with relative efficiency in preparation to administer the US\$22 million phase one grant. The real success of this unique private-public partnership is yet to be played out as the grant disbursements commence and the national HIV program is reinvigorated with a new wave of funds.

POSTER NUMBER: 323

KNOWLEDGE AND STIGMA REGARDING HIV/AIDS AMONGS MEDICAL STUDENTS OF UNIVERSITY OF GADJAH MADA

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Introduction: Infection with human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) have emerged much tensions and anxieties among the public and healthcare providers. The consequence of such negative attitude is poor management of people with HIV/AIDS who need most care, treatment, and support. The objective of this study was to determine whether the medical students of University of Gadjah Mada (UGM)'s knowledge on HIV/AIDS influences their attitudes towards HIV/AIDS patients.

Methods: A cross sectional study was conducted amongst medical students of Faculty of Medicine of UGM. A structured questionnaire comprised of 50 different questions were classified in to 2 distinct type of question: basic knowledge on HIV (modes of transmission, diagnosis, risk behaviors, prevention, treatment) and their perception of the disease (represent their attitude toward management of care for HIV/AIDS patients), and were distributed to 507 students. The respond rate was 62%. This study was evaluated from September 2011 to October 2011.

Results: The study included 310 medical students, 125 (40.5%) were male and 184 (59.5%) were female; 7 (2.3%) were married and 300 (97.7%) were single; 2(0.6%) were in their 5^{th} year of medical school, 92(29.8%) were 4^{th} year, 81(26.2%) were 3^{rd} year, 107(34.6%) were 2^{nd} year and 27(8.7%) were 1^{st} year; and 225(73.8%) were from java island and 80(26.2%) were from outside java island.

The knowledge means score (possible range of score: 0-10) was 7.64 ± 1.2 with lowest score was 1 and highest score was 9.5. The perception means score (possible range of score: 0-10) was 7.43 ± 1.22 , with lowest score was 3.33 and highest score was 10. Correlation between knowledge and perception is 0.42 (p: 0.00) adjusted for gender, marital status, class year, and origin

Conclusion: The finding of the study showed that medical student's knowledge about HIV/AIDS influenced their perception about people living with HIV.

Disclosure of Interest Statement: This study was funded by The National Centre in HIV Epidemiology and Clinical Research (NCHER)

331



A DESCRIPTIVE STUDY OF THE FORESKIN SURFACE AREA DURING PENILE ERECTION IN HEALTHY ADULT UNCIRCUMCISED MALES

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Introduction: There is strong evidence that circumcised men have a reduction in risk of acquiring HIV by around 60% and have lower rates of other sexually transmitted infections. However, the precise mechanism of the protection remains unclear. The reduction of penile skin surface area by removing the foreskin through circumcision may contribute to the protection. Results from the only published study to investigate foreskin surface area and Human Immunodeficiency Virus (HIV) acquisition showed that the risk of male HIV acquisition is increased among men with larger foreskin surface areas. In this study measurement of foreskin was conducted after surgical removal and was not compared to the total area of the penile skin.

The objective of this study was to measure the proportion of the surface area of the erect penis covered by foreskin and to investigate whether the removal of the foreskin, and thus this proportion of surface area, could account for the reduced risk of HIV acquisition.

Methods: Using a marker pen participants marked the demarcation between inner and outer foreskins and took photographs of their penis beside a ruler in (i) flaccid state (ii) erect state and (iii) when erect applying mild tension on the foreskin to avoid skin folds. Photographs were analysed for penis and foreskin lengths and used to calculate surface area.

Results: Pilot phase collected measurements from 6 participants. Mean surface area of foreskin was 0.47 (SD ± 0.12) of surface area of erect penis.

Conclusion: Pilot phase showed 47% of total surface area of the erect penis is covered by foreskin. Results from main study, with a greater number of participants, will provide further evidence on the proportion of penile surface area comprised by foreskin of the erect penis. This may provide insight into other factors apart from surface area accounting for the protection.

POSTER NUMBER: 325

ATTITUDES OF SENIOR HEALTH LEADERS TOWARDS THE PROVISION OF MALE CIRCUMCISION (MC) AS AN INTERVENTION TO REDUCE HIV TRANSMISSION; INCLUDING HEALTH SYSTEM CAPACITY CHALLENGES IN PAPUA NEW GUINEA.

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Introduction: Male Circumcision (MC) can reduce HIV acquisition in men by 60%. World Health Organizations recommends it as an additional strategy in susceptible populations. Papua New Guinea (PNG) has one of the highest HIV prevalence in Asia Pacific region. This study assessed the attitudes of senior health leaders towards MC being a part of the HIV prevention strategy in PNG.

Method: Key informants (KIs) were leaders from government, academics, advocacy and health service organizations across PNG, selected through purposive sampling, and interviewed using a semi-structured questionnaire.

Results: Of the 41 KIs invited, 31 (24 males and 7 females) agreed. The remaining 10 could not participate due to time and or geographical factors.

Key findings included: 1) Almost all (28/31) were aware of the benefits of MC in relation to HIV infection. 2) Most stated that MC programs would be popular in circumcising communities but would require ongoing awareness and education in non-circumcising communities. 3) All agreed that lack of awareness on the benefits of MC might threaten MC. 4) All agreed stigma was not an issue for MC in PNG. 5) All agreed that health system lacked capacity to deliver MC program 6) Most senior health providers including surgeons agreed to competency training of primary health care workers. 7) Two informants however, were against the introduction of MC for HIV prevention because current HIV prevalence was low and there's limited resource available.

Conclusion: In conclusion, there was not unanimous support for MC program for HIV prevention among senior health leaders, but most did perceive that there was a high level of community support for MC in PNG.

MSM

POSTER NUMBER: 326

PRACTICAL CHALLENGES AND LEGAL ISSUES IN RESEARCHING HIV TRANSMISSION IN GAY MALE HIV SERODISCORDANT COUPLES: THE OPPOSITES ATTRACT STUDY

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Background: Studies of HIV treatment and transmission in serodiscordant heterosexual couples have provided critical evidence on HIV treatment as prevention. However, no studies in gay male serodiscordant couples have been reported. Opposites Attract is the world's first 'treatment as prevention' study specifically in gay men.

Method: We systematically reviewed evidence to identify structural and legal barriers. Detailed legal advice was sought, and ongoing community consultation was central in study development.

Results: Practical challenges identified included: (1) feasibility of recruiting sufficient gay serodiscordant couples; (2) rate of relationship break-up in gay couples (around 30% per year); (3) rate of non-monogamy in serodiscordant gay couples (around 70% of couples) and its potential impact on linking HIV transmissions; and (4) high HIV incidence in early as compared to longer-term serodiscordant relationships (6 per 100 person-years versus 1 per 100 person-years). As 30-40% of HIV positive men are estimated to be in serodiscordant relationships, we estimated that there are sufficient eligible pairs. The study will have open recruitment to replace couples that break up, and will target men in new relationships. Phylogenetic testing is vital to determine if HIV transmissions are linked. The main legal concern was the potential for HIV-positive participants in the study to be prosecuted for HIV transmission. Safeguards were developed to protect HIV-positive participants in all Australian states: documented knowledge of transmission risk by both partners; declaration that HIV-negative participants know the HIV status of partner; risk behaviour collected only from HIV-negative partners; and phylogenetic test results not released to participants. Study recruitment began in mid-2012. Preliminary demographic and behavioural results will also be presented.

Conclusion: An Australian 'treatment as prevention' study in gay serodiscordant relationships is feasible and has been established while minimising risks and structural barriers. Ongoing community support will be vital to recruitment.

Disclosure of Interest Statement: The Kirby Institute (formerly the National Centre in HIV Epidemiology and Clinical Research) receives funding from the Australian Government Department of Health and Ageing. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales. No pharmaceutical grants were received in the development of this study.

POSTER NUMBER: 327

LIKE!- HIV PREVENTION ON FACEBOOK

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¹ACON Health

Background: Recent market research shows that around 75% of gay men are on Facebook every day, a statistic which promises a world of potential interactive possibility. But is promise delivered? Even for a topic as 'gay' as HIV?

We examined the effectiveness of social media utilisation in delivering three major ACON HIV prevention campaigns - in 2010, 2011 and 2012 - to answer this question.

Methods: We used Facebook in all three campaigns with the aim of extending and strengthening the target demographic engagement spectrum.

Wherever Sex Happens... Slip it On in 2010, was the first attempt at integrating Facebook into campaign delivery. In The Big Picture in 2011, Facebook was a major delivery component, centred on a dedicated and frequently updated Facebook page, supported by 14 different versions of Facebook ads.

We maximised use of Facebook for Know The Risk in 2012, adding Q&A to the dedicated Facebook page to enable gay men to anonymously ask questions and share their thoughts.

Results: In each instance traffic to campaign websites increased significantly - and doubled in some instances – over non-Facebook campaigns.

Via Facebook fans and friends, messages reached up to an estimated 100,000 people per week, while the anonymity of the Know the Risk Q&A component demonstrated that privacy and confidentiality can be guaranteed, concurrently.

Conclusions: Facebook reach and engagement potential can be leveraged to take prevention campaigns to the next level and to do so relatively inexpensively compared with traditional media. We can now not only talk to gay men but listen much more effectively to what they're saying.

POSTER NUMBER: 328

DRILLING DEEPER; MINING THE DEPTHS OF SEXUALLY ADVENTUROUS MEN (SAM) IN NEW SOUTH WALES

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¹ ACON, ² Sex Workers Outreach Project

Introduction: Behavioural research suggests that around a third of all HIV diagnoses in Australian gay men arise from sexually adventurous and/or high risk practice. ACON conducted a community needs assessment online with men in Sydney engaged in a rage of sexually adventurous practices. The objective was to identify options for an innovative and sustained program engagement framework with Sydney SAM in 2012/13.

Methods: A MROC was engaged to recruit men to the project. A specific website and Facebook page was developed - *How Hard* – to provide a point of contact for participants and the project team. Nearly 300 men recruited entirely by subcultural snowballing signed up to How Hard within 10 days. 67 men opted to participate in the MROC. Some 37 men were chosen to participate in the MROC, conducted from 22 May until 5 June. Men were asked to undertake a range of exercises including providing information about their sexual routine and repertoire, complete a diary, respond to scenarios of sharing subcultural information and provide insights of ACON as a provider of sex and health based information.

Results: The engagement and recruitment process provided ACON with more information about Sydney SAM than the agency has ever possessed. Overwhelmingly, respondents did not think ACON currently offered them anything of value but, in near equal numbers, welcomed the idea of ACON changing to accommodate them and were optimistic about ACON's involvement in their sub cultural spaces. Respondents identified the need for both physical and online spaces be created where they can congregate and share peer knowledge but put ACON on notice that when engaging them in these spaces, telling them not to have sex or to only have safe sex would not be tolerated. This paper will explore SAM's impressions of issues around identity versus behaviour as well as their expectations of ACON. Additionally we will provide some of the key learning and reflections from the experience of using MROC as a community assessment tool.

Conclusion: ACON is currently implementing rage of activities in both physical and online settings to offer innovative and informed engagement with men engaged with sexually adventurous practices.

POSTER NUMBER: 329

WHAT CAN DATA ON POST-EXPOSURE PROPHYLAXIS FROM THE SEROCONVERSION STUDY TELL US ABOUT THE POTENTIAL USE OF PRE-EXPOSURE PROPHYLAXIS AMONG GAY MEN IN AUSTRALIA?

 $\underline{Down\ I^{1,2}}, Ellard\ J^3, Brown\ G^{2,4}, Prestage\ G^{1,2}$

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Introduction: Post-exposure prophylaxis (PEP) has been available to gay men in Australia for more than ten years, while debate continues around the question of the use of pre-exposure prophylaxis (PrEP). What can information from the HIV Seroconversion Study tell us about how gay men in Australia might use PrEP?

Methods: The HIV Seroconversion Study collects both quantitative and qualitative data from people in Australia recently diagnosed with HIV. 447 respondents completed an online survey, while 76 were interviewed. Respondents were asked about their knowledge and beliefs around, and their prior use of both and PEP and PrEP.

Results: Just over half (51.4%) the men in the Seroconversion Study had heard of PEP. Of those who had heard of PEP, almost a third (32.7%) had accessed it previously. When asked why they did not access PEP following the event they believe resulted in their infection, many men reported not perceiving the particular event as being risky enough at the time to warrant the difficulty involved in obtaining PEP. A number of men who had accessed PEP previously did not want to repeat the feeling of embarrassment that they experienced when they accessed PEP previously and, as one man put it: "as I had regular bareback sex with people, it wasn't worth going to the doctor's weekly to get this treatment".

Conclusion: The ability to access pre-exposure prophylaxis will remove some obstacles for men who may be unlikely to access PEP after engaging in risk behaviour, enabling men to prepare for anticipated risky behavior and protect themselves against HIV infection.

Disclosure of Interest Statement: The Kirby Institute and The Australian Research Centre in Sex, Health and Society (ARCSHS) receive funding from the Australian Government Department of Health and Ageing. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales. ARCSHS is affiliated with La Trobe University. No pharmaceutical grants were received in the development of this study.

POSTER NUMBER: 330

EVALUATING A SMALL, MEDIUM-TERM HIV RISK-REDUCTION GROUP FOR MEN WHO HAVE SEX WITH MEN (MSM): ASKING PARTICIPANTS ABOUT THEIR EXPERIENCE OF THE INTERVENTION

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Introduction: There has been increasing attention within the HIV prevention literature upon psychological factors associated with HIV risk behaviour among MSM, and the efficacy of psychological interventions in promoting risk-reduction. However, few evaluations have included the views of participates about the acceptability of the intervention, what was learned or how learning was achieved. This pilot study aimed to evaluate the process and outcomes of a small, medium-term HIV risk-reduction group for MSM with HIV risk behaviour, by gathering data about a) objective outcomes in sexual health/behaviour, mental health and sex-specific difficulties along with b) subjective data about participant's experience of the intervention.

Methods: Participants were MSM with self-identified HIV risk behaviour who voluntarily participated in a small, medium-term group intervention with two central aims; to help them, a) speak about, reflect upon and makes sense of their sexual risk behaviour and b) develop psychological skills relevant to managing it safely. The group used both reflective-group process and skills-training methods. At the conclusion, participants completed semi-structured interviews gathering qualitative data about the acceptability of the intervention, their experience of and learnings from it. Participants also completed questionnaires before, after and at 3 months post-group, which provided quantitative data about intervention outcomes

Results: Results showed participants found the intervention acceptable, indeed that they would have participated for longer than the designated 10 weeks. Participants described acquiring greater insight into their sexual-risk behaviour, relevant skills such as Mindfulness, and of feeling more empowered overall in managing sex safely. Additionally, they reported strong effects from the peer-group environment, with the group providing normalization of their experiences, invaluable learnings from peers and opportunities to increase self-acceptance. Participant's feedback was consistent with objectively measured outcomes, as general mental health and sex-specific difficulties either reduced or did not increase post the group intervention, as did sexual risk behaviour.

Conclusion: Interventions aimed at promoting HIV risk-reduction behaviour among MSM at risk of transmission, can be greatly informed through evaluations which include participant's feedback about their experiences. This can illuminate real-world effectiveness and the processes which lead to change, while also explicitly 'taking' the community for whom such interventions are designed, along in the research.

Disclosure of Interest Statement: This intervention was run with funding provided by the Alfred Small Grants Program. No disclosure of interest.

DESCRIBING REGION OF BIRTH AMONG PEOPLE DIAGNOSED WITH HIV IN VICTORIA: IMPLICATIONS FOR SERVICE PROVISION AND PLANNING

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Background: To inform service provision and planning for organisations working with people from culturally and linguistically diverse (CALD) backgrounds we describe recent new HIV diagnoses and people living with HIV (PLWH) in Victoria by region of birth.

Methods: Victorian HIV notification data on new diagnoses (first ever HIV diagnosis was in Victoria) were used to describe trends in HIV by region of birth, 2007-2011. HIV notification data were also used to identify PLWH in Victoria to 31 December 2011, regardless of place of diagnosis. Country of birth has been collected since 1994.

Results: Between 2007 and 2011, there were 1301 new diagnoses of HIV in Victoria; 31% were among people born outside Australia; the largest proportion of male (49%) and female (56%) cases were born in Asia and Sub-Saharan Africa, respectively. As a proportion of the Victorian migrant population, HIV cases from these regions represent 20/100,000 Asian population and 42/100,000 Sub-Saharan African population (compared to 4.9/100,000 Australian-born population). The median number of years between arrival in Australia and HIV diagnosis for males was six years, compared to one year for females.

Country of birth was available for 74% of the estimated 6091 PLWH in Victoria; two-thirds of females and one-quarter of males were born outside Australia. Consistent with recent new diagnoses, the greatest proportion of females was born in Sub-Saharan Africa (50%) and the greatest proportion of males in Asia (33%).

Conclusion: Findings show Asian male migrants and Sub-Saharan African female migrants are disproportionately represented in HIV notification data and represent a meaningful proportion of those living with HIV in Victoria. These findings highlight important considerations for service provision, including gender and region-specific language and cultural barriers to testing and treatment, unfamiliarity with local services, and the need for specific approaches to keep CALD PLWH engaged with services.

POSTER NUMBER: 332

MSM, SEXUAL ROLE AND THE SIGNIFICANCE OF SEMEN EXCHANGE

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Introduction: Men who have sex with men (MSM) remain disproportionately affected by HIV and sexual infections, acquired predominately through condomless anal sex (CAS). While it has been acknowledged in the literature that semen exchange is an important driver for many men who engage in CAS, the differential meanings according to sexual role (top / bottom) has received only scant attention. To provide more effective health promotion a better understanding is required of its significance, particularly in relation HIV negative men and sexual role.

Methods: Thirteen MSM who had recently engaged in CAS were recruited in London via a variety of methods to take part in in-depth interviews. These were digitally recorded, transcribed verbatim and an Interpretative Phenomenological Analysis approach was taken to the data. The average age of participants was 39 years old (range 29-55).

Results: These findings form part of a larger study. The significance of semen exchange was important for most participants, but differs according to sexual role. For most men semen exchange was an erotic construct and a representation of intimacy and closeness. Regardless of relationship status, there were two distinct overarching themes that emerged in relation to sexual role: for tops giving semen was seen as a mark of ownership and a physical representation control / aggression, and inextricably linked with performances of masculinity. Conversely, bottoms saw receiving semen as a romantic expression of wanting the essence of their partner inside them. The practical issues with dealing with semen were also aspect of the narrative of bottoms.

Conclusion: CAS remains a complex issue and the findings of this study demonstrate that the meanings of semen exchange are distinctly different for tops and bottoms. Therefore this paper argues these differences should be taken to account that when constructing risk reduction strategies.

Disclosure of Interest Statement: This study has been supported with a National Institute for Health Research Clinical Doctoral Research Fellowship and a research grant from Imperial College Healthcare Charity Trustees award.

POSTER NUMBER: 333

"HERE THERE AND EVERYWHERE": MARKETING A SEXUAL HEALTH SERVICE TO GAY MEN LIVING IN THE INNER WEST OF SYDNEY

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Introduction: RPA Sexual Health is a clinical service in the inner west of Sydney, an area with a large gay community. The area also has the second largest number of people living with HIV in Australia and is seeing increasing chlamydia and gonorrhoea rates within the gay community. Despite good levels of service access by gay men in the area, there still remains a large portion of these men who are not aware of or accessing the service.

Methods: An online advertising campaign was implemented utilising a suite of service specific resources, branded "Looking Local?", originally developed in consultation with local gay men. The resources were adapted for website placement and featured for two months on prominent gay social networking sites including Manhunt, Gaydar and Facebook. Hard-copy resources were distributed to local venues to reinforce the online messaging. Campaign effectiveness was measured by monitoring advertising click through rates and conducting a recall survey at the sexual health clinic two months post campaign implementation.

Results: The online banners received good and consistent click through rates, the most successful sites being Gaydar and Aussiemen. The recall survey showed that post implementation, 20% of men visiting the clinic could correctly identify the "Looking Local?" brand, and overall 45% of men reported that the advertisement engaged them and that they wanted to know more. Additionally, 16% of gay men attending the clinic reported that they were there as result of recent advertising.

Conclusion: Executing successful marketing campaigns, with high recognition rates, requires a large investment of resources, in particular finances. When developing an online campaign; key messages should be targeted, include a call to action and be supported by a website specific to the campaign or the service to achieve maximum effectiveness.

THE IMPORTANCE OF HIV TO GAY MEN

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Background: Twenty years ago, HIV was a very important issue in gay men's lives. Ten years later this was probably still the case, but it was possibly changing in the context of 'new treatments'. Nowadays it is more difficult to assess the relative importance of HIV to gay men.

Methods: PASH-ON was an online survey of 656 gay men recruited during mid-2010. We asked men about the importance of HIV relative to other issues.

Results: When asked to rank the importance of twelve issues, gay men ranked HIV fourth after homophobic stigma, gay men's health and relationship recognition. In multivariate analysis, men who considered HIV to be very important were less optimistic about HIV (OR 0.83; p=0.026) and its possible transmission (OR 0.88; p=0,001). Also, men who had never been tested considered HIV to be less important (OR 0.17; p<0.001); they were also less optimistic about the prospects of HIV transmission (p=0.001).

Conclusion: While HIV remains important to most gay men, other issues are often as important or even more so. Men who feel that those with HIV can now live better due to treatments, and who are less concerned about the possibility of HIV transmission tend to place less importance on HIV overall. For these men, HIV is just one among several issues in their lives and it is probably not a constant concern – as it once was for many gay men. However, those who have no history of testing may place less importance on HIV simply because they have little access to the information about HIV that often accompanies being tested. Contradictorily, though, it appears likely that if they were tested, the information they received may actually raise their level of optimism about HIV in general, and so they may not necessarily consider HIV of any greater importance.

Disclosure of Interest Statement: The Kirby Institute and The Australian Research Centre in Sex, Health and Society (ARCSHS) receive funding from the Australian Government Department of Health and Ageing. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales. ARCSHS is affiliated with La Trobe University. No pharmaceutical grants were received in the development of this study.

POSTER NUMBER: 335

PEP AWARENESS AND LITERACY AMONG GAY MEN IN AUSTRALIA

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Background: In New South Wales (NSW), non-occupational post-exposure prophylaxis of HIV (NPEP) has been available since 1996. In 2001, NPEP educational campaign and telephone Infoline were established to provide information and expedient referral for NPEP. We assessed current NPEP awareness and literacy among gay men in NSW.

Methods: Data sources: Gay Community Periodic Surveys (GCPS) and NPEP

Infoline database (St. Vincent's Hospital, Sydney). Analyses assessed: (i) the levels, trends and covariates of NPEP awareness, and (ii) time between self-perceived HIV exposure and the Infoline request for information and/or NPEP.

Results: Among GCPS participants, awareness about NPEP availability doubled from 30% in 2001 to 60% in 2004 (p trend<0.001), during the time of the ACON NPEP educational campaign. The level of awareness has not changed since 2004. In 2010, only 56% of GCPS participants had correct knowledge that one has to start NPEP within 72 hours of HIV exposure. Awareness was lower among men of non-Anglo-Australian backgrounds and men living outside metropolitan areas. It was significantly associated with potentially high-risk sexual practices such as having high number of sex partners and having unprotected anal intercourse with casual or regular partners. Low levels of awareness correlated with delays in seeking NPEP and delays in NPEP treatment initiation. Only 67% of calls made to the Infoline were within 72 hours since HIV exposure; among these callers, only 61% were eligible for NPEP, while the rest did not meet the guidelines, mostly because of low-risk exposure.

Conclusion: Awareness about NPEP availability among gay men remains low. Furthermore, knowledge about when to start NPEP appears inadequate, which precludes some men from benefiting from NPEP. There is an urgent need to revive NPEP information campaign in NSW and educate gay men about the availability and use of antiretroviral-based HIV prevention methods.

Disclosure statement: The Kirby Institute, The National Centre in HIV Social Research and St. Vincent's Hospital receive funding from the Australian Government Department of Health and Ageing. The Gay Community Periodic Surveys are funded by state and territory health departments. The PEP Infoline is funded by NSW Department of Health.

POSTER NUMBER: 336

TREATMENT IS NOT AN EFFECTIVE POPULATION HIV PREVENTION STRATEGY FOR MSM; A NOTE OF CAUTION FROM A COMMUNITY BASED PERSPECTIVE

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New Zealand AIDS Foundation

Background: New Zealand has one of the best international records of HIV control amongst MSM. This success is anchored on primary prevention through community-based condom promotion.

Method: With the growing international focus on "treatment as prevention" (TAP), the New Zealand AIDS Foundation (NZAF) analysed the benefits and pitfalls of TAP in the context of the New Zealand epidemic; particularly focusing on the impact on condom promotion. We undertook an international literature review and analysed the assumptions made in clinical trials in the context of their application to real world prevention settings for MSM.

Results: The evidence of TAP efficacy for MSM at the population level is slim to date. By definition, treatment is absent prior to diagnosis, an inescapable limitation of TAP given that infectiousness is high soon after HIV is contracted. Viral load spikes can occur with the presence of an STI; testing is too infrequent to monitor this risk. Inferences about non-infectivity with undetectable blood viral load from studies involving vaginal intercourse are highly problematic for MSM when infectious levels of HIV can still be found in semen and anal rectal mucosa.

There is a strong likelihood of reductions in condom use for anal sex if TAP strategies are promoted inappropriately. A subsequent net increase in HIV and STI transmissions in MSM populations would be disastrous.

Conclusions: NZAF concludes that treatment is not an effective population level prevention strategy for MSM. Moreover, the messaging around the claims that undetectable blood viral load is synonymous with being sexually uninfectous needs to be very carefully managed so as not to erode the gains made through condom-based primary prevention strategies.

Suppression of viral load in blood is a welcome bi-product of optimal treatment for care but prevention efforts and messaging for MSM must remain focused on condom and lubricant use.

Disclosure of Interest Statement: The New Zealand AIDS Foundation is funded by the New Zealand Ministry of Health.

POSTER NUMBER: 337

UNIQUE IDENTIFYING CODE (UIC) APPLICATION FOR BEHAVIOR COMMUNICATION CHANGE (BCC) OUTREACH INITIATIVE TARGETING FOR MSM AND IN REGIONAL HIV PREVENTION PROGRAM

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Introduction: The ISEAN-Hivos Program is a Global Fund HIV Program started in October, 2011 focusing on MSM and Transgender in Indonesia, Malaysia, Philippines and Timor Leste. The UIC system applied to effectively improve program intervention, prevent double intervention of clients reached through the program's BCC initiatives. UIC is a simple anonymous client registration by a combination of alphabet-numeric digits. Within UIC the data segregated among MSM and TG.

Methods: To establish the UIC system, different combinations methods have been discussed within representatives from four countries and set up a guidelines which allows a paper based and electronic system of registering data gathering tools and provide procedures on how usage and data flows will be observed.

The data for this presentation is based on early evaluation and pre-testing of this method. The UIC which is generated for each client uses a series of questions asked by the outreach worker/peer education:

First two letters of mother's first name

First two letters of father's first name

Year of birth last 2 digits

Intervention group (1=MSM; 2=TG; 3=Female, 4=Male)

Results: the early UIC Guidelines and Tools evaluation indicate some potential concerns. For example, there was some level of inapplicability of the UIC for population groups not falling under the MSM and TG heading. A solution offered was to create another code for those populations and filter those individuals out at the regional level. Other concern was the incompleteness of the data caused by lack of scrutiny of the OW either the client can not mention two letters of mother's or father's first name. The solution was to put letter double "O' to the data.

Conclusion: This presentation provides insights on the implementation of the UIC system of target documentation for HIV-related BCC activities, in a four country.

CHALLENGES AND INNOVATIVE APPROACHES IN ADDRESSING GENDER AND SEXUAL CULTURE DIFFERENCES - A REGIONAL HIV-PREVENTION INTERVENTION PROGRAM TARGETING MSMS AND TRANSGENDER POPULATIONS IN MALAYSIA, INDONESIA, PHILIPPINES AND TIMOR LESTE

Norella LBP1

¹ ISEAN-Hivos Program Global Fund Round 10

Introduction: Implementing a regional program on HIV prevention for MSMs and Transgenders needs to consider the differences in cultures and sub-cultures in countries where the grant is being implemented. This study provides key challenges encountered and the innovative approaches utilized by the ISEAN-Hivos Program in reaching out to its target groups in four countries.

Methods: Program implementation review was conducted through an analysis of Program performance documents and related sources.

Results: Early observations identified these crucial factors and considerations need to be addressed:

The regional grant aims to develop and use unified cross-country recording formats. In attendance sheets, it was difficult to capture information on gender as the terms "MSM" and transgender are unclear to some.

There is a need to develop sub-culture appropriate activities when targeting specific MSM populations, even within the same country. For example, in Malaysia, MSMs of Chinese cultural identification prefer to participate more in sports activities while those who identify themselves as Malay, prefer art-related events or performances.

The terms that are used in monitoring forms need to be tailored to the local cultures. Many Filipino young MSMs, for example, refer to themselves as bisexual although they engage only in exclusively MSM activities and relationships.

Approaches using the internet seem to be preferred among the young MSMs, rather than formally being involved in traditional community based organizations or groups. In Indonesia, Facebook-based or social media channels have shown early promise in targeting transgender populations.

Conclusion: The local nuances to be considered in implementing regional grants that target MSM and TG populations are important in determining programmatic approaches that are appropriate for in country-contexts. The ISEAN-Hivos Program continues to explore these nuances and how they can be better maximized to reach its target populations.

Disclosure of Interest Statement: The ISEAN-Hivos Program is a multi-country HIV prevention program for MSM and TGs funded by the Global Fund Round 10, with Hivos as Principal Recipient in partnership with the Insular South East Asia Network (ISEAN). No pharmaceutical grants were received in the development of this study.

PLHIV

POSTER NUMBER: 339

PHYSICAL ACTIVITY PARTICIPATION AND CARDIOVASCULAR FITNESS IN PEOPLE LIVING WITH HIV: A ONE-YEAR LONGITUDINAL STUDY

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Introduction: Physical activity and cardiovascular fitness (CVF) are beneficial for HIV-infected individuals, however long-term effects are unknown. This study aimed to document long-term habitual physical activity and CVF in stable, HAART-treated individuals with HIV, explore relationships to body composition, body image and cardiovascular disease (CVD) risk and evaluate physical activity determinants.

Methods: Eighty individuals participated (n=74 completed all study visits) in this 12 month prospective, longitudinal study. Physical activity was reported using the International Physical Activity Questionnaire and CVF assessed using the Kasch Pulse Recovery Step Test.

Results: Participants were mostly Caucasian males (n=5 females); mean age 49.3 years (SD 9.8). Almost 75% had an undetectable HIV VL and the median CD4 429 (7-1145).19-37% participants reported suboptimal physical activity levels at each study visit, while physical activity and CVF were largely stable over the study period. Higher CVF was associated with better body composition and this association persisted over time (p<0.03 for all). Greater total energy expenditure was associated with improved body image (r=-0.325, p=0.027) but not CVD risk. Being in a permanent relationship was independently associated with higher levels of physical activity.

Conclusion: This study found benefits for both long-term physical activity and CVF for chronic HIV-infection. In this medically stable cohort at least one -fifth of participants were inactive. CVF was associated with improved body composition, suggesting HIV-infected individuals should be encouraged to improve and maintain CVF. Increasing physical activity levels were associated with improved perceived body image, supporting use of physical activity to improve this aspect of psychological well being. Being in a permanent relationship was associated with higher physical activity levels, suggesting social isolation may be a risk factor for inactivity in those with HIV. Intervention studies are required to define the benefits obtainable for improving long-term physical activity uptake and CVF in this population.

An Alfred Research Trusts Small Project Grant funded this study. No pharmaceutical grants were received.

POSTER NUMBER: 340

THE GUARD IN GUARDIANSHIP: A REVIEW OF GUARDIANSHIP AND OTHER COMPLEXITY FOR CLIENTS OF ADAHPS (A NSW HEALTH STATE-WIDE HIV SERVICE)

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¹ ADAHPS (AIDS Dementia and HIV Psychiatry Service NSW)

Introduction; ADAHPS is a state-wide service for people with HIV and complex needs. The service utilises a co-case management model across NSW, managing clients with cognitive and neurological difficulties, including dementia.

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Increased life expectancy has altered the needs of HIV+ individuals, such that an increasing number of clients develop functional difficulties. This paper identifies processes and explores contested ethical considerations pertaining to guardianship and financial management in NSW. Consideration of these issues is vital given that contention between services and professionals is common and guardianship orders can impact on a client's fundamental freedoms.

Methods: Subjects included 80 HIV+ individuals currently receiving case management through ADAHPS. Client files were systematically reviewed by a senior social worker/case manager. Information obtained from these files included whether the client is managed under the guardianship act or financial management order and whether they were living in supported accommodation or receive ADAHPS funded brokered care. Endorsement of these variables was thought to reflect increased level of client complexity.

Results: Quantitative analysis yielded the following results 30% of subjects have a legal guardian, 35% have a financial management order, 53% live in supported accommodation and 46% have ADAHPS funded brokerage support. While 30% of subjects were not in receipt of any of the four variables, 17% were receiving all four, thus indicating increased levels of complexity and they need for additional support.

Observationally, many NSW mental health services manage clients under the Mental Health Act 2007 and services often raise philosophical and practical concerns regarding quardianship.

Conclusion: A considerable number of ADAHPS clients meet criteria for legal disability and require supports such as guardianship and financial management. Utilisation of such services is a contested arena among health professionals and requires consideration of ethical frameworks in practice.

POSTER NUMBER: 341

WHAT IS IT YOU DO AGAIN?: A REPORT OF HIV SOCIAL WORKERS EXPERIENCES' IN SYDNEY AND NSW

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Introduction: Social workers have played a central role in the response to HIV in Sydney. They have participated in and witnessed changes and developments within the population of people living with HIV (PLWHIV) and been involved in a diversity of clinical and community responses to treatment and management.

Methods: SWHIV (formally known as SWAIDS) is a practice group of social workers working in HIV throughout NSW were consulted on their experiences working in the field of HIV. SurveyMonkey was used to survey the 50 social workers on the SWHIV email list. Data were gathered on a range of practice components including: years of experience, perceived changes in client profile, service needs and service provision over time, satisfaction and challenges in the role, and identified areas of need.

Results: A response rate of 74% was achieved. Data gathered identified a diversity of social work practice. Substantial changes were noted in the issues facing people living with HIV including its status as a chronic illness, the impact of discrimination and issues around disclosure and social isolation. Particular note was made of the changing client

profile, which included increasing numbers of heterosexual clients including women from culturally and linguistically diverse (CALD) communities, young people and the number of PLWHIV with mental health and cognitive concerns.

Conclusion: The population of PLWHIV today is different from that of previous generations requiring a shift in social work services which is responsive to these changes. The chronic nature of the condition has led to a greater degree of complexity in the lives of PLWHIV and social workers find themselves mediating client needs and service provision at the level of the individual, group, community and organisational management. The findings have suggested the need to further understand service gaps and call for a refocus on service provision and resourcing.

POSTER NUMBER: 342

PILOT OF THE SEXUAL HEALTH COUNSELLING SKILLS GAME IN PAPUA NEW GUINEA (PNG)

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Background: This study assessed the effectiveness and acceptability of an interactive teaching resource, developed for health workers in PNG. This game was developed to assist in training and mentoring PNG staff in sexual health counselling skills. It was a response to clinical observations and staff requests as part of the PNG & Australia Sexual Health Improvement (PASHIP) project*. In addition to reinforcing best practice, the game aimed to highlight the limitations of proscriptive approaches, encourage individual problem-solving and identify local referral pathways.

Method: Twenty-five staff (11 Community Health Workers, 3 nursing, 8 counsellors, 3 other) from two sites (one rural hospital and one sexual health clinic) participated in the study. Participants were presented with different case scenarios and asked to select appropriate responses and strategies from a set of cards. Each scenario addressed specific psychosocial issues (e.g., Domestic Violence, pregnancy) and was discussed by the wider group and referral pathways were identified. The facilitator had instructions to assist discussion.

Results: Over half (13/25) of the participants demonstrated improved knowledge (mean=12%) on pre/post questionnaires. In anonymous evaluations all participants rated the game as enjoyable and reported that the game enhanced learning. It was regarded as a suitable tool for in-services and sexual health programs. Participants also indicated they reflected on referral options and their own practice.

Conclusion: This pilot indicated that the game improved sexual health counselling skills and referral pathways and that it is an effective and enjoyable learning tool for health workers in PNG. Based on the pilot, changes to the game have been implemented (e.g. a workbook). Translation into common dialect, particularly given the sometimes subtle differences in differentiating between counselling statements is under consideration. It is anticipated that the game will become an addition to PNG training in STI Syndromic Management and Voluntary Confidential Counselling and Testing and may be adapted to other contexts and regions.

*This pilot was part of a consortium within the PASHIP project, funded by AusAID, consisting of Anglicare PNG (Port Moresby), Anglican Health Services (Oro Bay), Anglican Board of Mission and The Albion Centre.

YARN BOMBING: A NEW WAY TO YARN ABOUT HIV/AIDS

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Introduction: Australia has been in the forefront of targeted Human Immunodeficiency Virus (HIV) prevention and care for over a quarter of a century, HIV-related stigma and discrimination is still prevalent in many rural communities.

A large body of literature emphasizes the impact of HIV-related stigma on the well-being of People Living with HIV (PLHIV). Furthermore, experiencing stigma or discrimination can have detrimental impact on community members and PLHIV developing and maintaining health seeking behaviours.

Recent studies in Australia show stigma and discrimination issues around HIV and Hepatitis C Virus (HCV) are particularly salient in rural and remote communities.

Use of artforms, particularly innovative community art expressions can, play a major role in creating supportive environments and reinvigorating community participation. Artforms can increase message reach to a target audience, especially on occasions when the key messages and themes lose novelty.

Methods: A group of 20 volunteer knitters (ages 20-40) were trained in HIV-related stigma and discrimination issues and positive communication. A surprise Yarn Bombing was organised at dawn in Lismore on December 1. Knitted artworks, mostly in red, appeared in various public places featuring positive images, messages and a sexual health infoline number.

Results: In addition to generating major discussion about HIV/AIDS within the local community in a gentle yet powerful way, the event also attracted extensive regional media coverage. Use of social media and social networking further increased event coverage and message reach. An informal post program evaluation via random interview of local community members and volunteers showed overwhelming community support and acceptance for the event.

Conclusion: Artistic expressions are a powerful means of communication, particularly when dealing with sensitive topics such as HIV/AIDS-related stigma and discrimination in rural settings. Artforms can be effective in creating supportive environments where community members can develop skills and sustain health seeking behaviours.

POSTER NUMBER: 344

DIFFERENCES BETWEEN YOUNGER AND OLDER GAY MEN RECENTLY DIAGNOSED WITH HIV IN AUSTRALIA

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Introduction: For the last ten years, the median age of men newly diagnosed with HIV in Australia has been 38 years. Recently, it appears as if the proportion of younger men being diagnosed is increasing. What might be contributing to this shift?

Methods: The HIV Seroconversion Study collects both quantitative and qualitative data from people in Australia recently diagnosed with HIV. 447 respondents completed an online survey in which they were asked about their beliefs and attitudes around HIV and risk. 76 men were also interviewed as part of the study.

Results: Generally, there was little to distinguish older and younger respondents in the sample. The mean age overall was 36.3 years, with 53.4% under the age of 35 years. The youngest respondent was 17 years.

Age appeared not to be a factor in men's likelihood to engage in risk behavior during the six months prior to diagnosis, nor did it distinguish sexual position during the risk event they believe led to their HIV infection. Also there was little difference by age in men's relationship with the person they believe infected them. Younger men were, however, more likely to believe that knowing someone's HIV status is a way to practice safe sex (agree 35.1 years, disagree 39.0 years; p=0.009). Otherwise there was little difference between older and younger men in their beliefs and attitudes about relative risk.

Conclusion: Younger men appear more likely than older men to believe that serosorting is a viable risk reduction strategy. HIV prevention initiatives informing younger gay men about the limitations of serosorting may support these men in making more accurate risk assessments.

Disclosure of Interest Statement: The Kirby Institute and The Australian Research Centre in Sex, Health and Society (ARCSHS) receive funding from the Australian Government Department of Health and Ageing. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales. ARCSHS is affiliated with La Trobe University. No pharmaceutical grants were received in the development of this study.

RAPID TEST/ CLINIC

POSTER NUMBER: 345

THE USE OF RAPID HIV TESTING TO IMPROVE FOLLOW-UP AFTER NON-OCCUPATIONAL POST EXPOSURE PROPHYLAXIS

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Introduction: The Victorian NPEP Service (VNPEPS) co-ordinates the provision of non-occupational post exposure prophylaxis (NPEP) to those exposed to HIV in the community. Australian National NPEP Guidelines recommend follow-up HIV testing at week 4 and 12. Despite active follow up by the clinical nurse consultant (CNC), follow up rates for HIV testing were <50% at week 12. We introduced the use of rapid HIV testing (wherein a result is available at the time of testing and avoids a second clinic visit) with the aim to increase the number of patients returning to have follow-up testing.

Methods: All patients who presented to The Alfred Hospital for NPEP were asked to participate in this study. Participants returned to The Alfred Infectious Disease Clinic at week 4/6 and week 12. They were assessed by the CNC who performed the rapid test and also drew blood for standard HIV testing. Participants filled out a short survey regarding their experience with the rapid test.

Results: 74 patients initially agreed, however only 65 consented to participate in the study. 64 (98%) returned for a rapid test at week 4, and 47 (72%) returned for a rapid test at week 12. Seven patients had a standard HIV test rather than a rapid test at week 4 or week 12. Follow up rates were 100% (65/65) at week 4 and 82% (53/65) at week 12.

61/64 (95%) completed the survey at week 4, and 45/46 (98%) at week 12. At week 4 and week 12, 53/64 (83%) and 41/46 (89%) stated that they would be more likely to have follow-up testing if rapid testing were available in the future. All participants at both visits said they would recommend rapid testing to a friend.

Conclusion: The rapid testing study has been successful and the rate of follow-up testing has improved. The study has been extended for 12 months.

Disclosure of Interest Statement: The VNPEPS is funded by the Victorian Department of Health and no additional funding was received for this study.

POSTER NUMBER: 346

IDENTIFYING RISK FACTORS FOR HIV VIROLOGICAL FAILURE IN AN AUSTRALIAN CLINIC

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Introduction: Risk factors associated with combined anti-retroviral therapy (cART) virological and treatment failure have been previously reported. This study is the first to examine risk factors for virological failure in the Australian clinical setting, where cART is fully subsidized.

Methods: A matched case-control (1:3) retrospective analysis was conducted on HIV patients followed up by the Victorian HIV service in 2010. Virological failure (VF) was defined as >1 HIV RNA level >200 copies / mL after at least 6 months cART. Controls were selected from patients without VF who were seen in clinic during the same time period and matched for gender. Baseline patient characteristics and other clinical parameters were extracted from the electronic health record. Univariate analyses were performed conditioning on the matched groups of cases and controls. A multivariate (MV) conditional logistic regression was performed using modified forward stepwise selection.

Results: Thirty nine cases (6.5% of all patients on cART attending the clinic) and 117 controls were identified and analysed. Compared to control patients, risk factors independently associated with failure in MV analysis were: missed clinic appointments in 1 year prior to VF (OR13.1, 95% Cl: 2.8 to 61.1), multiple previous cART regimens (OR4.2, 95% Cl:1.2 to 15.3), current hepatitis C infection (OR= 8.6, 95% Cl: 1.9 to 38.7), older age at HIV diagnosis (OR= 1.1 95% Cl: 1.0 to 1.2), younger age at time of VF (OR= 0.9, 95% Cl: 0.8 to 1.0), CD4 count at time of VF (OR= 0.7 95% Cl 0.5 to 0.9). Suboptimal adherence was identified in the univariate model.

Conclusion: Patients at risk of virological failure included those who missed clinic appointments, were younger, and had more advanced HIV disease. Specific early interventions and support may improve treatment outcome in this group of patients.

Disclosure of Interest Statement: Our organization has received payment for advisory board membership for Merck, Sharp&Dohme, Gilead Sciences, Jannssen Cilag and ViiV Healthcare. However, no pharmaceutical grants were received in the development of this study.

POSTER NUMBER: 347

NON-OCCUPATIONAL POSTEXPOSURE PROPHYLAXIS AT A SYDNEY METROPOLITAN SEXUAL HEALTH CLINIC

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Introduction: Non-occupational HIV post-exposure prophylaxis (NPEP) is available in Australia for individuals who report a potential or actual non-occupational exposure to HIV. We aimed to assess NPEP side effects and completion at our service

Methods: A retrospective case note review of all patients who were prescribed NPEP at RPA Sexual Health January 2008 to December 2011 was performed and predictors of NPEP side effects and completion were assessed using logistic regression.

Results: 319 NPEP presentations occurred among 282 individuals during the study period. 262 (94.3%) individuals were male, of whom 260 (99.2%) presented following a homosexual exposure. The most common exposure presentations were unprotected receptive (n=203, 63.6%) and insertive (n=87, 27.4%) penile-anal intercourse. 139(43.6%) received the entire NPEP course initially. The remainder received a starter pack, of whom 178 (98.9%) returned for the complete NPEP course. The most common NPEP regimens were Truvada (n=136, 42.6%) and Truvada/Stavudine (n=149, 46.7%). Adverse effects (AEs) were reported at 101 (31.7%) NPEP presentations; most commonly nausea (52.9%) and lethargy/malaise (28.4%). Reporting any (vs no) AEs was independently associated with changing the NPEP regimen (p<0.001), more recent year of NPEP prescription (p=0.005) and Truvada/Stavudine or other NPEP regimen (vs Truvada alone, p=0.026). Overall, 228 (71.5%) returned for post-NPEP follow-up and were known to complete the NPEP course. Completion rates did not differ between those prescribed a starter pack and those not (p=0.99). Non-completion was independently associated with changing NPEP regimen due to AEs (p<0.001) and reporting no (vs any) AEs (p=0.004). No NPEP failures were documented; however 2 individuals subsequently seroconverted to HIV due to ongoing high risk behaviours.

Conclusion: NPEP was appropriately targeted to the highest risk exposures. Truvada-containing regimens were most often prescribed and Truvada alone was better tolerated than other NPEP regimens. Active recall may improve the relatively poor follow-up rate post-NPEP.

POSTER NUMBER: 348

FACTORS RELATED TO RECENT HIV TESTING AMONG YOUNGER GAY AND BISEXUAL MEN IN NEW ZEALAND; RESULTS FROM NATIONAL SOCIOBEHAVIORAL SURVEILLANCE (2006-2011)

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Introduction: The objective was to conduct New Zealand's first investigation into recent HIV testing among younger gay, bisexual, and other men who have sex with men aged 16-29 (YMSM).

Methods: A pooled sample of YMSM was created from the 2006-2011 rounds of the Gay Auckland Periodic Sex Survey and Gay men's Online Sex Survey. Multivariate logistic regression, controlling for year, was used to investigate correlates of recent HIV testing (reported an HIV test in <12 months or not). Only statistically significant findings of the final model, built using manual backward stepwise elimination, are presented [adjusted OR (95%CI)].

Results: Of 3,352 eligible participants, 1,338 (39.9%) reported a recent HIV test. In the final adjusted model, the odds of having a recent HIV test were higher for:

- older age (per year increase) [1.06 (1.03-1.08)]
- spending at least some time with other gay men [1.44 (1.20-1.73)]
- multiple sex partners versus one in the <6 months [e.g. 1.73 (1.32-2.27) for 2-5 partners]
- having a regular partner for 6-12 months versus <6 months [1.69 (1.19-2.41)]
- high condom use with casual partners [1.43 (1.11-1.86)]
- disagreement that HIV is a less serious threat nowadays [1.27 (1.03-1.57)] and disagreement that an HIV-positive man would disclose before sex [1.28 (1.09-1.51)]

The odds of having a recent HIV test were lower for:

- recruitment online [0.73 (0.60-0.89)]
- bisexual identity [0.70 (0.57-0.86])
- Pacific Islander [0.61 (0.40-0.92)] or Asian [0.71 (0.54-0.94)] ethnicity
- no regular partner [0.55 (0.42-0.71)] or one for >2 years [0.50 (0.35-0.71)]
- being insertive-only versus versatile with a regular partner [0.61 (0.44-0.85)]
- not knowing that HIV cannot pass through an undamaged latex condom [0.74 (0.61-0.89)]

Conclusion: Understanding factors related to lower HIV testing rates among specific YMSM in New Zealand should be used in conjunction with epidemiologic data on new HIV diagnoses and undiagnosed HIV prevalence to inform future prevention work.

Disclosure of Interest Statement: New Zealand's Gay Auckland Periodic Sex Survey and Gay men's Online Sex Survey are funded by the New Zealand Ministry of Health, University of Otago and New Zealand AIDS Foundation. No pharmaceutical grants were received in the development of this study.

POSTER NUMBER: 349

TRENDS IN HIV AND OTHER TRANSFUSION-TRANSMISSIBLE INFECTIONS AMONG AUSTRALIAN BLOOD DONORS FROM 2005 TO 2010

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Background: Routine monitoring of trends in human immunodeficiency virus (HIV) and other transfusion-transmissible infections (TTIs) is essential to maintaining and improving transfusion safety. Although periodic studies have been published there is no comprehensive trend analysis for TTIs in Australian donors. This study determined recent trends in HIV and other TTIs (hepatitis B virus, hepatitis C virus, human T-lymphotropic virus, and syphilis) for which testing is conducted in Australia and described key attributes of infected blood donors.

Methods: This is a retrospective analysis using data on donation testing for TTls (2005-2010) from the national Blood Service donor database and data on post-donation interviews with TTl-positive donors (2008-2010) from a risk factor database incorporating responses to standardised interview questions. The study measured the prevalence and incidence of TTls in Australia and assessed their time trends. Multivariate analysis of time trends was conducted using Poisson regression models.

Results: Overall, the prevalence and incidence of TTIs in 2005-2010 remained low and steady. The prevalence of hepatitis C virus decreased (P<0.001) and active syphilis increased (P=0.03) significantly during the study period. Prevalence of TTIs among Australian blood donors was substantially lower than that in the general population and no unique risk factors were identified in test-positive blood donors when compared with the general population.

Conclusion: Both the prevalence and incidence of TTIs in Australian blood donors remained low, with a steady or declining trend for most infections except active syphilis. The lower prevalence of TTIs in blood donors compared with the general population reflects the effectiveness of donor education and donor selection measures in Australia.

Disclosure of Interest Statement: The authors acknowledge funding jointly from the Australian Red Cross Blood Service and the Kirby Institute. The Australian Red Cross Blood Service is fully funded by the Australian Government for the provision of blood

products and services to the Australian community. The Kirby institute is funded by the Australian Government Department of Health and Ageing and is affiliated with the Faculty of Medicine at the University of New South Wales. The authors have no conflicts of interest to declare.

POSTER NUMBER: 350

KNOWLEDGE OF HIV, ATTITUDES TOWARD PEOPLE LIVING WITH HIV, AND WILLINGNESS TO CONDUCT RAPID TESTING AMONG DENTAL HYGIENISTS

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Introduction: Expanding HIV rapid testing in the dental setting may increase the number of people who know their HIV status and can begin appropriate treatment early. The study objective was to explore the hypothesis that dental hygienists with high HIV knowledge should have more favorable attitudes providing oral hygiene education, HIV testing and treatment with people living with HIV/AIDS than those with low HIV knowledge.

Methods: Cross-sectional survey data were collected via convenience sampling from 630 dental hygienists in the United States. Individuals with high knowledge (scores above 80%) were compared with those with lower knowledge. Unconditional logistic regression was used to calculate age, gender and race adjusted odds ratios evaluating the relationship between knowledge level and stigma/attitude.

Results: While years of clinical experience is correlated with comfort levels in dealing with medically compromised patients, it is noteworthy that having a higher level of knowledge specific to HIV is correlated specifically with performing routine doing oral hygiene exams on HIV patients. When looking at high vs. low test scorers as two separate categories of survey responders, the two groups differed in their opinion of whether HIV patients should be quarantined to stop the spread of infection and in whether dental hygiene students should be allowed to opt out of being able to treat HIV patients, indicating that knowledge about HIV may be specifically tied to attitudes about this specific medical population.

Conclusion: As a member of the dental team, the dental hygienist, with the proper knowledge and training, may be suitable to conduct rapid HIV testing. Lessons learned from this research may be used to inform Australian oral health workforce guidelines and expand HIV rapid testing initiatives.

POSTER NUMBER: 351

THE FIRST 24: THE FIRST 20... AND MORE. A REVIEW OF THE FIRST 24 MONTHS OF A COMMUNITY BASED HIV/ STITESTING SERVICE FOR GAY/MSM UTILISING A PEER MODEL APPROACH

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Introduction: In response to a syphilis outbreak in 2006, as well as increasing evidence of decreased condom use among gay/MSM, the Western Australian AIDS Council (WAAC) responded by conceiving of and establishing the M Clinic: a community based HIV/STI testing service which utilises a non-judgemental, peer model approach. This approach, unique in Australia, is utilised to help remove all possible barriers to testing accessibility and thence increase rates of testing.

Method: A 'raw data / raw numbers' review of the M Clinic's first 24 months of operation has been conducted as a means to objectively evaluate and substantiate the [widely perceived] highly successful nature of the clinic.

Results: During the first 24 months the M Clinic has diagnosed 19 cases of HIV. These numbers represent the highest number of diagnoses from any single clinic in WA and 50% of those in gay men for the same period. 15 were incident cases, diagnosed early. 11 of the 19 were under age 30, and over half had inter-current rectal STI (primarily chlamydia). UAI was the most common mode of transmission, but 2 infections were acquired through ano-rectal fisting. Regarding age groupings the 21-30 group represented 53%; the 51-60 group 24%, and 12% for ages 31-40 and 41-50. Important are the high numbers who were repeat testers, and many (if not most) were very (?unusually) willing to divulge details of contacts without fear of judgement or 'retribution'.

Conclusion: The provision of a non-judgemental, non-punitive, full screening testing service engages the target group which then translates into higher rates of repeat testing and thence higher rates of early HIV (and inter-current STI) diagnoses. This approach also translates better contact tracing and thence, logically, decreased rates of onward transmission. This approach, well supported in the literature, means that the non-judgemental community, peer based model works.

There are no disclosures of interest.

STI

POSTER NUMBER: 352

AHEAD OF ITS TIME: RECTAL GONORRHOEA AS A LEAD INDICATOR OF HIV TRANSMISSION AMONG MEN WHO HAVE SEX WITH MEN IN VICTORIA, AUSTRALIA

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Background: Increased notifications of gonorrhoea and HIV have continued in the last decade in Australia with the majority of diagnoses of both infections occurring among men who have sex with men (MSM). Of interest, in Victoria increases in HIV notifications have been observed following increases in gonorrhoea notifications.

Gonorrhoea is known to enhance HIV transmission risk and is a plausible marker of sexual risk behaviours among MSM as it is highly infectious and a high proportion of urethral infections are symptomatic. This study examines the surveillance potential of rectal gonorrhoea (R-GC) as a lead indicator of HIV transmission among MSM.

Methods: Data from a metropolitan sexual health centre in Victoria were analysed and included HIV and rectal gonorrhoea tests and results from January 2006-December 2011 among HIV negative MSM.

HIV and R-GC proportion positive was calculated as the number of positive tests divided by number of tests and plotted with concurrent time periods, and with R-GC lead times of six, twelve and twenty four months ahead of HIV. Pearson's correlations between R-GC and HIV proportion positive were calculated.

Results: A total of 12378 R-GC tests and 17908 HIV tests were conducted. Quarterly R-GC proportion positive peaked in April-June 2006 (6.4%; 95%CI=4.3%-9.2%) and HIV proportion positive peaked in April-June 2007 (2.4%; 95%CI=1.2%-4.2%).

The correlation between R-GC and HIV was strongest with the R-GC to HIV lead time of twelve months (r=0.27; p=0.28), compared to concurrent (r=0.04; p=0.84), six (r=-0.14; p=0.55) and twenty-four month lead times (r=-0.09; p=0.83).

Conclusions: The ecological-level data presented provides limited evidence for an otherwise plausible hypothesis. Planned examinations of individual patient level data and the establishment of a temporal relationship between R-GC and HIV diagnoses could inform clinical and public health practice, for example, by encouraging HIV testing and protective behaviours in those diagnosed for R-GC.

Disclosure of Interest Statement: All authors have no conflict of interest relevant to this abstract

POSTER NUMBER: 353

PROGRESS TOWARDS REDUCING CHLAMYDIA PREVALENCE IN THE PACIFIC: COOK ISLANDS CASE STUDY

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Background: *Problem description:* STIs are known facilitators of HIV transmission. Although HIV prevalence is low in the region STI surveillance surveys showed high prevalence rates of Chlamydia (20%). Chlamydia is a common sexually transmitted infection (STI) worldwide. The potential for HIV to spread is high given the high STI prevalence.

Strategy: Urgent action was required to prevent the spread of HIV and reduce the prevalence of other STIs. In 2008 the Pacific Regional STI Working Group recommended implementation of a comprehensive STI control package.

Specific Objectives: One of the specific objectives of the strategy was to reduce Chlamydia prevalence 50% by 2013 compared with 2008 levels. We describe the Cook Islands efforts towards this through a strong health promotion, prevention and mass treatment campaign.

Methods Planning: A WHO consultant visited Rarotonga to meet with stakeholders and develop a plan. Clinicians and nurses were retrained on syndromic management and treatment of STI's.

Health promotion: Media messages in various forms were designed to inform the public and encourage people to present for treatment. . Media messages were played on air for seven weeks while newspaper messages were run for 4 months leading up to the campaign. Every opportunity to promote the campaign was taken..

Treatment: The country (11 inhabited islands) mass drug administered (1gram of Azithromycin tabs per person) to the population 12 years to 50 years from August 15th -19th 2011.

Results: 66% of the target population received treatment. There was a significant reduction in Chlamydia prevalence from 20% to 13.2% (p=0.04).

Conclusion: Chlamydia prevalence was reduced. Using routine testing data Cooks will continue to monitor and review the prevalence trends. Lessons learnt for a successful campaign include ensuring good communication, preparation, and collaboration are in place. The approach used is replicable for immunization and other health mass drug administration campaigns.

Disclosure of Interest Statement: Cook Islands receive funding to implement the STI control strategy through the Global fund for HIV and also the response fund. There is no conflict of interest to declare.

PREVENTION

PAPER NUMBER: 354

CLOSING THE BOOK ON PRINT - IS THERE A FUTURE FOR PRINTED HEALTH PROMOTION RESOURCES IN AN INCREASINGLY DIGITAL WORLD?

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¹ Positive Life NSW

Introduction: Since 1996 when the Internet started to become accessible to the general population, online communications and digital media have revolutionized the way people seek out, take in and share information. This poster presentation will explore the role that printed health promotion resources may play in the future of health promotion in a world where digital rules.

Methods: By presenting the relative merits and limitations of printed versus digital health promotion communications, the poster presentation will demonstrate the ways that both formats can be combined to help achieve different health promotion goals.

Drawing on examples from the work of Positive Life NSW, the poster presentation will highlight health promotion activities on social media sites including Facebook, Twitter and YouTube as well as other digital strategies including electronic direct mail (EDM) and short message service (SMS).

The presentation will also explore how reach and frequency can be increased, and the longevity of health promotion activities extended, by utilizing a combination of each format, while taking into consideration the impact this has on limited resources including financial costs, staff time and expertise.

Results: The results presented will be interim results as this work is ongoing.

Some of the guestions that will be explored include:

Has the HIV sector prematurely assumed that all of our diverse communities have access to the digital environment?

By focusing our communications activities in digital environments, are we potentially missing the most marginalized members of our communities?

Is there a need to include a digital strategies in all health promotion activities?

Conclusion: By carefully combining both digital and print communications and strategically allocating and utilizing resources, printed health promotion resources can still play an effective part in health promotion activities.

Disclosure of Interest Statement: No disclosure of interest

PAPER NUMBER: 355

WWW.WRAPPEDORRAW.ORG.AU

HIV PREVENTION IN 2012

Triffitt, K A

Positive Life NSW

Background: An external evaluation of the campaign 'SEX PIGS: DARK AND DIRTY SEX AND MANAGING YOUR HEALTH' (2009) produced by Positive Life NSW (Australia) highlighted the challenges in developing targeted HIV-prevention and education messages for sexually adventurous gay men.

It assessed the impact condom reinforcement messages had on the credibility or believability of a campaign targeting men who had made a decision not to use condoms in preference to other risk reduction practices (e.g. sero sorting).

Methods: Formative research (1:1, group discussions), campaign development (video stories) and the evaluation of 'SEX PIGS ...' framed the production of 'Wrappedorraw' (WoR). This web-based campaign looks at the choices made by HIV-positive gay men about using condoms in pos-pos sex and offers some options to minimise risk, manage disclosure and have great sex.

Drawing on the recent evaluation of 'WoR' this paper will discuss (1) the emerging challenges facing educators working with sexually adventurous men and web based campaigns [and] (2) the key role of gay sexual/social networking sites to target 'hard-to-reach' populations.

Results: From 11/2010-7/2011 campaign promotion results revealed a total of 10,418 unique visits to the WoR website: 7,345(70.5%) from Manhunt, 2,120(20.3%) from Manhunt Daily, 953(9.2%) from Manhunt Cares and nearly 15,200 views of the video 13,095(97%) from Manhunt Cares.

Campaign evaluation revealed 1,533 unique visits to the online survey and 1,326(85%) completed responses.

Conclusions: Campaign and evaluation research highlighted: (1) the significant role of sexual/social networking sites to target populations such as young gay men and those living in rural and regional NSW [and] (2) the capacity of video stories to enhance traditional information- dissemination.

Significant reductions in HIV-transmission may be achieved by combining existing prevention approaches (condom reinforcement campaigns) along side targeted education (non-condom based risk reduction strategies such as viral load monitoring) with emerging biomedical and technological innovation.

No disclosure of interest

POSTER NUMBER: 356

VARIABLE ENGAGEMENT OF THE SYDNEY GAY COMMUNITY GROUPS IN HEALTH PROMOTION

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Introduction: The development and dissemination of effective health promotion to reduce sexual risk behaviour among gay men is recognised as a public health priority. Previous research has described practices and attitudes in regards to HIV and STI across different strata of gay community, but we have little formal data concerning the ways men engage with health promotion services.

Methods: The project was conducted in 2 phases. Phase I involved enumeration of gay community groups, networks and organisations, conducted with the help of community organisations in NSW (ACON and Positive Life), by accessing GLBT websites, press publications and organisational facebook postings. In Phase II, a representative from each group completed an online questionnaire collecting both quantitative and qualitative information about each group including the group type, activities and purpose, membership characteristics, and communication and engagement of members in HIV prevention and health promotion.

Results: We identified 269 gay community organisations, groups, businesses and venues based in the Sydney metropolitan region; of which 219 were included in the study. To date 184 of 219 groups (84%) have completed the survey. Over half (58.2%) of the groups reported promoting HIV and STI prevention to their participants. Most common health promotion activities reported included promoting health services and events (35.9%), having a link to health organisations on the group website (33.7%) and providing HIV sexual health resources and putting up posters (31.5%). On average, the group representatives assessed the level of knowledge about HIV among group members as moderate (46%).

Conclusions: Encouragingly, well over half of the community groups are engaged with HIV health promotion. The level of knowledge of HIV among organisation participants was generally assessed fairly well. HIV organisations and their members still appear to be amenable to being engaged with HIV prevention efforts, even three decades into the epidemic.

Disclosure of Interest Statement: No potential conflicts of interests.

POSTER NUMBER: 357

CHANGES IN CONDOM USE OVER TIME

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Background: Many believe that gay men routinely engaged in unprotected anal intercourse with casual partners (UAIC) prior to HIV, then rapidly took up condom use in response to HIV, but have recently drifted back to more UAIC.

Methods: PASH-ON was an online survey of gay men recruited during mid-2010. We asked men to recall whether they had engaged in UAIC prior to and since HIV became an issue in Australia.

Results: Among 366 non HIV-positive respondents aged over 30, 88% reported ever engaging in UAIC; the mean age of first UAIC was 24 years. Among those who reported being sexually active during the period 1990-1995, UAIC was a majority (62%) experience prior to 1984 and then became a minority (45%) experience until 1995. It has reverted to a majority (70%) experience since 1996.

Engaging in UAIC in 2005-2010 among men who had not done so in 1990-1995 (mean age=46), was associated with greater optimism about the possibility of HIV transmission in the context of HIV treatments and being more likely to serosort with casual partners.

Conclusion: Prior to awareness of HIV, the majority of gay men engaged in UAIC at some time, but during the height of the epidemic only a minority did so. Since the introduction of effective HIV treatments an increasing majority of men report at least sometimes engaging in UAIC. Men who tend to be more optimistic about the protective benefits of HIV treatments on transmission, and more willing to serosort with casual partners, were especially likely to engage in UAIC for the first time during recent years.

Disclosure of Interest Statement: The Kirby Institute and The Australian Research Centre in Sex, Health and Society (ARCSHS) receive funding from the Australian Government Department of Health and Ageing. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales. ARCSHS is affiliated with La Trobe University. No pharmaceutical grants were received in the development of this study.

AWARENESS ABOUT HIV/AIDS AND ITS PREVENTIVE MEASURE AMONG BARBERS AND CUSTOMERS

Authors: Karim Mohammad Rezaul¹, Mona Nusrat Jahan ²

¹National Institute of Preventive and Social Medicine, ²Bangladesh Medical College and Hospital

Background: AIDS –acquired immune deficiency syndrome a burning problem for the world. Without widely available treatment and no vaccine in prospect for the near future, primary prevention is the only tool to control HIV infection and AIDS. The study was conducted to assess the level of awareness regarding HIV/AIDS and its preventive measures among barbers and their customers.

Methods: This study was a cross sectional study. The study sample was 250; among them 120 were barbers and 130 were customers of barbershops. Face to face interview was carried out using the structured questionnaire. The study was conducted capital Dhaka.

Results: In the study the mean age of the respondents was 32.12 years, (60%) barbers were Hindu. Study revealed that 92.30% customers and 75% barbers had heard of HIV/ AIDS. Regarding source of information 91.2% customers and 90% barber state that television was the source of information. It was evident that 54.16% barbers and 86.15% customers were aware about the transmission of HIV/AIDS by sharing blade. Study showed that 54.12%, 41.55% barbers and 86.15%, 84.61% customers state that HIV/AIDS could be spread by unsafe sex and blood transfusion. Study revealed that 99.2% barbers and 81.39% customers had no idea about the diagnosis of HIV/AIDS by the blood test. Regarding treatment of HIV/AIDS 63.07% customers and 61.7% barbers had no idea about the treatment.

Conclusion: This study has drawn the encouraging picture on awareness about the ever most deadly infectious disease. With both a vaccine and a cure still years away, our immediate task in combating HIV/AIDS is to use the preventive measures right to minimize its spread.

POSTER NUMBER: 359

AN EDUCATIONAL INTERVENTION ON HIV/AIDS AMONG THE RURAL MEDICAL PRACTITIONER

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Background: The whole world is now facing a threat to normal healthy life due to HIV/AIDS pandemic. The rural medical practitioners provide health care service to about 72% of the rural population of Bangladesh. Sixty eight percent of sick person of rural area consulted unqualified allopath. Aim of the study is to inform the policy makers of National HIV/AIDS prevention programme about the present status of knowledge of rural medical practitioners of Bangladesh regarding prevention of HIV/AIDS.

Method: It was an educational interventional study pretest and posttest design. Study was conducted in Benapole, Jessor.

Results: Study revealed that seventy one percent respondents knew at least one mode of HIV transmission before intervention, which increased to 100% after intervention. Ninety percent respondents knew the risk group for AIDS after intervention, which was 61% before intervention. Sixty-nine percent respondents state that multiple sex partners are the high risk group after intervention, which was only 10.47% before intervention. The study shows that before intervention 50.5% respondents knew the symptoms of AIDS it was 92.4% after intervention. Sixty six percent respondents knew at least one

mode of prevention of AIDS before intervention; it was 92.4% after intervention. The study revealed that before intervention only 5.7% answer correctly regarding the terms of AIDS which increased to 93.3% after intervention. Study state that the educational intervention program influence positive impact on knowledge on HIV/AIDS.

Conclusion: Rural medical practitioners are actively involved with the treatment of STIs/RTIs/ HIV/AIDS in rural area. Health educational intervention program should promote behavior change for rural medical practitioners.

POSTER NUMBER: 360

NON SUPPORTIVE PEERS CONTRIBUTE TO HIGHER RISK OF CONTRACTING STI AMONG DIRECT AND INDIRECT FEMALE SEX WORKERS IN TABANAN, BALI, 2012

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Introduction: < Women with multiple sex partner including direct female sex workers (FSWs) and indirect FSWs (café and massage parlour workers) consider as high-risk groups for infected with STIs. The prevalence of Gonorrhea and chlamydia is around 30-40% in 2008. Many factors contribute to risk of STI include condom use, accessto health services and supportive peers. This study aims to explore the association of those factors toward risk of STI>

Methods: <The study was applying cross-sectional design and it was conducted in Tabanan regency from April-May 2012. There were 86 respondents involved in the study includes 29 FSW and 57 indirect FSW, who were selected by **stratified random sampling**. Data were collected through direct interviews then was analyzed descriptively and with Chi-square test and logistic regression analysis>

Results: <The results of multivariate logistic regression analysis showed that two out of 13 independent variables tested was signifantly affect the history of STIs which are inconsistent condom use (adjusted OR = 9; 95% CI = 1.341 to 60.393, p = 0.024) and non supportive social/peer environment (adjusted OR = 9; CI 95% = 2.520 - 32.144; p = 0.001). Supportive peer that revealed from the study include encouragement to use condom and to access health services for STI screening. Several variables were also significant during bivariat analysis are access to condom, access to health services, positive attitude and vaginal douching>

Conclusion: < Peer support could be an important issue to be considered in order to reduce risk of STI. However, the peer support has not well established yet in form of support group that may have regular activities. Therefore the recommendations toward related stakeholders are to established and empower the peer support group, to improve the access to condom and services and to perform outreach services toward the group and coordination with the pimps and cafe manager should >

Disclosure of Interest Statement: Nothing to declare

POSTER NUMBER: 361

WHO WAS REACHED BY HIV PREVENTION PEER OUTREACH WORKERS IN HO CHI MINH CITY, VIETNAM?

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 1 U.S. Centers for Disease Control and Prevention (CDC), 2 Ho Chi Minh City Provincial AIDS Committee (HCMC PAC)

Background: Since 2004, the Ho Chi Minh City Provincial AIDS Committee (HCMC PAC) has implemented HIV prevention peer outreach for most at risk populations (MARPs),

including injecting drug users (IDU), men who have sex with men (MSM), sex workers (SW) and sexual partners of MARPs. During 2008-2011, quality improvement strategies were employed to better target individuals at risk including, client follow-up, crosstrainings to address concurrent risk behaviors, supportive supervision, and enhanced data monitoring. We assessed key process indicators during this time period.

Methods: Program monitoring data were analyzed by comparing proportions of MARPs reached over a four-year period: Apr 2008-Mar 2009 (Y1), Apr 2009-Mar 2010 (Y2), Apr 2010-Mar 2011 (Y3) and Apr 2011-Mar 2012 (Y4). The risk behavior of individuals reached was documented in a standardized data collection tool by peer outreach workers.

Results: The total number of individuals reached by the program declined from 26,022 in Y1 to 18,587 in Y2, 14,906 in Y3 and 14,206 in Y4. Commensurately, the total number of individual MARPs reached also declined steadily. However, the overall proportion of MARPs among all individuals reached increased from 70.7% (18,390) in Y1 to 74.9% (13,921) in Y2, 77.8% (11,594) in Y3, and 79.0% (11,224) in Y4 (p<0.01). The yearly increase between Y1-Y3 can be explained by the greater proportion of female IDUs reached (from 3.6% to 5.2% and 6.7% respectively; p<0.001). No significant changes were shown in proportion of other MARPs reached over time.

Conclusion: The implementation of quality improvement strategies may have contributed to increasing proportion of MARPs reached by peer outreach workers. The significant increase in the proportion of female IDUs may be associated with additional risk assessments among female SW and female partners of IDU. Further analysis is needed to understand the declining numbers of individuals reached over time to inform more efficient and targeted program implementation.

Disclosure of Interest Statement: Nothing to disclose.

POSTER NUMBER: 362

ISSUES AND OBSTACLES AROUND ARV TREATMENT AS PREVENTION AMONG FSWS

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Introduction: HIV/AIDS in Bali, Indonesia has sharply increased through heterosexual transmission since 2004. Female sex workers (FSWs) has major role on transmission into their clients and the general community, meanwhile condom use relatively very low (30-35%). Recently, ARV treatment is considered as effective prevention for HIV. The study aimed to find out the feasibility of ARV treatment as prevention among FSWs.

Methods: Preliminary study was done by conducting secondary data analysis on ARV treatment among FSWs at Kerti Praja Clinic in Denpasar and discussions were conducted among field workers, health staff at the clinic and some HIV (+) FSWs those under ARV treatment

Results: Among 510 FSWs that have been diagnosed as HIV (+), only 100 FSWs have used ARV. From those who under ARV, only 50% who still use ARV recently; while the remain were die, withdrawn, and *lost to follow-up*. Among those who do not use ARV, instead of CD4>350, many of them were lost to follow up following diagnosis of HIV (+), were death, were rejected, and were not ready to use ARV. Fear of unaccepted and discrimination of pimps, friends, and casual partner were the main issue. Side effect of ARV, daily dose and misperception of the disease were some reasons for FSWs to stop ARV.

Conclusion: HIV prevention effort through ARV treatment as prevention among this community need indepth assessment to prevent negative impact.

Disclosure of Interest Statement: The study is preliminary study of the feasibility study on ARV treatment among FSWs that was funded by National AIDS Commission/HCPI. No conflict of interest on the study.

POSTER NUMBER: 363

FACTORS ASSOCIATED WITH HIV TESTING USE AMONG INCARCERATED MEN IN THREE PRISONS IN THAILAND

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Background: In 2008, as part of an HIV comprehensive prevention program, we introduced peer education (PE) with referral to prison HIV counseling and testing (HCT) and HIV care and treatment in three Thai prisons.

Methods: In 2011, we conducted a cross-sectional survey using random sampling among 1,538 men in three prisons to determine factors associated with HCT use. Using hand-held computers, consenting participants answered a questionnaire including sociodemographic, HIV risk behavior, and service utilization variables. HCT use wasassessed with the question, 'Have you ever had HCT in this prison?". To screen participants who may have received HCT prior to program implementation, a subset of participants with sthree years in prison (n=913) was selected for this analysis. χ^2 analysis and backwards stepwise logistic regression were used to identify factors associated with HCT use.

Results: Of the 913 participants the median age was 30 years. Most were single (44%) and incarcerated for the first time (81%). The majority (720) of participants had been exposed to PE outreach (79%), and 201 (22%) utilized HCT in the prison. Of those who had HCT, 127 (63%) ever had HCT before incarceration. Most (91%) learned about HCT services from PE outreach. Of those 201 tested, 140 (70%) obtained their test results. The median time for receiving test results was 30 days (range: 1-365 days). In multivariate analysis, HCT uptake was associated with having used HCT services before incarceration (OR=3.2, 95%Cl:1.9-5.2), exposure to PE (OR=2.8, 95%Cl:1.2-6.5), having shared tattoo equipment prior to incarceration (OR=2.3, 95%Cl:1.4-3.8), and having higher STI knowledge (OR=1.9, 95%Cl:1.1-3.3)

Conclusion: Results suggest that PE outreach is associated withHCT use in prison. Other pre-incarceration factors are also significant predictors of HCT use. However, the quality of existing HCT services needs to be further assessed to develop an action plan for quality improvement.

POSTER NUMBER: 364

CHALLENGES IN EXPANDING ACCESS TO VCT SERVICES AMONG PREGNANT WOMEN IN BALI: BARRIERS BEYOND PERCEIVED RISK OF HIV.

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Antenatal clinics (ANC) can provide an opportunity for pregnant women to access voluntary counselling and testing (VCT) for HIV. However, VCT uptake during ANC care is low in Bali. This study was aimed at exploring the factors associated with women's willingness to seek VCT testing after being encouraged by their midwives to do so.

Methods: Questionnaires (double copies) were distributed to 70 midwives in order to obtain data on the women's socio-demographic background and perceived risk to HIV. The questionnaire was filled out by the midwives after they encouraged pregnant women to undergo testing in nearby VCT clinics. One copy of the already-filled-questionnaire was stored at the midwifery clinic; pregnant women were advised to bring the other copy of the questionnaire to the VCT clinic. Questionnaires kept at the VCT clinics were cross-checked with those stored at the implicated private midwifery clinics, to enable to compare the data regarding those who were willing to undergo testing as opposed to those who did not.

Results: 739 pregnant women were approached by the midwives to undergo VCT. 441 of them were willing to undergo VCT, 4 of which tested positive. Factors associated with willingness to go for VCT test was the term of the pregnancy (pV: 0.001), the working status of the women (pV: 0.007), and the working status of the husband (pV: 0.042).

Conclusion: The working status of women and their partners was an influencing factor, indicating that there is a need to develop VCT clinics convenient for women in terms of time and distance. Most of the women negotiated time off work to undergo VCT in addition to the day off work for ANC services. Thus, scaling up VCT services by developing clinics that provide inclusive ANC services and VCT services under one roof would likely to improve the rate of VCT testing among pregnant women.

Disclosure of Interest Statement: No grants were received in the development of the study.

POSTER NUMBER: 365

THE EFFECTIVENESS OF COMMUNITY-INTEGRATED VCCT SERVICES FOR MARGINALISED GROUPS: A CASE STUDY FROM TIMOR-LESTE

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Background: The Timor-Leste National STI and HIV Strategy 2011-2016 identifies a number of populations towards which targeted HIV prevention and education programs should be directed. These populations include men who have sex with men (MSM) and sex workers, both generally considered 'underground' communities. In February 2011, Fundasaun Timor Hari'i (FTH), a local NGO with a peer-based HIV prevention program for MSM and sex workers, collaborated with the Timor-Leste Ministry of Health to pilot the integration of Voluntary Confidential Counselling and Testing (VCCT) services with its community drop-in centres. Community members were recruited as counsellors, while health staff provided testing services. This 11 month pilot (ending 31 December 2011) was conducted to address slow uptake of VCCT services among these communities, and it was envisioned that integrating the services with the trusted and well-utilised drop-in centres would improve VCCT access.

Methods: Daily VCCT usage data was collected for the four quarters prior to and throughout the 11-month pilot project. Data was cross-checked and reported quarterly to the project donor. Post-program analysis was conducted in January 2012 to gauge the pilot's success.

Results: Overall VCCT attendance by MSM and sex workers increased by approximately 70 per cent in the 11 months of the pilot project compared to the preceding 12 months. This is despite a significant drop in the number of individuals referred to the services throughout the pilot period. Strong performance has resulted in the continuation of the integrated services into 2012-13 and the planned integration of sexually transmitted infection (STI) testing services into FTH drop-in centres from late-2012.

Conclusion: These findings highlight the importance of providing a safe and trusted environment in which to provide VCCT services, particularly for marginalised populations. Staffing these services with members of the communities as counsellors further helps to break down barriers to VCCT access.

Disclosure of Interest Statement: FTH is a sub-recipient of the Timor-Leste HIV Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) grant under principle recipient the Timor-Leste Ministry of Health. FTH collaborated with the Ministry of Health in the implementation of this pilot project.

POSTER NUMBER: 366

YEARLY TREND IN RISK BEHAVIOR AND HIV POSITIVITY AMONG PEER OUTREACH-REFERRED CLIENTS AT HIV TESTING AND COUNSELING SERVICES (HTC) IN HO CHI MINH CITY, VIETNAM

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¹ U.S. Centers for Disease Control and Prevention (CDC), ² Ho Chi Minh City Provincial AIDS Committee (HCMC PAC)

Background: Since 2008, the HIV prevention peer outreach program for most at risk populations (MARPs) in Ho Chi Minh City (HCMC) has implemented multiple quality improvement strategies, including training and supervision and client follow-up and tracking. HIV care and treatment programs were also expanded during this time. Key outcomes were assessed to understand the impact of these strategies on HTC uptake among MARPs—injecting drug users (IDU), men who have sex with men (MSM), sex workers (SW), and individuals with multiple sexual partners (MSP).

Methods: Routinely collected data from all CDC-supported HTC clinics in HCMC were analyzed to assess the yearly trend in risk behavior and HIV positivity among clients referred to HTC by outreach workers over a three-year period: Oct 2008-Sep 2009 (Y1), Oct 2009-Sep 2010 (Y2) and Oct 2010-Sep 2011 (Y3). Risk behavior was recorded in a standardized data collection form by the HTC counselor upon pre- and post- test counseling.

Results: The proportions of testers referred by outreach workers each year were: 38.5% (5,313/13,799), 42.8% (5,409/12,625) and 41.0% (4,997/11,355). The proportion of testers classified as MARPs, among all outreach-referred testers, significantly increased from 52.2% in Y1 to 68.4% in Y2 and 83.6% in Y3 (p<0.001). The proportion of MSM testers did not increase over time (p>0.1). HIV positivity rates decreased across testers from all MARP groups, with the exception of MSM: IDUs (45.1%; 32.7%; 23.3%; p<0.001), SWs (6.0%; 6.1%; 2.9%; p<0.001), MSP (12.1%; 12.1%; 8.9%; p<0.001), and MSM (7.3%; 7.7%; 7.8%; p>0.1).

Conclusion: The implementation of quality improvement strategies may have contributed to the increasing proportions of MARPs referred to HTC by outreach workers. The decreasing HIV positivity among sub-groups of outreach-referred clients needs to be further understood. Interventions should be developed to increase HTC uptake among MSM.

Disclosure of Interest Statement: Nothing to declare.

POSTER NUMBER: 367

OPTIMIZING HIV BUDGETS TO MAXIMIZE THE IMPACT OF HIV PREVENTION PROGRAMS IN AN ERA OF REDUCED FUNDING

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Introduction: Many countries rely on external funding for HIV programs. Due to falls in funding from the Global Fund these countries are likely to experience cuts in their HIV budget. For example, Armenia is facing a reduced budget of €7 million from €9 million.

With a reduction in funding, it is important to identify the most cost effective budgets that maximize the impact of prevention and treatment programs.

Methods: The impact of funding changes on HIV transmission in several countries was investigated using country-specific mathematical models. The models incorporated the most at-risk populations and current HIV prevention programs and were calibrated to epidemiological and behavioural data. All associated costs related to HIV prevention were collated for each country and relationships between program funding and behavioural parameters were determined. The optimal allocation of funding towards HIV prevention programs was determined for each country by varying the proportion of funding allocated to each program and determining the combination that produced the lowest number of HIV infections in the future.

Results: We successfully applied these methods to several countries in Southeast Asia and Eastern Europe. For example, in Armenia we found that the optimal allocation of funds was to invest in condom promotion and needle-syringe programs; reducing funding to methadone programs and those prioritizing migrants. Specifically, 44% of funds to condom promotion in sex workers, 33% to condom promotion in men who have sex with men, and 22% towards needle syringe programs (with ~1% towards other programs). We found that with this optimal allocation of funding, more infections can be averted with the reduced budget than the original.

Conclusion: The model was able to identify the best allocation of funding among the available programs within several countries. This will help policy makers best utilize reduced budgets to minimize new HIV infections.

Disclosure of Interest Statement: "No disclosure of interest".

IDU

POSTER NUMBER: 368

HIV AND HEPATITIS-C STATUS OF INJECTING DRUGS USERS RECEIVING HARM REDUCTION SERVICES IN INDONESIA, 2012

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HIV Cooperation Program for Indonesia

Introduction: Besides HIV, the hepatitis C virus (HCV) is a threat to people who inject drugs (PWID) and share needles and syringes. For those people living with HIV and HCV, liver damage is higher than in those without HIV infection.

Method: Over a three week period of an annual behavior survey, all PWID attending harm reduction (HR) programs provided by community health centers (CHC), hospitals and NGOs in 7 provinces supported by HIV Cooperation Program of Indonesia (HCPI) were invited to complete a self-administered questionnaire.

Result: The 2012 annual behavior survey found 75% of 4,554 respondents had had an HIV test with 51% of those who knew their result testing HIV positive. 1,434 out of 4,510 respondents (32%) reported having had an HCV test, with 822 (61%) of 1,339 PWID who knew their result HCV positive. HCV positivity ranged from 29% in Yogyakarta to 73% in Bali.

Twelve percent of those who answered and knew their result (535 respondents) reported being positive for both HIV and HCV, with 52% of HIV positive respondents never having had an HCV test. Reasons given by 2,960 PWID for not having had a HCV test included: don't know about HCV (34%), test expensive (24%), don't know where to get a test (17%) and don't care about HCV (15%).

Conclusion: Treatment for HCV will remain an issue in Indonesia given the lack of affordability of peginterferon. Although few PWID have had a test for HCV, the rate is relatively low in this group compared to other countries where it ranges between 40 to 90%. Information about the risk of HCV should be incorporated into HR programs delivered by CHC, hospitals and NGOs as prevention is still the best approach to HCV. HIV treatment remains the priority for PWID in Indonesia

POSTER NUMBER: 369

THE IMPACT OF KNOWING HIV STATUS ON THE BEHAVIOUR OF PEOPLE WHO INJECT DRUGS IN INDONESIA, 2012

Blogg S1, Soehoed R1

Affiliation: HIV Cooperation Program for Indonesia, GRM International and Burnet Institute¹

Introduction: Improved voluntary counseling and testing (VCT) provided by health services in Indonesia aims to ensure safer behaviour by people who inject drugs (PWID) as well as earlier commencement of antiretroviral treatment (ART) for those infected with HIV. Annual behaviour surveys for harm reduction programs supported by the HIV Cooperation Program for Indonesia have enabled the evaluation of VCT as a method of decreasing high risk behaviour.

Methods: An annual behaviour survey conducted for participants in harm reduction programs over a 3 week period in April 2012 in 7 provinces was analyzed to see if those who knew their HIV status had safer injecting and sexual behaviour.

Results: The 2012 behaviour survey found that 69% of 4,554 participants had received VCT results, a 6% increase since 2011; 8% of those who tested HIV negative shared needle syringes in the previous week compared to 13% of those who tested positive, a 4% and 6% improvement since 2011, respectively. However, condom use was better in those who tested positive: 34% *always used condoms with regular partners* compared to 11% of those who were HIV negative, as did 34% and 30% with casual partners in the last year, respectively.

Conclusions: Access to VCT for PWID can lead to safer sexual behaviour as those who know they are HIV positive are more likely to use condoms with regular and casual partners than those who are HIV negative or do not know their status. However, a higher proportion of PWID who were HIV positive shared needle syringes than did those who were negative. Access to VCT should be increased and messages need to be strengthened so that HIV positive drug users are more motivated to protect themselves from other blood-borne viruses and sexual diseases and not transmit HIV.

POSTER NUMBER: 370

HIV AND HCV PREVALENCE AMONG ENTRANTS TO METHADONE MAINTENANCE TREATMENT CLINICS IN CHINA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Methadone maintenance treatment (MMT) was implemented in China since 2004. It was initiated in 8 pilot clinics and subsequently expanded to 738 clinics by the end of 2011. Numerous individual research studies have been conducted to estimate HIV and HCV prevalence among MMT clients but an overview of the epidemics in relations to MMT remains unclear. The aim of this study is to estimate the magnitude and changing trends of HIV, HCV and HIV-HCV co-infections among entry clients to MMT clinics in China during 2004–2010.

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Methods: Chinese and English databases of literature were searched for studies reporting HIV, HCV and co-infection prevalence among MMT clients in China from 2004 to 2010. The prevalence estimates were summarized through a systematic review and meta-analysis of published literature.

Results: Ninety eligible articles were selected in this review (2 in English and 88 in Chinese). Nationally, pooled prevalence of HIV, HCV and HIV-HCV co-infection among MMT clients was 6.0% (95%Cl: 4.7%-7.7%), 60.1% (95%Cl: 52.8%-67.0%) and 4.6% (95%Cl: 2.9%-7.2%), respectively. No significant temporal trend was found in pooled prevalence estimates. Study location is the major contributor of heterogeneities of both HIV and HCV prevalence among drug users in MMT.

Conclusions: There was no significant temporal trend in HIV and HCV prevalence among clients in MMT during 2004–2010. Prevalence of HCV is markedly higher than prevalence of HIV among MMT clients. It is recommended that health educational programs in China promote the earlier initiation and wider coverage of MMT among injecting drug users (IDUs), especially HIV-infected IDUs.

RESEARCH AND SURVEILLANCE

POSTER NUMBER: 371

HIV PREVENTION NEEDS OF PRISONERS IN KUMASI CENTRAL PRISON, GHANA

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Introduction: HIV prevention efforts in sub-Saharan Africa have primarily focused on the heterosexual population. However, epidemiological data indicates the epidemic tends to be concentrated in high-risk populations that include prisoners. HIV prevalence in Ghana in the general population is 1.5% compared to 5.9% among prisoners. In Kumasi Central Prison, HIV prevalence is 3.4%.

Methods: This research was conducted at Kumasi Central Prison from October through November, 2011 and used qualitative and quantitative methodologies, involving a survey of 250 prisoners (211 male and 39 female), in-depth interviews with 50 prisoners, and key informant interviews with 10 prison guards. Data was collected on HIV knowledge, risk factors and behaviours, and availability of HIV education and prevention services.

Results: Over 75% of male prisoners felt at risk of acquiring HIV/AIDS in the prisons. The most common HIV/AIDS transmission risk factors were; sex between prisoners, sharing razor blades, congestion, poverty, drug use, and inadequate healthcare services. Poverty and inadequate availability of food were the most common reasons for engaging in risky sexual behaviors. Unless a prisoner had distinct symptoms of HIV/AIDS, HIV counselling and testing services were not available to prisoners. Less than 5% of prisoners had taken an HIV/AIDS test before coming to prison. If given the chance, 97% would take an HIV test. The women interviewed did not at risk for HIV.

Conclusion: This study revealed that prisoners at Kumasi Central Prison engage in risky behaviors. A majority however had good knowledge of HIV/AIDS. The current conditions inside the prison including poverty, inadequate food, and lack of razors perpetuate unprotected transactional sex between male prisoners and razor sharing. Prison authorities should urgently review the policy for providing razor blades, improve amount and quality of food, and increase the frequency of health education and provide confidential HIV counseling and testing services.

Disclosure of Interest Statement: No disclosure of interest

POSTER NUMBERS: 372

TO STUDY THE EFFECT OF INTERVENTION ON MYTHS/MISCONCEPTIONS AND CHANGE IN ATTITUDE OF SECONDARY SCHOOL STUDENTS OF SOUTH DELHI TOWARDS HUMAN IMMUNODEFICIENCY VIRUS (HIV) POSITIVE PERSONS.

Suresh Badhan

Introduction: Even though the disease being known for more than three decades, a lot of information available, the topic being included in the syllabus of school students still there are lot of misconceptions and infection is regarded as a taboo and the positive person discriminated. Youth can play an important role in removing this stigma and discrimination, if guided properly.

Methods: Current study was conducted involving students of class IX and XI selected from ten government schools of South Delhi. Students were administered anonymous semi structured pre tested Performa marked 'A" seeking information regarding age, sex, various myths/ misconceptions regarding HIV infection and their attitude towards HIV positive person. Brainstorming interactive session was held and the students were given one hour break during which they were asked to visit the hall displaying Information Education Communication material in the form of leaflets, charts, posters etc. After the break, queries were answered and same Performa marked 'B' was given to be filled.

Results: A total of 400 students participated with 8 refusals, a response rate of 98%. Of these 192 males and 200 females responded. Myths/misconceptions were: transmission through blood donation 154 (39.28%), swimming in common pool 225 (57.39%), playing together 278 (70.91%) and shaking hands 202 (51.53%). Significant change was observed after intervention, which respectively was 54 (13.77%), 98 (25.0%), 95 (24.23%) and 89 (22.70%).

Attitude towards positive person was adjudged by asking fear eating with a positive 276(70.4%), having friendship 191 (48.7%), allowed to attend school 270 (68.9%) and by taking care 319 (81.4%), and the same significantly changed respectively after intervention to: 116 (29.59%), 331 (84.43%), 352 (89.79%) and 376 (95.91%).

Conclusion: Though intervention improved upon knowledge regarding misconceptions and change in attitude towards positive person but sustained efforts are required to bring adequate positive change regarding the same.

POSTER NUMBER: 373

LARGE SCALE SURVEY VALIDATES RECENT HIV AND SYPHILIS PREVALENCE ESTIMATES IN PAPUA NEW GUINEA

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Background: In 2004, Papua New Guinea (PNG) was the first country in the Oceanic region to declare a generalized HIV epidemic, indicating a prevalence in the antenatal population of greater than 1%. In 2005 modeling predictions indicated the prevalence was likely to be 10% by 2025 and similarly, in 2006, the PNG National AIDS Council projected a prevalence in the general population of greater than 4% by 2011. In 2009 however, data released from the National Department of Health indicated the country wide HIV prevalence was 0.9%, a dramatic downward revision from previous estimates and projections.

This research was conducted to support the PNG and Australia Sexual Health Improvement Project (PASHIP). **Methods:** The prevalence of HIV and syphilis among consenting participants was assessed. Participants were recruited through household sampling and respondent driven sampling in six provinces in PNG between October 2008 to December 2010. Following informed consent and counseling, participants completed a sexual behaviour interview and provided blood samples for HIV and syphilis testing. HIV and syphilis testing was conducted according to PNG National algorithms.

Results: There were 2569 people included in the study. Behavioural and demographic data were available for 2536 individuals. There were 661 women, of whom 132 were youth respondents and 1875 men, including 685 youth respondents. HIV and syphilis tests were conducted for all 3218 individuals. HIV infections were detected in each province with an overall prevalence of 0.7%. The highest syphilis prevalence was found among adult men and male youth in Morobe.

Conclusions: This is the first study to confirm the recent decline in HIV prevalence in PNG among a large population and thus serves as an important baseline for the upcoming country-wide intergrated bio-behavioural survey. Caution is still required when interpreting the results.

POSTER NUMBER: 374

INTRODUCTION AND USE OF AN INTEGRATED COMPUTERIZED NATIONAL SURVEILLANCE SYSTEM TO MONITOR THE HIV/AIDS EPIDEMIC IN PAPUA NEW GUINEA

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Introduction: Papua New Guinea (PNG) has the highest HIV prevalence in Oceania (0.9%) and the greatest number of estimated people living with HIV (34,000, 60% of regional total, UNAIDS, 2010). The National Department of Health (NDOH) has limited infrastructure and resources to monitor the epidemic. Since 2009, the U.S. Centers for Disease Control and Prevention's Division of Global HIV/AIDS (CDC DGHA) has partnered with the World Health Organization (WHO) and the Asian Development Bank (ADB) to provide support to NDOH and provincial health offices to strengthen surveillance and data use.

Methods: In 2009 NDOH led an assessment of the existing national surveillance system that showed that existing data were managed in different software and file formats on stand-alone personal computers (PCs). Tremendous time and effort was spent using data from these various data sources to produce integrated data summaries and reports.

Results: CDC DGHA collaborated with ADB and WHO to assist NDOH to develop a computerized HIV/AIDS surveillance system on an MS ACCESS platform that integrates HIV case reports, monthly facility-based HIV testing data, monthly ART and PMTCT program data and STI monthly summary reports. The system allows for user-friendly customized data entry, data management analysis, and the generation of automated reports that can be specified based on various selection criteria. Implementation of a server enabled multi-user access, security and systematic back-ups to better safeguard data.

Conclusions: Implementation of the new system allowed for more effective data entry management, analysis and reporting of surveillance data and greater data security. A priority moving forward is the decentralization of the system to provincial health offices to allow for increased use of local data to monitor epidemics locally and to inform decision-making of provincial responses to the epidemic.

POSTER NUMBERS: 375

DEPRESSION AND RISKY BEHAVIORS AMONG PEOPLE LIVING WITH HIV/AIDS IN THE KATHMANDU VALLEY, NEPAL

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Introduction: Despite broadening awareness of HIV risk factors, many people living with HIW/AIDS (PLWHA) continue to engage in behaviors that place others at risk of infection and themselves at risk of contracting secondary infections that may hasten disease progression. Estimates indicate that up to 50% of PLWHA suffer from a psychiatric comorbidity such as depression, presence of which may increase propensity to engage in risky behaviors while also compromising motivation to change. Yet relatively little attention has been devoted to the rates and interactions of depression and risky behaviors among PLWHA, particularly in developing country settings.

Methods: In this cross-sectional study, we surveyed a community-based sample of 321 PLWHA residing in the Kathmandu Valley, Nepal, using a structured, pre-tested Nepali language questionnaire. The 21-item Beck Depression Inventory (BDI), Nepali version, was used to assess for depressive symptoms. Data were analyzed using multiple logistic regression models to examine factors associated with injecting drug use and risky sexual behaviors, adjusting for potential confounders.

Results: Overall, 26% of participants registered depressive symptoms. Lifetime rate of injecting drug use (IDU) was 41%, with 9% reporting IDU in the past 6 months. Among sexually active participants, 40% reported inconsistent condom use with their spouse or steady partner in the last month, 16% had engaged in sex with someone other than this partner, and 27% had done so without a condom at least once. Depressed individuals were significantly more likely to report IDU in the past 6 months (AOR=11.40; 95% CI=2.69, 48.24) and to have weaker condom use intentions with their regular sex partners (AOR=2.18; 95% CI=1.13, 4.22) and with HIV-positive sex partners (AOR=2.40; 95% CI=1.24, 4.62).

Conclusion: Depressive symptoms among PLWHA were significantly associated with key HIV risk behaviors. Identifying depression and developing strategies to intervene effectively may reduce HIV risk behaviors, support behavior change, and improve health outcomes.



POSTER NUMBER: 376

TRENDS IN HIV PREVALENCE, INCIDENCE AND ASSOCIATED RISK BEHAVIORS AMONG MEN WHO HAVE SEX WITH MEN IN RURAL YUNNAN, CHINA: 2010-2011

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Introduction: HIV epidemics are rapidly spreading among men who have sex with men (MSM) in China. Time trends in the epidemic extent and risk behaviors of MSM related to HIV transmission are required to inform education and prevention programs.

Methods: We conducted two yearly cross-sectional surveys among MSM in Yuxi Prefecture in Yunnan Province, China, during 2010-2011. Men were recruited by snowball and nomination sampling methods at gay-oriented venues and hotspots. Participated were asked to complete a 15-minute anonymous questionnaire, including demographic and sexual behaviors. Blood samples were taken to examine the prevalence and incidence of HIV infection. All HIV-1 positive samples were also tested by BED-CEIA for recent infection.

Results: A total of 288 MSM participated in this study. The 2-year overall HIV prevalence and incidence rate among this population were 10.7% and 5.4 per 100 person-years (95% Cl 1.1-9.6), respectively. Approximately 37.2% of MSM were married to a female. Estimated 35.1% had vaginal sex with females and 11.8% had commercial sex with men in the past six months. Condom use with both male partners (81.4% to 93.0%) and female partners (56.3% to 77.4%) at the last penetrative act significantly increased during 2010-2011.

Conclusion: HIV prevalence is high among Chinese MSM in Yunnan. Fortunately, there have been recent trends of increased condom use among MSM. In addition to extensive roll-out of HIV health education and condom distribution programs, intervention strategies are also required to address the common bisexual behaviors of MSM.

Disclosure of Interest Statement: All authors declare no conflict of interest in this study.

POSTER NUMBER: 377

DEVELOPING STRATEGIC USE OF INFORMATION AND COMMUNICATION TECHNOLOGY/ICT TO EFFECTIVELY SCALE UP THE HIV RESPONSE AMONG MSM AND TG IN INSULAR SOUTH ASIA; TIMOR LESTE, INDONESIA, MALAYSIA, AND PHILIPINES

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Introduction: The challenges to HIV responses for MSM and Transgenders/TGs in the four countries are common; Stigma and discrimination, limited organization and voice on policy and services for MSM and TGs.

The ISEAN-Hivos Program is Regional Global Fund Program being implemented in Timor Leste, Indonesia, Malaysia, and the Philippines. It aims to provide community systems strengthening and support to MSM and TGs in Insular South East Asia. One of the objectives of the Program is to use information and communication technologies (ICT) as strategic tools to support achieving the aims. As an innovative aspect, the use of ICT is based on the finding that mobile and Internet technologies are prevalent among MSM and TG for information, networking and arranging liaisons

This paper will explain to what extent and in what ways is ICT could be used by MSM and TG communities as a strategic tools for supporting prevention promotion, policy dialogue, advocacy, networking and exchange of knowledge across the four countries.

Methods: Assessment across four countries on the existing situations with regard to knowledge needs and productions, ICT capacity and infrastructures, existing ICT practices and potential use by MSM and TGs. Followed by regional stake-holder consultation to develop BCC urban campaign strategy producing the BCC campaign and communication strategies. Based on the assessment and the campaign strategy, ICT implementation strategy is developed.

Results: A range of ICT tools are developed namely a regional Knowledge hub, Region-wide ICT and media-based BCC campaigns tailored to specific country, Localized peer-to-peer support network for MSM and TG PLHIV, and On-line monitoring.

Conclusion: To be effective and strategic, the use of ICT should be appropriated and aligned with the program strategy, namely campaign and communication strategy, learning strategy, networking strategy; and the on-line behavior of specific target MSM and TGs communities in each country.

POSTER NUMBER: 378

DESTRUCTIONOF FAMILY AND COMMUNITY STRUCTURE AND ITS IMPACT ON HIV PROPAGATION AMONG OLD MALE IN RURAL CHINA

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Introduction: Recently a high HIV infection rate was found among old male clients who buy sex in western villages of Hunan Province, China.

Methods: Based on materials from face to face deep interview with 20 old male clients (age 60 or above), this paper argues that great changes has occurred in China's countryside in the past few decades.

Results: These changes include those in family structure (from multi-generation family to empty-nest household or grandparent-and-grandson family), family morality (fu ci zi xiao-kind father and filial son to children's economical duty to take care of old parents), community relation (from a tight community bond to a much loose bond), lack of community events (collective ceremonies or activities such as marriage) as so on. All these changes have fostered a new environment where old men are free to buy sex, which are rarely seen in Chinese culture. To some extent, the emergence of old male clients is part of the result of the great social transformation in rural China.

These old clients are often with low education and little knowledge about STDs and HIW/AIDS. At the same time, because the young men and women went to cities and become migrant workers, these old males frequently became the main laborer of their household, without them their family would result in destitute living

Conclusion: More attention needs to be paid to this group of old men in order to curb the rise of HIV infection and to save these families. On the other hand, conclusion of this paper also implies the need for re-construction of the family and community in rural China.

POSTER NUMBER: 379

STRUCTURE AND CHARACTERISTICS OF GAY NETWORKS IN SYDNEY, MELBOURNE AND PERTH

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Introduction: Gay community comprises different groups and networks. Group environment can directly affect the sexual behaviours of its individual members. HIV/STI prevention programs are likely to be more effective if they are able to reach across different groups and networks of the community. We investigated the structure of gay community networks to inform prevention services and better target HIV/STI prevention programs.

Methods: We used data from the gay community mapping and the CONNECT Study which is conducted in three Australian cities (Sydney, Melbourne and Perth). It recruits gay men using respondent-driven sampling (RDS). Initial primary participants (PPs) were sought through community organisations, groups and by self nomination. PPs were asked to recruit up to three friends. The recruitment started in December 2010. Data was analysed using RDS and standard regression analytical methods.

Results: By May 2012, 862 participants were recruited. The mean age of respondents was 35 years for Sydney and Perth, and 38 years for Melbourne. Men reported mean personal network sizes of 16.9 (range 1-500) in Sydney, 19.3 in Melbourne (range 1-300) and 15.0 in Perth (range 1-500). Most men associated with more than one gay community group or network. Approximately 40% of men were referred by their close friends and acquaintances and around 10% by their sex partners. Most men reported close relationship with their referrer. In Sydney 56% men saw themselves involved in the local gay community (57% in Melbourne and 39% in Perth). Internet was an important means of communication in gay community: over 50% of respondents reported visiting gay cruising/dating websites several times a week and 20% accessed gay community social websites.

Conclusion: We discuss the comparative structure and characteristics of gay community groups and networks in the three Australian cities and their importance for HIV prevention work.

TESTING

POSTER NUMBER: 380

MSM'S VIEWS ON RAPID ORAL HIV TESTS FOR HOME USE IN AUSTRALIA

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Introduction: Rapid tests for HIV have been used extensively in both developed and developing countries and have the potential to increase uptake of HIV testing. Currently, no self-administered rapid HIV tests for home use are approved in Australia or internationally. The aim of this study was to explore men who have sex with men's (MSM) views on rapid oral HIV (ROHIV) tests for home use in Australia.

Methods: Thirty one MSM participated in semi-structured interviews on the acceptability of ROHIV tests for home use in Australia. MSM were shown and instructed on the use of the OraQuick ADVANCE Rapid HIV-½ Antibody Test prior to being interviewed.

Results: Most men reported that home-use ROHIV tests would be useful as an additional HIV testing tool. MSM reported they would most likely use ROHIV tests in the interim between blood tests rather than as a replacement for blood testing at health services. Men felt the main benefits of ROHIV tests were that they would be quick, easy to use and convenient, painless, private and discrete, provide immediacy of results, and eliminate waiting times to see a clinician and receive results. Men's main concerns about home-use ROHIV tests were that users would not have professional support immediately at hand in the event of a positive result, and that the tests could not detect other STI's. The majority of MSM were low risk and reported that they would not use ROHIV tests to practice sero-sorting or unsafe sex.

Conclusion: Home based ROHIV testing was acceptable among most MSM who recognized both the benefits and limitations of its use. The acceptability of the test is important to the future uptake of ROHIV testing for home-use in Australia. Further large scale studies are needed to determine the feasibility of home based ROHIV testing in Australia.

Disclosure of Interest: No grants were received in the development of this study.

POSTER NUMBER: 381

MOBILE HIV AND STITESTING: COOK ISLANDS CASE STUDY

File A1

¹Cook Islands, Ministry of Health,

Introduction: Problem description: The Islands in the Cook Islands are spread over 2million square kilometers of ocean, making it difficult for residents to access HIV STI testing and treatment services. STIs are known facilitators of HIV transmission. Although HIV prevalence is low in the region STI surveillance surveys showed high prevalence rates of Chlamydia (20%). The potential for HIV to spread is high given the high STI prevalence.

To combat this issue, stakeholders in the Cook Islands pooled resources to provide mobile testing and treatment services to Outer Islands in the Cook Islands. This program complimented the recent Chlamydia Mass Treatment campaign.

One of the specific objectives of this program was to Voluntary Confidentially Counsel and test people aged 15-50 years as per Pacific Essential Standards.

Methods: *Planning:* The Ministry of Health lead a team of counselors, lab technicians, clinical Nurse and Doctors to 2 pilot Islands and provided HIV/ STI testing on the spot, pap smears and antenatal care.

Health promotion: Media messages in various forms were designed to inform the public and encourage people to present for testing. These were run for a few staff on each island preparing the public for the visit.

Each client was pre test counseled in a private room with HIV STI information and risk reduction, a lab form was coded and the client provided a urine specimen, genital swab and blood sample. Tests were conducted using Rapid tests and results were delivered same day to clients.

Results: 69% of an isolated island presented for testing and 27% of a closer more exposed and mobile island community presented for testing.

Conclusion: Testing results showed that previous Chlamydia mass treatment campaigns had been effective and the exercise provided greater exposure of services to the public.

Disclosure of Interest Statement: Cook Islands receive funding to implement the STI control strategy through the Global fund for HIV and also the response fund. There is no conflict of interest to declare

POSTER NUMBER: 382

A PICTURE OF THE DEVELOPMENT IN THE NUMBER OF HIV CASES ON THE IMPLEMENTATION OF PITC PROGRAM IN YOWARI HOSPITAL

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Background: The Integrated Biological and Behavior Surveillance (IBBS) 2011 for high risk group showed 27% HIV prevalence among street female sex worker in the Jayawijaya district. While the IBBS 2006 showed that HIV prevalence for the general population in Papua is 2, 4% which qualifies Papua as a generalized HIV epidemic. These data encourages government to be more active in the search for HIV cases and give treatment as earlier following national guideline Yowari Hospital in Papua implemented PITC since November 2010 to improve service to PLWHA after they conducted rapid assessment via data collected and recorded in Yowari Hospital. Baseline data showed that in the period of 2008 – 2012, via VCT, Yowari managed only 104 HIV cases cumulatively, 22 among them were never treated and only 4 were still on treatment.

Objectives: The general objective of this research is to assess whether PITC can improve earlier diagnosis and initiation of treatment in Yowari Hospital. The specific objectives of this research is to compare the number of cases, clinical staging, and number of patients receiving ARV between the VCT era and the PITC era

Method: The method used is survey method with a descriptive approach. Research sample used is the number of cumulative HIV/AIDS cases found during the period 2008

- October 2010 and the number of new HIV cases during the period November 2010 $\,$
- May 2012.

Results; PITC Implementation was commenced with the introduction about PITC to the health care workers via in house training which included ARV and OI management. PITC was commenced in Obstetric and internal medicine department both in outpatient clinic and hospitalized patient. Data showed that from November 2010 until May 2012, there was an increase in the number of new HIV cases from 104 cases to 363 cases cumulatively, where 128 among them are receiving ARV. It also showed an increase in the number of early stage cases (in accordance with WHO clinical staging) from 33 patients in stage 1 (3 patients) and stage 2 (30 patients) to 131 patients in stage 1 (26patients) and stage 2 (105 patients).

Obstetric department reported that until May2012, they found 2, 04 % pregnant women are HIV positive. This data support IBBS 2006 that categorized Papua as a generalized HIV epidemic.

Conclusion: From the program standpoint PITC has shown to be better than VCT because HIV is growing fast in Indonesia, and therefore a more innovative and aggressive approach is needed, particularly in generalized HIV epidemic area. PITC was shown to reduce burden of counselor, increase testing, and increase access to treatment. However, all these results need to be supported by both the hospital and program management

AFFECTED POPULATIONS

POSTER NUMBER: 383

COMPARING DRUG-USE RESPONSES WITH URINALYSIS IN HIV BEHAVIORAL SURVEYS AMONG FEMALE SEX WORKERS (FSW) AND MEN WHO HAVE SEX WITH MEN (MSM)

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Background: HIV surveys among FSW and MSM in Vietnam have relied upon self-report to establish drug use prevalence. We validated reported drug use from eight cross-sectional samples with urinalysis to determine the reliability of self-report.

Methods: In 2009-2010 we recruited street-based sex workers (SSW) and venue-based sex workers (VSW) using time-location sampling and MSM using respondent-driven sampling in four provinces. Face-to-face interviews collected lifetime and past month drug use data. Opiate and amphetamine type stimulants (ATS) testing were conducted retrospectively on stored urine. Descriptive analyses, weighted for FSW but not MSM, were conducted using Stata 11.0. McNemar's test for paired proportions was used to assess differences between self-report and toxicological results.

Results: Opiate tests were positive in 18.2% SSW (n=297), 13.1% VSW (n=298), and 14.1% MSM (n=398) in Hanoi; 23.9% SSW (n=298), 16.7% VSW (n=305), and 28.2% MSM (n=393) in Ho Chi Minh City (HCMC); 14.9% MSM in Cantho; and 41.3% MSM in Haiphong. These results differed significantly with self-reported past month drug use for all populations [8.7% VSW (p=.0308) and 2.8% MSM (p<.0001) in Hanoi; 10.3% VSW (p<.0001), 6.0% SSW (p<.0001), and 5.8% MSM (p<.0001) in HCMC; 5.8% MSM (p<.0001) in Cantho; and 1.3% in Haiphong], with the exception of Hanoi SSW (17.0%, p=.6682). Toxicological results aligned closer to FSW reported lifetime use (14.1% to 25.0%), but were still significantly different for MSM (7.8% to 14.0%). Urine ATS detection was low (0% to 2.3%), while reported past month use varied widely (1.0% to 15.0%).

Conclusions: FSW and MSM significantly underreported recent opiate use. Reported lifetime drug use may be a sufficient indicator of recent use among FSW, but not MSM. These findings demonstrate the value of opiate testing in behavioral surveys, although the short detection period may render ATS testing less useful in opiate-dominant drug using settings.

Disclosure of Interest: The study was funded by the U.S. President's Emergency Plan for AIDS Relief. All authors declare no conflict of interest.

POSTER NUMBER: 384

HOW TO OPTIMALIZE NEEDLE SYRINGE PROGRAMS IN JAKARTA INDONESIA? PERSPECTIVES OF PEOPLE WHO INJECT DRUGS

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¹HIV Cooperation Program for Indonesia

Introduction: The Integrated Bio-Behavioural Survey 2011 reported that HIV prevalence was falling amongst people who inject drugs (PWID) in most of Indonesia's large cities but continued to climb amongst Jakarta-based PWID injecting for <2 years, despite the existence of many programs targeting their needs. Service for PWID in Jakarta receive strong support from Government of Indonesia which has a preference for delivering services through community health centres (CHC) rather than community-based organizations (CBO)

Methods: Two series of focus group discussions with a total of 11 groups of PWID were carried out across Jakarta to identify service delivery issues.

Results: Issues identified included:

- Existence of large 24 hours drug markets with no access to sterile needle syringes (NS)
- PWID reluctance to carry NS at night due to higher risk of being stopped by police
- · Renting used NS still practiced at drug dealing sites
- · Strong preferences for particular syringes
- · Access to NS through CHC was constrained due to:
- · Limited opening hours
- · Onerous registration processes
- · Clinics adhering to exchange practices necessitating return of used NS
- · CHC usually not close to areas of drug availability
- NS provided were not preferred type
- · Limited numbers of NS provided

Conclusion: The following actions were taken:

- CBOs began to distribute NS again and increase engagement with PWID using additional outreach workers
- · Preferred NS procured and supplied
- · Outreach services established to cover drug markets after negotiation with local community
- · Peer driven interventions introduced to:
- Increase coverage (especially youth and female PWID)
- Disseminate key messages
- CHC to address impediments limiting NSP through negotiation with district authority regarding allocation of budget
- Ministry of Health to release circular to reassure government staff about using these
 approaches and will develop standard operation procedures.

Disclosure of Interest Statement: "This evaluation was supported by HCPI and funded by Australian AID".

POSTER NUMBER:385

CHALLENGES IN PROVIDING EFFECTIVE AND SUSTAINABLE HIV PREVENTION PROGRAMS FOR PWID IN INDONESIA

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Introduction: Needle syringe programs (NSP) for people who inject drugs (PWID) in Indonesia are provided by Community Health Centres (CHC) and NGOs. To evaluate the effectiveness of these HIV prevention interventions, multiple sources of data were collected and analysed.

Method: Data from the 2007 and 2011 Integrated Biological and Behaviour Surveillance (IBBS) for PWID and 2011 program participant surveys were analysed to determine the effectiveness of the HIV prevention interventions.

Results: HIV prevalence in 2007 was high in PWID in four cities: 56% in Medan and Surabaya, 55% in Jakarta and 43% in Bandung. By 2011 the HIV prevalence in all except Jakarta had dropped, with 39% in Medan, 49% in Surabaya and 25% in Bandung; Jakarta remained high at 56%. In 2011, HIV prevalence in those injecting for two years or less

decreased to 17% in Medan, 22% in Surabaya, remained low at 10% in Bandung and high at 38% in Jakarta. PWID in Jakarta reported higher rates of sharing NS but also of accessing NS in the previous week than most other cities. The main source of NS in Jakarta changed from outreach workers in previous years to CHCs in 2011.

Focus group discussions with PWID in Jakarta revealed a range of issues related to NS access: outreach workers were not present in locations where PWID bought and injected heroin and PWID preferred a type of NS not provided. In early 2012, NGOs in Jakarta recommenced distributing NS, achieving a 9% drop in sharing rates.

Discussion: Outreach workers remain an essential element in harm reduction programs for PWIDs. Programs need to actively identify and address the needs of PWID, including the preferred type of NS, for a larger impact on the HIV epidemic.

POSTER NUMBER: 386

RISKY BUSINESS PALAU: PRELIMINARY OBSERVATIONS AND CONSULTATION FOR A QUALITATIVE INVESTIGATION INTO SEX WORK AND HIV PREVENTION IN KOROR

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Introduction: Prevention of HIV transmission continues to be one of the key public health challenges in the Pacific Island Countries and Territories. Although HIV prevalence remains low in Palau, there are significant risk factors for HIV transmission. Sex workers have been identified as a vulnerable group that is critical to the success of any response to HIV. However, very little information is available about sex work and the context in which it occurs in Palau. These preliminary observations aim to collect data to provide an overview of sex work in Palau.

Methods: Participant observation was conducted in sites where sex workers were thought to operate in Koror, Palau. In addition, discussions were undertaken with key community and government stakeholders. Field notes were taken, describing settings and circumstances in which sex is sold. An inductive thematic analysis of the field notes was performed, in which they were coded and categorised. The categorised data were used to generate themes and theory that describe sex work in Palau.

Results: The predominant, or at least most visible, form of sex work in Palau appears to be undertaken by hostesses in karaoke bars and similar establishments. These euphemistically labeled "ladies in the entertainment business" are typically migrant workers from the Philippines and China. If sex work is undertaken by citizens of Palau, it is much less visible and was not identified in these preliminary observations.

Conclusion: These preliminary observations have described the presence of sex workers in Palau and environments in which they operate. This information allows further research to be specifically targeted at these groups. More information is now needed surrounding the drivers and practices of sex workers in Palau associated with HIV transmission risk.

Disclosure of Interest Statement: This research was funded by an ARC Discovery Grant and by the University of New South Wales.

POSTER NUMBER: 387

HIV AND HUMAN RESOURCES CHALLENGES IN PAPUA NEW GUINEA

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Introduction: The HIV epidemic has reached generalised proportions in Papua New Guinea (PNG) with an estimated 0.9% of the adult population infected (NDOH & NACS 2010). The seriousness of the epidemic presents challenges for government, donors, and NGOs, including significant human resources challenges. The aim was to identify and review relevant information and data which might inform effective HIV workforce development in PNG.

Methods: The available literature on HIV and human resources in PNG has been assessed and a review of international literature identifying major human resource issues in HIV, including the lack of trained staff and the effects of skewing the health system, was conducted.

Results: There is an apparent lack of integration of training into national and provincial health plans. An analysis of the available literature highlighted major problems in terms of training follow up, facility staffing, and supervision and support for those who had undertaken trainings. Health care worker frustration arising from poor payment and supply systems was also identified. In the context of attempts at harmonising donor inputs, the coordination of training into effective health workforce outcomes does not appear to be occurring.

Conclusion: The review identified the importance of central collation of HIV training outputs and the importance of coordinating HIV workforce development through national, provincial and district level planning.

Disclosure of Interest Statement: All activities in the research were conducted by the authors in their work at the School of Public Health and Community Medicine, University of New South Wales.

POSTER NUMBER: 388

ROLE OF WOMEN IN SEXUAL HEALTH PROMOTION

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Introduction: Women are most vulnerable physically and psychologically to be infected. In recent years, according to data from the Ministry of Health of the Republic of Indonesia, the more experienced by those who are considered safe and not at risk of HIV / AIDS. Even many sexually transmitted infections is higher in non-prostitute women as housewives and teenage daughter.

The number of AIDS cases in the province of West Java since 1989 - September 2011 in housewives as much as 541 cases, an increase in transmission through heterosexual sex in the group. The most significant improvement occurred in women especially housewives. So that the transmission from mother to child is also increased sharply.

Methods: The approach taken on the title above is by using observation and interview the women, especially in mothers infected with STDs and HIV / AIDS from their husbands who work frequently out of town, or working in another city.

Results: Increased knowledge on especially housewives and young women are generally very good. Regular meetings are held mainly positive impact of knowledge about STIs and HIV / AIDS.

Required activities that involve more housewives and their partners that they want to participate in meetings and in medical examinations.

Conclusion: Many women, especially housewives still very minimal knowledge about reproductive health. There are many housewives who are not aware that the transmission of STIs can strike at any time. So also with the knowledge of the housewife on HIV / AIDS is still lacking.

The need to provide knowledge about reproductive health and STI through meetings involving home mothers, young women through the PKK cadres, youth and others.

POSTER NUMBER: 389

THE AUSTRALIAN HIV OBSERVATIONAL DATABASE TEMPORARY RESIDENTS ACCESS STUDY (ATRAS)

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Background: In 2010/2011 the National Association of People living with HIV/AIDS (NAPWA) approached all seven pharmaceutical companies with registered HIV antiretroviral drugs in Australia to commit to providing ART to 180 HIV positive (HIV+) temporary residents in Australia for up to four years.

Objectives: To describe the population of HIV+ temporary residents who are currently ineligible for Medicare subsidised ART and enrolled in the Australian HIV Observational Database Temporary Residence Access Study (ATRAS)

Methods: ATRAS commenced in November 2011. HIV+ temporary residents without Medicare entitlements who were also in financial and clinical need of ART were recruited. Visa status and demographic data for all patients recruited to ATRAS by May 2012 were summarised.

Results: By May 2012, 140 patients were enrolled into ATRAS, 40 (39%) were female. The mean (SD) age for men and women were similar (36.4(9.2) and 35.7 (6.8) respectively). The most common visa types were student (30%) and sponsored/working visa (30%), followed by bridging visa (16%). Type of visa varied by sex, 34%, 31% and 20% of men were on a working, student and bridging visa respectively, and 3% on spousal visa. Among females, 20%, 23% and 28% were on working, spousal and student visa respectively, and 5% on bridging visa. Using World Bank country income classification, 54 (39%) patients were from low/low middle income, 55 (39%) from upper middle income, and 31 (22%) were from high income countries.

Conclusion: The majority of patients recruited to ATRAS were male, however, a substantial proportion were female, much greater than in the overall Australian epidemic (~10%). Most patients were from low to middle income countries, and the most common visa types were working and student visas. Differences in visa type between men and women were observed with respect to spousal and bridging visas.

Disclosure of Interest: The Australian HIV Observational Database is funded as part of the Asia Pacific HIV Observational Database, a program of The Foundation for AIDS Research, amfAR, and is supported in part by a grant from the U.S. National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID) (Grant No. U01-AI069907) and by unconditional grants from Bristol-Myers Squibb; Boehringer Ingelheim; Gilead; GlaxoSmithKline; Janssen-Cilag, Merck Sharp & Dohme; Roche; Pfizer. The Kirby Institute is affiliated with the Faculty of Medicine, University of New South Wales.

Abbott, Boehringer-Ingelheim, Bristol-Myers Squibb, Gilead Sciences, Jannsen Pharmaceuticals, MSD, ViiV Healthcare provide ART directly to ATRAS patients via participating sites.

All authors declare no conflict of interest.

POSTER NUMBER: 390

CHALLENGES FOR HETEROSEXUAL PLHIV; ENGAGEMENT AND SERVICE PROVISION IN THE CURRENT TREATMENTS ERA

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Introduction: People with HIV who identify as heterosexual face unique challenges within the HIV sector in NSW and within the wider community. Issues such as isolation, stigma, discrimination, lack of engagement and lack of mobilisation pose significant challenges and issues for treatment uptake.

The Heterosexual HIV AIDS Service (HHAS) accesses a diverse range of individuals across NSW to provide information, support and community connection. In this presentation we report on what we hear through our events, group programs, studies, resource development and freecall phoneline, and speak to the issues that pose the greatest challenges for engaging heterosexual PLHIV in their own health management. This paper will also examine issues relevant to heterosexual PLHIV regarding treatment uptake and adherence particularly as it relates to new research.

Body: Heterosexual PLHIV are typically late presenters, with rates of late diagnosis twice as high as men who have sex with men. Reasons for this include lack of awareness about HIV in the wider community and among non specialist GPs, perceptions of risk as well as silence about men having sex with men within heterosexual relationships. Heterosexual PLHIV, particularly living in regional areas are often isolated and have limited engagement with services and information about treatment options. Lack of peer support and intimate relationships, isolation and stigma/discrimination can lead to anxiety and depression which affects health outcomes including treatment adherence.

Conclusion: The paper will speak about recommended strategies and HHAS approach to better engage heterosexual PLHIV in self management and services with a focus on treatment.

The Heterosexual HIV AIDS Service is funded by Sydney Local Health District, NSW Government. No pharmaceutical grants were received in the development of this paper.

JUNIOR RESEARCHER SUPPORT AWARDS

POSTER NUMBER: 391

MYELOID DENDRITIC CELLS AND HIV LATENCY IN RESTING T-CELLS

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Abbreviations used: DC –Dendritic cell mDC – Myeloid DC

PBMC –peripheral blood mononuclear cells

LFA-1 – lymphocyte function-associated antigen-1

ICAM - intracellular adhesion molecule

Background: Latently-infected resting CD4+T-cells are a major barrier to the eradication of HIV infection. These cells are enriched in lymphoid tissue compared to blood. We hypothesized that interactions between DC-resting CD4+T-cell is critical for the establishment and maintenance of HIV latency.

Methods: eFluor670-labeled resting CD4⁺T-cells were cultured alone or with syngeneic DC for 24h prior to infection with a CCR5-tropic, EGFP-reporter virus. Non-proliferating (eFluor670^{hi}), non-productively-infected (EGFP⁻) CD4⁺T-cells were sorted on day 5 post-infection. Latent infection was re-activated and amplified by co-culturing the sorted cells with mitogen stimulated PBMC.

Results: Infection of resting CD4+ T-cells in the presence of myeloid (m)DC significantly increased latent infection of non-proliferating CD4+ T-cells compared to infection of T-cells cultured alone (p=0.0005, n=11). Latent infection was not increased in resting CD4+ T-cells co-cultured with plasmacytoid DC (n=11) or monocyte-derived-dendritic-cells (n= 3). Co-culture of mDC with memory (CD45RO+) CD4+ T-cells but not naïve (CD45RO+) CD4+ T-cells resulted in latency (n=6). eFluor670hEGFP- CD4+ T-cells that had been co-cultured with mDC showed a significant increase in the expression of CD69 (p=0.01, n=8) and PD-1 (p=0.007, n=10), but no change in HLA-DR or Ki67. Treating the mDC-T-cell co-cultures with antibodies to the chemokines CCL19 and CXCL10 (shown to facilitate latent infection in resting CD4+ T-cells); the chemokine receptor CXCR3; or the adhesion molecule LFA-1 led to no change in the frequency of latently-infected CD4+ T-cells (n=5). When mDC-T-cell contact was prevented, by culturing the mDC within transwells above the resting CD4+ T-cells, the number of latently-infected CD4+ T-cells was significantly reduced (n=5).

Conclusions: mDC play a key role in the establishment and/or maintenance of HIV latency in resting memory CD4⁺T-cells. Our results suggest this is likely to be mediated through DC-T-cell contact via alternative pathways to ICAM-LFA-1 binding.

POSTER NUMBER: 392

EVALUATION OF HISTONE DEACETYLASE INHIBITORS (HDACI) ACTIVITY USING PATIENT-DERIVED HIV LONG TERMINAL REPEAT (LTR) SEQUENCES IN CELL LINES: A NOVEL METHOD TO SCREEN FOR DRUGS THAT REVERSE LATENCY

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Background: Histone deacetylases inhibitors (HDACi) can induce viral production in latently infected T-cell lines through activation of transcription from the LTR. Little is known about the activity of HDACi in other cellular reservoirs or in different primary HIV

isolates. We aimed to determine the activity of HDACi in different cell types using integrated LTR sequences derived from latently infected memory T-cells from patients on antiretroviral therapy (ART).

Methods: Integrated HIV LTRs were amplified using triple-nested Alu-PCR from memory CD4+ T-cells. NL4-3 or patient-derived LTRs were cloned into the plasmid pCEP4, which forms an episomal chromatin. The transcriptional activity of the luciferase gene is under the control of the LTR. Constructs were transfected into Jurkat (T-cells), SVG (astrocyte) and Hela (epithelial) cell lines. The activity of various HDACi on LTR transcription was measured by quantification of luciferase activity.

Results: Using a wild-type NL4-3-pCEP construct, we transfected Hela, SVG and Jurkat cell lines and analysed the ability of HDACi to stimulate viral transcription. In Hela, the most potent HDACi were panobinostat (0.05 μ M), suberoylanilide hydroxamic acid (2 μ M), entinostat (10 μ M) and Givinostat (1 μ M) (all induced >100-fold increase in luciferase activity); followed by belinostat (0.5 μ M) and trichostatin-A (0.2 μ M) (both induced 10-100fold increase in luciferase activity). An increase in luciferase activity in Jurkat and SVG cells were also observed, but at lower levels for all HDACi. LTR isolates from memory CD4+T cells from two patients isolated pre-ART and post-ART were successfully amplified, sequenced, cloned and transfected into Hela. With the exception of one unique LTR from one patient post-ART, all HDACi significantly increased the luciferase activity of patient-derived LTRs similar to that seen with NL4-3 LTR.

Conclusions: HDACi activate transcription of patient-derived HIV LTRs in Hela with minimal cytotoxicity. This novel system allows rapid screening of drugs that potentially activate HIV transcription from patient-derived LTRs in different target cells.

This work is supported by the NHMRC grant (#1009533)

POSTER NUMBER:393

TRENDS IN SEXUAL BEHAVIORS AND ESTIMATED HIV INCIDENCE AMONG FEMALE PARTNERS OF MEN WHO HAVE SEX WITH MEN IN CHINA

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Introduction: HIV prevalence among men who have sex with men (MSM) in China is rapidly increasing. The majority of Chinese MSM engage in bisexual behaviors and their female partners may be at high risk of HIV infection.

Methods: Through a comprehensive literature review and the utilization of a mathematical optimization approach, this study infers quantitative distributions of sexual behavioral practices between Chinese MSM and their female partners over the past decade, and consequently estimates the trends in HIV incidence rates among female partners of Chinese MSM.

Results: The average Chinese MSM had approximately 0.89 (95% confidence interval (CI) 0.68–1.23) female sexual partners, with a mean number of total penetrative acts with the female partners of 0.57 (95% CI 0.52–0.62), in the past 6 months. Condom usage increased slightly from 23.57% (95% CI 14.20–32.93%) in 2002 to 27.33% (95% CI 19.88–34.78%) in 2010. Thus, the substantially increasing HIV prevalence among MSM has led to an increase in HIV incidence among partners of bisexual MSM of approximately 5.3-fold, from 0.18 per 1000 person-years in 2002 to 0.88 per 1000 person-years in 2010.

Conclusion: Bisexual Chinese MSM may be a bridge group to the general female population for HIV transmission. There has been a substantial HIV incidence increase among their female partners.

Disclosure of Interest Statement: All authors declare no conflict of interest in this study.

POSTER NUMBER: 394

FAITH BASED ORGANISATIONS ADDRESSING HIV IN PAPUA NEW GUINEA

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In my PhD research I examine two faith-based organisations (FBOs) providing HIV prevention and care services in Papua New Guinea (PNG) through qualitative inquiry. Faith-based healthcare response is an important research setting for HIV in PNG because approximately half of all health services in the country are provided by FBOs, while Melanesian Christianity has a profound influence on Papua New Guineans' beliefs about health and medicine. I hope to better understand the complex dual role of faith-based HIV services as both religiously motivated institutions and as health service providers.

Two geographically and denominationally different case study organisations were selected to gain a comparable contrast. One service is situated in and targets a remote rural Highlands region, and the other is situated in and targets an urban area. I conducted fieldwork in PNG between January 2011 and March 2012, spending approximately three months living with each case study community. Using ethnographic methods, I explored how religious values influenced the way which FBO staff thought about and practically approached HIV prevention and care. I interviewed 54 management, religious, education, clinical staff and external key informants, and conducted participant observation and document collection for further analysis.

From preliminary data analysis using principles of grounded theory, findings point to some significant synergies as well as tension between Melanesian Christian theology and HIV prevention and care. From the traditions of colonial medical missionaries, modern-day FBOs in PNG have reinvented faith-based health services within the context of post-colonial development. The spiritual wellbeing embodied in evangelism (maintaining and sharing faith) and mission (now in the context of community development) is often fulfilled by providing the source of physical wellbeing, exemplified by HIV care and prevention. However, each organisation (and often for each individual), the understanding and approach of an appropriate faith-based response to HIV is shaped by denominational and individual interpretation of scripture and the specific roles and experiences they've had with HIV. FBOs are constantly challenged by the need to balance faith and culture against the response and integration to the discourses of secular health and development agenda, such as risk reduction, evidence based medicine and economic development.

POSTER NUMBER: 395

ENHANCED HIV ANTIGEN PRESENTATION FOR ANTI-HIV ADCC RESPONSES BY GRANULOCYTES: IMPLICATIONS FOR IMPROVING HIV VACCINE EFFICACY

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With the AIDS pandemic in its fourth decade, vaccine development efforts are gaining speed to overcome the prevention crisis. After the initial interest in early 90s the importance of antibody dependent cellular cytotoxicity (ADCC) activity again HIV infection has come back to the limelight following the partial success of RV 144 vaccine trail (31% efficacy) and also due to limitation confronted in previous vaccine trail have suggested that ADCC responses assist in protective immunity to HIV.

A poorly understood aspect of ADCC immunity to HIV is precisely how ADCC epitopes are presented on the surface of cells. Improving the presentation of ADCC epitopes by

vaccination should rationally enhance protective immunity. We studied whole blood samples for HIV+ subjects for the ability of ADCC antibodies to specific epitope to activate Natural Killer (NK) cells by using flow cytometry. This assay enables us to study the target cells presenting ADCC epitopes to NK cells.

We found that HIV-1 gp140 bound primarily to CD4 T cells and these cells were depleted when incubated with ADCC competent sera. In contract, we found CD66c+ granulocytes were the predominant cell population binding fluorescent ADCC peptide epitopes within whole blood samples. Granulocytes rapidly bind the ACDD peptide epitopes to their surface without requiring intracellular processing. ADCC peptide epitope presented by blood granulocytes undergo apoptosis and stimulate high levels of NK cell activation.

We conclude that presentation of ADCC peptide epitopes by granulocytes in whole blood contributes to the activation of NK cells by ADCC antibodies. Targeting granulocytes for eliciting enhanced ADCC response represents a novel method to improve the immunogenicity of ADCC based HIV vaccines.

POSTER NUMBER: 396

AUTOANTIBODIES ARE A FEATURE OF UNTREATED HIV INFECTION AND DO NOT RISE ON ART.

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Background: HIV patients stable on anti-retroviral therapy (ART) show an early onset of Immunosenescence and age- related conditions such as cardiovascular disease, which have autoimmune parallels.

Methods: Serum samples from 13 patients collected before commencement of ART and over 2 years (+/- 5 months) on ART were sourced from archives held at Royal Perth Hospital. Antibodies reactive with thyroid peroxidase, tissue trans-glutaminase, nuclear antigens, mitochondira, smooth muscle and parietal cell antigens, GAD65, Intrinsic factor, cyclic citrullinated peptide, beta 2 glycoprotein and cardiolipin were assayed using ELISA, radioimmunoassay and indirect immunofluorescence assay methods.

Result: At baseline 19/143 test results were positive, at one year of ART 12/133 and at 2 years 7/143 patients were positive. Anti-cardiollpin (aCL) antibodies were positive at the baseline in 6/13 patients with a decline to low positive (2/6) or negative after 2 years (4/6). One patient negative at the baseline for aCL progressed to be a low positive over time.

Staining patterns on rodent kidney, liver and stomach tissue consistent with presence of anti-smooth muscle (SMA-VG) antibodies were seen in 9/13 patients. Five of the 9 patients positive for SMA showed a decline to weak positive whilst 3 patients remained consistently positive over the 2 years. The staining pattern SMA-VG is not specific for autoimmune hepatitis, nor is viral hepatitis present in the cohort.

Conclusions: The incidence of ASM (69%) in the study group is much higher than is seen in the general population (~3% in the Busselton population). The incidence of anticardiollpin is 46% in this study compared to 3.5% in a Busselton Population Study. The incidence of autoantibodies declined on ART. This includes the low aCL titres commonly seen before ART. The high incidence of SMA requires further investigation. Experiments are now underway to correlate autoantibody levels with levels of totally immunoglobulin, indices of immune activation (eg: sTNFR) and antibody to a common opportunistic infection (CMV) to illuminate mechanisms underlying the presence of auto-antibody and its possible implications in cardiovascular disease.

POSTER NUMBER: 397

INHIBITION OF CLATHRIN AND DYNAMIN-2 LEADS TO A POST-ENTRY BLOCK IN HIV INFECTION

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Recent studies have observed endocytic uptake of HIV to be a pre-requisite to HIV fusion. These studies have shown that endocytic entry of HIV in stable cell lines is dependent on the cellular protein Dynamin-2. Dynamin-2 is a member of the superfamily of large GTPases that mediate membrane fission in processes such as endocytosis, vesicle liberation from the Golgi network and cell division. Significantly, existing small molecule inhibitors of Dynamin-2 and Clathrin were observed to the potent inhibitors of HIV uptake, fusion and infection. This study aimed to further characterise HIV entry using novel molecular inhibitors of Dynamin-2 and Clathrin in combination with microscopy to visualise HIV entry events.

A time-of-addition approach was used to determine the stage of action of Dynamin-2 small molecule inhibitors within the HIV life cycle. Inhibitors of Dynamin-2 and Clathrin were added at select time points following HIV infection of TZM.bl cells. Throught inclusion of established anti-HIVdrugs such as inhibitors again fusion (Maraviroc), reverse transcription (AZT) and integrase (Raltegravir), we were able to map the HIV life cycle by analysing when the virus was refractory to the action of the both pre and post-viral entry, as mapped by CCR5 inhibition with Maraviroc. At the stage when HIV was refractory to Maraviroc, Dynamin-2 inhibition blocked approximately 80% of HIV infection events. Interestingly, the use of the Clathrin inhibitor, PitStop2, led to similar kinetics of viral escape. This is therefore highly suggestive of blocking a Dynamin-2/Clathrin pathway needed at a post-entry stage of the virus life cycle.

To further dissect the effect of inhibitors on post-entry events, we are currently performing quantitative PCR to quantify accumulation of reverse transcript products. Using this method we aim to determine if Dynamin-2 and Clathrin inhibitors act primarily at the stage of reserves transcription.

In this study we have established that small molecular inhibitors against the celluar proteins Dynamin-2 and Clathrin have the capacity to reduce HIV infection, largely at the post-entry stage of the life cycle. Further analysis of viral entry events using real-time microscopy with fluorescently tagged viruses will help elucidate if productive infection of HIV can occur via the endocytic route.

AUTHOR INDEX

Achhra AC 170 Adam DB 15, 98, 152 Adu-Sarkodie Y 365 Altman D 175 Amiya RM 368 Amos A 109, 202 Anggorowati N 212, 264–5 Angkis Lay L 201 Armishaw J 347–8 Astuti PAS 282 Asugeni L 107

Badhan S 366
Barre-Sinoussi F 15, 182
Batrouney C 187
Bavinton B 144, 333–4
Belo Ximenes A 361–2
Bendall C 284
Berthon-Jones N 261
Bilardi JE 371–2
Bloch M 303
Blogg S 364
Borenstein M 83
Bowtell B 16, 66
Brunt S 383
Buchanan H 109, 202
Burton DR 16, 65, 92, 129

Callander D 217, 282–3 Calmette Y 334 Cameron PU 213, 262, 265 Carey D 285 Chalandakorn R 319–20 Cherry CL 343 Chow EPF 369, 381 Clifton B 334–5 Conway DP 137, 145 Cortes RN 200 Cox C 233 Cummins D 242, 295, 313

Dazo C 219, 285–7 De Wit J 188 Deeks SG 16–17, 68, 100 Dhaor S 106 Dhaor SS 290 Down I 335–6, 346–7 Dowsett G 154 Drysdale RL 148 Duncan A 215, 307

Earle M 336 El-Hayek C 337, 352–3 Elliott JH 189, 330 English S 258 Evans M 317–18

Fernandes N 91 Fernandez S 221, 266 File A 353, 372 Fiya V 105 Flynn J 207 Forrester C 215, 307 French MA 115, 266–7

Garcia F 262–3 Garner SE 309 Gelezunias R 222 Gibb V 344–5 Gilles MT 126 Gray L 79, 128, 263 Gray RT 127, 162, 228 Grierson J 74 Griffin D 309–11 Grulich A 70, 185 Grundy-Bowers M 337–8 Gulholm T 348–9 Gupta A 329 Guy R 89

Haire B 231 Hall I 322-3 Hampton GJ 343-5 Hague A 328–9 Hague AM 237, 289-90 Harch S 311 Harman A 81, 262, 265, 267 Harrich D 78, 210 Hasibuan RK 312-13 Haskelberg H 138 Hearps AC 121, 270-1 Hellard M 158 Hennessy R 345 Hewagama S 172 Hidayana I 73 Hoare A 362-3

Hocking JS 72 Holt M 124, 230 Houtzager L 281 Hoy J 135 Hoy JF 348 Hutton VE 278

lemma T 384 Intansari US 264

Jacobson J 80, 273–4 Jansson J 163 Jantarathaneewat K 360 Jayathunge MPH 332 Jiménez Expósito MJ 305–6 John-Leader F 346 John LN 332–3 Jose HA 203

Kaima P 243, 325 Kaldor J 88 Kalichman S 17, 67 Kanapathipillai R 196 Kangethe RT 116, 268 Kanhutu KN 178 Kassa D 323 Keen P 216, 295-6 Kelleher T 132 Kelly A 198 Kenedi C 159 Kent SJ 93, 117, 259 Kerr SJ 296-7, 314 Klassen K 314-15 Kniaht V 143 Kubunayanya R 103 Kuchel G 351-2 Kumar NA 167, 380 Kumbu J 316

Lachowsky NJ 349–50 Landry K 377–8 Latham CF 206 Le LN 374 Ledger S 272 Lee FJ 139, 173 Lee L 179 Lemoh C 157 Lesmana A 341

Levitt J 317

Lewin SR 223 Lewis M 379 Lindsay M 294–5 Lovell R 338 Lu HK 208, 380–1 Lubis D 324 Lucky T 350–1 Lui P 238, 239, 278–80 Luong NV 315–16

Mackie K 306-7 Madden A 125 Madhavi V 382-3 Madigan V 171, 177 Maibani-Michie G 190 Mallipu A 374-5 Mao L 193 Matthews G 17, 99 McDonald A 161 McDonald K 102 McMahon J 195, 244, 298 McMillan K 199 McNamee H 318-19 Medland NA 297-8 Menon A 86 Middleton MG 141 Miles K 293-4, 330-1 Mohammad Rezaul K 357-8 Muchoki SM 150 Murphy DA 229 Murphy FA 321 Murray DD 119, 268-9

Nadia S 375–6 Nake Trumb R 111 Nasution RD 369–70 Nayasa L 149 Ndung'uT 114 Nguyen TH 358–9 Nguyen TTH 362 Nguyen VK 18, 181 Niggl MR 291 Norella LBP 342

Ofi PS 147

Pala M 18, 95 Palefsky J 69

Palmer CS 122, 169, 269

Palmer S 224 Patel A 308 Pellearini M 133 Persson AS 146 Petoumenos K 378-9 Pham OD 113, 307-8 Phetsouphanh C 166, 276–7 Poolsawat M 234 Post JJ 140, 283 Prabawati NMA 358 Prasetia MYO 76, 292 Prestage G 232, 339, 356 Price J 214, 322 Price P 134, 270 Prybylski D 367 Puls RL 174, 287 Purcell DFJ 204, 257-8 Purwaningsih S 298-9 Puspa Dewi Y 331 Pussadee K 288

Quinn TC 18-19, 96

Raby E 180 Ranasinghe C 94 Rao JVRP 19–20, 91 Rawstorne P 110 Read PJ 142 Read T 71 Robinson S 340–1 Roche M 128 Rule J 377 Russell D 320–1 Ryan CE 367

Salimi H 205, 275

Street J 354 Sutarsa IN 326

Santella A 351 Saulo D 85, 90 Sawitri AAS 359–60 Saxton P 160 Shasha D 120, 271–2 Shibata M 300, 301–2 Shih P 382 Silver B 87 Silvestri G 19, 97, 129 Soehoed R 240, 292–3, 363–4 Stephens K 84 Stratov I 168 Takahashi M 301
Tanpradech S 112
Thai LH 194
Thaung YM 236
Thongpunchang B 288–9
Tong WWY 136
Tran DA 191, 192
Triffitt KA 354–5
Trivedi S 82, 259–60
Tu E 218, 299–300
Turville SG 209, 257
Tynan A 108

Utomo I 75

Varma M 324–5 Vera N 280 Voss L 156 Vu TX 302 Vujovic O 280–1

Wagstaff KM 77, 274
Waples-Crowe P 84
Ward J 123
Wari P 326–7
Whittaker B 186, 225
Widjaja A 373
Wijesundara DK 211, 260–1
Wilson DP 101
Winnall WR 164, 277
Worth H 104, 153
Wraight H 304–5
Wright S 241, 327
Wright ST 197
Wulandari LPL 360–1

Xhilaga M 129 Xu Y 165, 276

Yingying H 20, 183 Yovita H 328

Zablotska I 227, 339–40, 355–6, 371 Zaunders J 118, 221, 272–3 Zhang L 364–5 Zhang Y 370 Zhao R 235

387



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