

2012 HANDBOOK

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Congress ENVIRONMENT POLICY

ASHM Conference, Sponsorship and Events Division implements a waste-reduction policy that addresses: Reduce, Reuse, Recycle. This is done before, during and after each Conference. Our waste-reduction policy aims to implement the following strategies:

- 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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WELCOME LETTER

Welcome to the 13th International Union against Sexually Transmitted Infections (IUSTI) World Congress. This Congress welcomes the five IUSTI regions (Africa, Asia Pacific, Europe, Latin America and North America) to share information on the medical, scientific, social and epidemiological aspects of sexually transmitted infections and their control. Come and experience some of the best Australia has to offer.

This meeting will be the 13th IUSTI World Congress incorporating the Australasian Sexual Health Conference held from Monday 15 to Wednesday 17 October 2012. The Congress will be run back-to-back with the *Australasian HIV/AIDS Conference 2012* with one full day of overlap on Wednesday 17 October.

Over three days, 700 specialists and trainees in sexual health, HIV medicine, public health, microbiology, epidemiology and behavioural science from the northern and southern hemispheres will convene at the Melbourne Convention and Exhibition Centre, Melbourne, Australia to discuss the latest developments in research, clinical manifestations, prevention, testing and treatment of STIs.

Highlights for this congress include:

- Internationally renowned keynote speakers from the USA, UK and South Africa
- A special focus on: HPV vaccine-the future, HPV vaccine and anal cancer, adolescent STI vaccines, anal cancer screening, partner notification, control of STIs in lower income countries, Gonorrhoea resistance, Sexual networks and STI control, MSM in Asia, controversies in Chlamydia control;
- · Career networking sessions;
- A packed social and educational agenda including the Poster Viewing evening and the famous Australasian Sexual Health Conference Gala dinner.

The 13th IUSTI World Congress offers excellent education and social opportunities as well as the chance to network with key industry experts and colleagues against the backdrop of iconic Melbourne. Melbourne has been voted one of the world's most liveable cities and is celebrated for friendly locals, cultural creativity, fine wine and dining, and world-class meeting facilities.

COMMITTEE LIST

Local Organising Committee

Professor	Christopher	Fairley	Local Congress Convenor, World Scientific Committee Co-Chair and RACP Representative – Melbourne Sexual Health Centre
Professor	David	Lewis	World Scientific Committee Co-Chair
Clinical Associate Professor	Marcus	Chen	Melbourne Sexual Health Centre
Professor	Tony	Cunningham	Australian Centre for HIV and Hepatitis Virology Research – ACH ²
Professor	Basil	Donovan	The Kirby Institute
Professor	Suzanne	Garland	Royal Women's Hospital
Dr	Jackie	Hilton	Auckland District Health Board
Dr	Jane	Hocking	Key Centre for Women's Health in Society
Ms	Suzanne	Marks	Australasian Chapter of Sexual Health Medicine – Executive Officer
Professor	Marian	Pitts	Australian Research Centre in Sex, Health and Society – ARCSHS
Professor	Damian	Purcell	Conduit for the HIV/AIDS Conference Committee
Dr	Anne	Robertson	MidCentral Health New Zealand
Ms	Nicole	Robertson	Australasian HIV/AIDS Conference Secretariat
Clinical Associate Professor	Darren	Russell	Cairns Base Hospital
Dr	Russell	Waddell	On behalf of The Australasian Society for HIV Medicine
Mr	James	Ward	Baker IDI
Ms	Amy	Watson	Congress Secretariat, ASHM Conference & Events Division

ABSTRACT REVIEWERS

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Souleymane	Mboup		

MESSAGE FROM THE MINISTER FOR HEALTH GOVERNMENT OF VICTORIA



It is my pleasure to welcome delegates to the 2012 International Union Against Sexually Transmitted Infections Congress and the 2012 Australasian HIV/AIDS Conference.

As with the rest of Australia, Victoria has a proud history of an inclusive, progressive and sustained response to the HIV/AIDS pandemic and an efficient and evidence-based response to other sexually transmissible infections and blood borne viruses.

As part of this ongoing response, the Victorian Government has a long standing partnership approach to supporting and investing in health and biotechnology research, education, hospitals and other innovative institutions.

These conferences provide an opportunity for delegates to share information and knowledge relating to new research and approaches to prevention, testing and treatment, informing policy and practice throughout the country and around the world.

For those of you who have travelled from overseas and interstate to join these conferences, I extend a very warm welcome to Melbourne.

Rated as 'the world's most liveable city' you will find Melbourne to be a cosmopolitan and multicultural city. While you are here, I encourage you to explore our city and experience all Melbourne has to offer.

I hope that your experience at the HIV/AIDS and Sexually Transmitted Infections Conferences will be productive and rewarding and inspire many of you to return in 2014 when we host the International AIDS Conference. I wish you all an enjoyable and memorable stay in our beautiful city of Melbourne.

Hon David Davis MP Minister for Health

INVITED SPEAKERS



INVITED SPEAKERS



Dr Raj Patel

President- IUSTI, Genito Urinary Medicine, The Royal South Hants Hospital, England

Dr Raj Patel, is a Consultant Physician specialising in Sexual Health and HIV medicine working within the UK NHS. He also holds a Senior Lecturer post at the University of Southampton. He has developed a major research interest in HSV infections and has held a number of key appointments within the UK around the development, delivery and assessment of postgraduate specialist training.

THE GOLLOW LECTURE DR MORRIS GOLLOW AM, MRCS (ENGL),

LRCP (Lond), Dip Ven (Lond), PPACSHP, FAChSHM

13 November 1925 – 3 April 2011



Dr Gollow, the inaugural President of the Australasian College of Venereologists (ACVen), passed away after a short illness on the 3 April 2011. Having had the vision that Venereology should be recognised as a specialty in its own right, he was involved in the establishment of the College, and was its President for the first triennium, 1988-1991.

His career in medicine started in London, but in 1956 he emigrated to Western Australia with his wife Sue, becoming the local medical practitioner for Kununoppin, a small wheat-belt town. In 1958 he and his family moved to Perth to provide better schooling for their children. He initially worked as a General Practitioner in his own practice until he joined the Health Department of Western Australia in 1975 as a Venereologist. The clinic was located at 69 Moore Street and run by Dr Arthur Newnham. Dr Gollow took over the position as Director of VD Control in 1979 when Dr Newnham retired.

During his time as a Venereologist he regularly visited remote areas of the state, where the increasing prevalence of syphilis and gonorrhoea was just being recognised, and provided support and updates to staff in the regions on a regular basis. During his career in Venereology, Dr Gollow had monthly meetings at the clinic where clinicians, scientists and general practitioners with an interest in Venereology used to meet over a glass of wine and some light food.

He worked closely with his laboratory associates and was able to routinely provide chlamydia testing via culture for clinic attendees, at a time when chlamydia was only just being recognised as an important pathogen. He also worked closely with his colleagues in the Health Department to ensure open access to the clinic, with services and treatment provided free of charge for the promotion of greater public-health good. He wrote and lectured prolifically, and had many articles published during his career. His pioneering work was recognised in 1986 when he received the Order of Australia for his services to Venereology. Dr Gollow is survived by his wife Sue, four children Adam, Ian, Charles and Anne, and eleven grandchildren, all of whom he doted on.

As inaugural President of the ACVen Dr Morris Gollow and his wife Suzette endowed funds for an honorarium to be given to the invited presenter of the Gollow Lecture, delivered at the annual scientific meeting of the former Australasian College of Sexual Health Physicians (which followed on from the ACVen). Since 2004, when the Australasian Chapter of Sexual Health Medicine amalgamated with the RACP, the Chapter has sponsored the Lecture at its annual Australasian Sexual Health Conference.



Professor King Holmes

Chair, Global Health, Professor, Department of Medicine, Professor, Global Health, Adjunct Professor, Epidemiology, School of Public Health, University of Washington, USA.

Dr. King Holmes became the first William H. Foege Chair of Global Health at the University of Washington effective November 1, 2006, and also is Professor of Global Health, Medicine, Microbiology, and Epidemiology. He formerly served as Chief of Medicine and heads the Infectious Diseases Section at Harborview Medical Center; founded and directs the UW Center for AIDS and STD, a WHO Collaborating Center for AIDS and STD; and is Principal Investigator for the International Training & Education Center for Health (I-TECH), a collaboration between the UW and University of California, San Francisco, with programs in 30 countries. He served as President of IUSTI, co-founded the International Society for STD Research (ISSTDR), and is a member of the Institute of Medicine of the National Academy of Science. He has trained and/or mentored over 100 scientists. He has edited 30 books and manuscripts, and has published 700 research papers on infectious diseases, most concerning STDs.



Dr Sevgi Aral

Clinical Professor, University of Washington School of Medicine, Associate Director for Science, Division of STD Prevention, Centers for Disease Control and Prevention (CDC), USA

Sevgi Okten Aral, MA, MS, PhD has been the Associate Director for Science in the Division of STD Prevention, Centers for Disease Control since 1993. She holds Professorial appointments at the University Of Washington in Seattle; University of Manitoba in Winnipeg and Emory University in Atlanta.

Dr. Aral has authored more than 230 scientific articles and edited 16 journal issues and 2 books. Dr. Aral has served on many national and international work groups, boards and committees; and has consulted for the World Health Organization, The European Union and the World Bank. She has received the ASTDA Achievement Award and the Thomas Parran Award.

Over the years, her research interests have included social and behavioral aspects of sexually transmitted disease epidemiology and prevention; including gender, age and race effects; mixing patterns; sexual and social networks; contextual factors; social determinants and most recently, program science.

Dr. Aral came to the Centers for Disease Control from Middle East Technical University in Ankara, Turkey where she was the chair of the Department of Social Sciences.



Mr James Ward

Deputy Director, Baker IDI Institute, Alice Springs, Australia James Ward is an Aboriginal health researcher and a leader in the field of sexually transmitted infections and blood borne viruses in Aboriginal and Torres Strait islander communities. He is Deputy Director of the Baker IDI Institute in Alice Springs where he is responsible for heading up research programs that are commensurate and appropriate to Aboriginal communities needs. Previous to this role, he was Head of the Aboriginal and Torres Strait Islander Health Program at the Kirby Institute, University of New South Wales. In this role he established a program of research in STI and BBV in Indigenous communities in all jurisdictions. James is a member of many federal and jurisdictional professional, technical and expert committees in the field of STIs and BBVs. James is currently a CI on four NHMRC grants and other focused on STI and BBV in Aboriginal communities and is leading a national research project conducting cross sectional surveys among young Aboriginal and Torres Strait Islander people awarded through the Australian Research Council.



Professor Jonathon Ross

University Hospital Birmingham, UK

Professor Jonathan Ross is Professor of Sexual Health and HIV. He qualified from Aberdeen University Medical School in 1986 and worked in general medicine and genitourinary medicine, being dually accredited in 1997. He has worked as a consultant physician in sexual health and HIV medicine in Birmingham since 1997.

He is treasurer for the British Association for Sexual Health and HIV, editor of STD Global Update and sits on the IUSTI World Executive committee. He is also an associate editor of the journal Sexually Transmitted Infections, a member of the editorial board for European Sexually Transmitted Diseases Guidelines and chairman of the Neurolgy Specialty Question Group for the MRCP examination.

Professor Ross is the author of UK and European Guidelines on Pelvic Inflammatory Disease and editor of the UK National Screening and Testing Guidelines for STDs. He is on the Editorial Board of the Cochrane Collaboration Sexually Transmitted Diseases Collaborative Review Group and International Journal of STD and AIDS journal. His research interests are pelvic infection, HIV and sexual health care service delivery.



Professor Suzanne Garland

Department of Microbiology and Infectious Diseases, Royal Women's Hospital, Melbourne, Department of Obstetrics and Gynaecology, The University of Melbourne, Australia

Professor Garland is an internationally recognised clinical microbiologist and sexual health physician, with particular expertise in infectious diseases as they pertain to reproductive health and the neonate. With her team, Prof Garland, has been a leader in the role of patient self-collected genital sampling in the detection by molecular techniques (polymerase chain reaction (PCR) of reproductive tract infections, particularly those sexually transmitted, such as Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis and herpes simplex virus and have published extensively on clinical epidemiology of sexually transmitted infections in Australia. In addition, a key area of research interest is cervical cancer and the role of human papillomaviruses (HPV). She has been involved in defining HPV in cervical dysplasia, cervical cancer, plus the healthy population within Australia, as well as being chief investigator defining the prevalence of HPV genotypes in urban, rural, indigenous and non-indigenous Australian women (WHINURS project). She has been chief investigator of two 4-year follow-up clinical trials of prophylactic HPV vaccines in young women, and currently one in mid-age women. She currently leads an HPV vaccine effectiveness trial in Australia which will be informative globally.

She is a regular Advisor to the WHO, largely in the area of sexually transmitted infection diagnosis, for prophylactic HPV vaccines, as well as international standards for HPV DNA assays. She has published extensively in more than 393 peer-reviewed journals, as well as being invited to deliver keynote and plenary presentations at national and international meetings. She is the Inaugural and Past President of the newly formed society, AOGIN (Asian Oceania Research Organization on Genital Infection and Neoplasia), which brings together clinicians and scientists within the Asian and Oceania regions and whose work is related to genital infections and neoplasia. AOGIN aims to promote and develop, at an Asia-Oceania level, research, training, screening, prevention and information concerning genital infections, pre-cancers and cancers in women and brings together representatives from the Asia-Oceania region, of a multidisciplinary specialist areas including: gynaecologists, sexual health physicians, dermatologists, pathologists, molecular biologists, oncologists and basic scientists. In recognition of her clinically based research Infectious Diseases Research in Reproductive Health; Particularly of Women and Babies" Prof Garland was selected to in 2010 by NHMRC for "one of the 10 Best Research Projects".



Professor David Lewis

IUSTI World President Elect and IUSTI Regional Director Africa, Head, Centre for HIV and Sexually Transmitted Infections, National Institute of Communicable Diseases, National Health Laboratory Service, South Africa.

Professor Lewis is Head of the Centre for HIV and Sexually Transmitted Infections at the National Institute for Communicable Diseases, a Division of the National Health Laboratory Service in Johannesburg, South Africa. He holds honorary professorial appointments at the Universities of the Witwatersrand and Cape Town. He has worked in the field of HIV/ STIs since 1989, both as a clinician and a microbiologist. His current work involves both HIV/STI research and surveillance in Southern Africa. and his research interests focus on gonorrhoea, genital ulceration and men's sexual health. He recently assisted with STI guideline revisions in South Africa, Namibia and for the Southern African Development Community (SADC). In collaboration with the World Health Organisation. he led the development of the African Gonococcal Antimicrobial Susceptibility Programme (Afro-GASP) from 2010-2012. Professor Lewis serves as an ISSTDR Board Member, IUSTI World President Elect, Regional Director for IUSTI-Africa, an Assistant Editor for Sexually Transmitted Infections and a Joint Editor for 'Sexual Health'.



Ms 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



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.



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GENERAL INFORMATION



GENERAL INFORMATION

Disclaimer

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

Venue

Melbourne Convention & Exhibition Centre 1 Convention Centre Place South Wharf, Melbourne, VIC 3006

The venue will host the Congress sessions, poster presentations, the breakfast sessions, Congress day catering and the trade 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:

Sunday	14 October 2012: 3.00pm to 6.00pm
Monday	15 October 2012: 7.00am to 6.00pm
Tuesday	16 October 2012: 7.00am to 6.00pm
Wednesday	17 October 2012: 7.00am to 6.00pm

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:

14 October 2012: 4.00pm to 6.00pm
15 October 2012: 7.00am to 6.00pm
16 October 2012: 7.00am to 6.00pm
17 October 2012: 7.00am to 6.00pm

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 Congress catering.

The exhibition will open for the IUSTI World Congress on Monday 15 October 2012 at 10.00am and conclude on Wednesday 17 October 2012 at 6.30pm.

The exhibition will be open during the following hours:

Monday	15 October 2012: 10.00am to 7.30pm
Tuesday	16 October 2012: 10.00am to 6.30pm
Wednesday	17 October 2012: 10.00am to 6.30pm
	(Brief closure from 2pm-3.30pm)

The exhibition for the Australasian HIV/AIDS Conference will also be available for viewing on Wednesday 17 October 2012 from 10.00am to 6.30pm (Brief closure from 2pm-3.30pm).

Poster Displays

Posters will be displayed for the duration of the Congress in the Exhibition Hall on the Ground Floor of the Melbourne Exhibition Centre.

Internet HUB

An Internet Hub, proudly sponsored by Hologic Gen-Probe, will be available in the Exhibition Hall on the Ground Floor of the Melbourne Exhibition Centre.

Computers will be available for:

- Completing an online Congress evaluation survey
- · Printing a certificate of attendance
- Viewing the abstract search database
- Viewing delegate lists

Wireless Internet

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

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 you have not previously advised the Congress 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 Melbourne Convention and Exhibition Centre'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.

Smoking

This Congress 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 Congress Registration Desk and should be checked regularly. The Congress Organisers do not accept responsibility for personal mail. Please have all mail sent to your accommodation address.

Luggage Storage

During the Congress, luggage can be stored in the cloakroom which is located off the main Convention Centre foyer, providing storage for visitors' and delegates' belongings.

Taxis

Yellow 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 Norman	by Road – 24 Hour Operation	
Day Rate: Monday to Friday (to	o 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 F	riday		
(entry between 6:00am – 9:0	0am and exit betwee	en 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 +61 3 9224 0301.

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

Freeway Car Park Rates

FREEWAY CAR PARK Located at Munro Street under the Westgate Bridge. Access via Normanby Road and Munro Street.		
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	r 6pm and exit before 6 ar	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 Congress venue. Entrance to the Exhibition will be limited to badge-holders only and checked by security. If you misplace your name badge, please advise staff at the Registration Desk.

Participant List

Information necessary for your attendance at the Congress 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 Congress (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 Congress Secretariat take responsibility for injury or damage to property or persons occurring during the Congress 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 Congress that they attend.

RACP/AChSHM

Registrants may claim one credit point/hour of the Congress 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 Congress has applied for Category 2 RACGP Ql&CPD Points. If you wish to claim these points please sign the attendance sheet at the Registration Desk.

Evaluation

Your feedback on the Congress is important as it will help us plan future events. An online evaluation will be sent out to delegates in the weeks following the Congress.

Prizes

There are several awards that are presented annually. These are:

- 1. Jan Edwards Prize: For the best proffered paper presented orally by a Trainee of the Australasian Chapter of Sexual Health Medicine, sponsored by Novartis. Value A\$500.
- 2. Sexual Health Society of Victoria prizes: Three prizes are offered for best poster presentations in Clinical/Epidemiological Research, Health Promotion and Social/ Behavioural Research. Value A\$500 each.
- 3. The Sexual Health Prize: Is awarded by the journal Sexual Health www.publish. csiro.au/journals/sh. It is awarded to the best written abstract. Abstracts are assessed on the number of features including, structure, clarity, the inclusion of actual data (specifically actual numbers), values, confidence intervals and odds ratios. They are not assessed on the strength of the science. Abstracts that win generally contain sufficient data to allow the data to be cited without the need to see the presentation or read the full paper. The author will be awarded a full print and online subscription to the journal. Value: A\$200.
- The Penelope Lowe Trainee Update Breakfast: For best case presentation by a Chapter Trainee, sponsored by the Sexual Health Society of Victoria. Value A\$500.
- 5. ASHHNA Prizes: Each year ASHHNA (Australasian Sexual Health and HIV Nurses Association Inc) awards a prize for the best poster submission by a nurse at the Sexual Health Conference and also awards the Kendra Sundquist Nurses' Prize for best oral presentation by a nurse – value A\$500 each. These awards recognise the outstanding contribution to sexual and reproductive health that nurses make and aim to encourage nurses to develop and present research.



ASSOCIATED EVENTS



ASSOCIATED EVENTS

Satellite Session – American Social Health Association and the American STD Association: New Molecular Diagnostic Assays for HPV and *Trichomonas vaginalis*

Monday 15 October 2012, 12.00pm – 1.15pm Melbourne Convention and Exhibition Centre

The prevalence of Trichomonas vaginalis(TV) infection is not well characterized. Infection with TV increases susceptibility to other infections including HIV and contributes to adverse outcomes in pregnancies. The improved sensitivity for TV detection using nucleic acid amplification tests compared to culture and wet mount methods indicates that TV prevalence is underestimated. In this symposium, several studies will be reviewed to assess the accuracy of NAAT versus older methodologies while considering prevalence of TV in different populations, including remote indigenous communities of the Northern Territory of Australia. In addition, an overview of HPV messenger RNA (mRNA) testing for cervical cancer screening will be provided, as well as a review of published literature on the clinical performance of the APTIMA HPV assay.

Satellite Session: The first NHMRC Program Grant on sexually transmissible infections: A progress report to stakeholders at the halfway mark

Monday 15 October 2012, 12.15pm – 1.15pm Room 212, Melbourne Convention and Exhibition Centre

Australia's National Health and Medical Research Council funded a five year Program Grant in 2010, with the goal of conducting large-scale, longitudinal research that can be directly translated into medical and public health interventions to control STIs. This symposium will provide colleagues and other interested stakeholder with a report of what the Program has achieved in its first two and half years, and the plans for the second half of the funding period. Further details on the Program can be found at; http://www.sti-program-grant. org.au/. Session Chair: Professor John Kaldor

Welcome Reception and Poster Viewing Evening

Monday 15 October 2012, 5.30pm – 7.30pm Exhibition Hall, Melbourne Convention and Exhibition Centre

All delegates are invited to enjoy a relaxing end to the first day of the Congress. 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. One ticket to the Welcome Reception is included for all registrants except day registrants.

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

Satellite Session: World Health Organization (WHO): Evidence to support elimination of mother-to-child transmission (MTCT) of syphilis

Tuesday 16 October 2012, 7.00am – 8.30am Room 219 and 220, Melbourne Convention and Exhibition Centre

Dr. Lori Newman will present new global and regional estimates for 2011 of burden of syphilis in pregnancy and associated adverse outcomes such as stillbirth, prematurity, neonatal death, and congenital syphilis. These data will be linked with an overview of recent progress with elimination of MTCT of syphilis in the areas of advocacy, strengthening of service delivery, monitoring, and research. Dr. Xiang-Sheng Chen will review the findings of a policy assessment in China of the key features and components of policy success of the Chinese integrated initiative to eliminate MTCT of syphilis, HIV, and hepatitis B. Dr. Mary Kamb will present on recent evidence about scaling up antenatal syphilis screening/ treatment programs through integrating into existing MCH platforms, such as PMTCT. The presentations will be followed by an open discussion with session participants around future opportunities and needs for evidence to support EMTCT of syphilis.

Satellite Session: Sekisui Diagnostics: Benefits of Point of care STI tests; the Trichomonas example

Tuesday 16 October 2012, 12.15pm - 1.15pm Room 219 and 220, Melbourne Convention and Exhibition Centre

Jill S Huppert, MD, MPH, Associate Professor of Gynecology and Pediatrics, Cincinnati Children's Hospital Medical Center.

Point-of-care (POC) tests are an important strategy to address the epidemic of sexually transmitted infections (STIs). POC tests allow the clinician to deliver immediate, confidential results and treatment, and a "teachable moment" for the patient. The WHO promotes STI tests that meet the "ASSURRED" criteria (Affordable, Sensitive, Specific, User-friendly, Rapid and Robust, Equipment-free, Delivered). We present our experience with POC testing for Trichomonas Vaginalis as a model of the impact of POC STI tests on treatment intervals, loss to follow up, sexual risk behaviors, and accuracy of treatment compared to traditional testing. We also present solutions for implementing POC tests in clinical, non-traditional or home settings.

Satellite Session: World Health Organization (WHO): Antimicrobial resistance in Neisseria gonorrhoeae - mitigating the consequences of untreatable gonorrhoea

Tuesday 16 October 2012, 5.30pm - 7.30pm Room 219 and 220, Melbourne Convention and Exhibition Centre

The session will highlight the situation of antimicrobial resistance in N. gonorrhoeae in the WHO Regions, noting similarities and differences and explore the potential global health burden and financial costs of the consequences of untreatable gonorrhoea and its complications. The session will also discuss ways for ensuring the successful implementation of an evidence-based response plan. The session will include four presentations of 15 minutes each and one presentation of 10 minutes and end with a roundtable panel discussion 20 minutes.

The Penelope Lowe Trainee Update Breakfast

Wednesday 17 October 2012, 7.00am - 8:30am Room 212, Melbourne Convention and Exhibition Centre

Trainee case presentations will take place at this early-morning session. Presenters will be asked to present their clinical case and a succinct literature review before taking questions from a panel specialists in Sexual Health Medicine and members of the audience. This session is included in the registration fees for Chapter Trainees, and is sponsored by the Sexual Health Society of Victoria. Please make the time to attend this session to support the Chapter's Trainees.

Ticket cost: A\$30 for all registrants excluding Chapter Trainees for whom it is inclusive.

THE PENELOPE LOWE TRAINEE UPDATE BREAKFAST

Dr Penelope Chantelle Lowe - 3 August 1973 to 22 December 2010

Dr Penelope Chantelle Lowe (known as Penny) was born in Auckland, New Zealand on 3 August 1973, grew up in Auckland, attending Epsom Girls Grammar School from 1986 to 1990 and



being awarded Proxime Accessit behind the dux of the school. She attended medical school at Otago University, Dunedin, New Zealand and Wellington clinical school, graduating in 1996. She worked in emergency medicine in both New Zealand and London, and gained diplomas in Genitourinary Medicine and Sexual and Reproductive Healthcare in London before moving to Australia.

Penny was a clinical advisor for the Australasian Society of HIV Medicine and a Fellow of the Australasian Chapter of Sexual Health Medicine of the Royal Australasian College of Physicians (FAChSHM). She worked in a number of sexual health and HIV clinics in NSW, including servicing rural NSW HIV/Sexual Health clinics and also locumed at the Cairns Sexual Health Service in Queensland.

Penny had a keen interest in medical education and attended many post-graduate courses. She participated in the Australasian Chapter of Sexual Health Medicine Education Committee, with lead responsibility for managing site accreditation. Having previously been an enthusiastic Trainee Representative, her exceptional talents were obvious when she was still a Chapter Trainee and the Chapter decided to film her as the candidate in the example Exit Assessment Interview, which remains a valuable resource for Chapter Trainees. Penny was passionate about supporting quality training environments and lobbied for a more Trainee-centric model of training. As a result of her efforts, she has left a worthwhile legacy for current and future Trainees.

Penny was a very capable musician and was member of various choirs. She was also keen swimmer and walker. Her vibrancy, great warmth and humour are greatly missed by Chapter Fellows, Trainees and all those who knew her.

The Trainee Update Breakfast has been renamed The Penelope Lowe Trainee Update Breakfast in her memory and the Chapter is indebted to the Sexual Health Society of Victoria for their sponsorship of the annual prize for the best case presentation by a Chapter Trainee – value A\$500.

Australasian Sexual Health and HIV Nurses Association (ASHHNA) Breakfast Annual General Meeting

Wednesday 17 October 2012, 7:00am - 8:30am Room 214, Melbourne Convention and Exhibition Centre

ASHHNA Annual General Meeting is to be held on Wednesday 17 October. The chair for the meeting is Donna Tilley. The meeting will be held in Congress room 214. To RSVP please email ashhnanurses@gmail.com

Guest Speaker is Annie Tangey, Coordinator Sexual Health Programme, Ngaanyatjarra Health Service - 'Nursing in Remote Aboriginal Communities: Successes and Challenges Coordinating a Comprehensive Sexual Health Program'

Free for ASHHNA Members

Complimentary for all nurse delegates

IUSTI Congress Gala Dinner

7:00pm - 11:00pm Wednesday 17 October 2012 Peninsula, Melbourne Docklands (a short walk from the Congress 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 delegates excluding day registrations and guests - Ticket cost: A\$130

PROGRAM SCIENCES WORKSHOP

Program Science: an initiative to improve the efficiency and impact of STD / HIV programs

Thursday 18 October 2012, 9:00am - 4:00pm Room 217, Melbourne Convention and Exhibition Centre

Three decades into the emergence of the Human Immunodeficiency Virus (HIV) epidemic: centuries into the appearance of other sexually transmitted infections (STIs); and despite the development of many efficacious individual, group and structural level interventions. it is clear that advances made in the prevention of HIV and other STI have not been sufficient to get ahead of these epidemics. The emerging consensus points to the focus on singular prevention strategies and the formidable gap between innovations in health and their delivery, particularly to communities in the developing world, as potential causes of this failure. Existing scientific evidence may prove insufficient in many instances due to differences between program needs and research characteristics. Most science focuses on treatment and prevention at the individual level, programs need to control and prevent infection spread and sequelae at the population level; most science focuses on individual interventions, programs need to implement a multiplicity of interventions; research studies evaluate interventions at a specific point in time in the evolution of epidemics, programs need effective interventions for all phases of epidemics. Interventions evaluated under ideal conditions, with sufficient resources, employing the best human resources in the research context may yield different results when implemented under everyday circumstances in the program context.

The emerging view is that populations in which infection spread needs to be prevented constitute complex adaptive systems with distinct characteristics and that the effectiveness of prevention can only be defined as a function of the interaction between the preventive intervention mix and the population context. This view necessitates a new understanding of prevention science, one based on the basic tenets of complexity sciences, which include concepts of feedback loops, path dependence, phase transitions, compensatory mechanisms and emergent properties. Policy makers and program managers experience the need for a new understanding of prevention science in a number of ways at the practical level.

Program Science can potentially provide this new understanding and approach to prevention science. The Program Science Initiative can be described as "promoting collaboration and integration between programs and science to improve the ways programs are designed, implemented and evaluated to accelerate and increase health impact". It is program centered, population based and attempts to understand and evaluate a multiplicity of interventions in different contexts. Further, it attempts to do so at a large scale. Program Science aims to bring insights from front line workers to policy makers to help develop and design effective and efficient public health programs and to help direct the knowledge creation processes in a continuous and interactive mode.

This symposium on Program Science is intended for researchers and program managers and implementers who are focused on closing the gap between programs and science in theory and practice. In addition to providing participants with an overview of Program Science, the symposium is intended to promote discussion of how to move the field forward by identifying key issues and priorities and exploring the challenges and opportunities in Program Science.

VENUE MAP



VENUE MAPS


EXHIBITION DIRECTORY



EXHIBITION BOOTH LISTING

BOOTH NUMBER	COMPANY
B4	Abbott Molecular
A17	Alere
B7	Australian Research Centre in Sex, Health and Society
B6	Australasian Society for HIV Medicine
A1	Australian Therapeutic Supplies
B2	Bristol-Myers Squibb
B1	Boehringer Ingelheim
A15	Burnet Institute
A13	Cepheid
A4	Australasian Chapter of Sexual Health Medicine
A14	CSIRO Publishing
B3	CSL Biotherapies
A7	Headjam
B5	Hologic Gen-Probe
A2	IUSTI
C1	MSD Australia
A6	NAPWA and AFAO
A3	VCS Pathology
D1	ViiV Healthcare

EXHIBITION FLOOR PLAN



EXHIBITOR DIRECTORY

B4	Abbott Molecular
Abbott Molecular	Abbott is a global, broad-based health care company devoted to the discovery, development, manufacture and marketing of pharmaceuticals and medical products, including nutritionals, devices and diagnostics. The company employs nearly 90,000 people and markets its products in more than 130 countries. Abbott employs almost 700 people in Australia and New Zealand and has offices located in Sydney, Melbourne, Auckland and Wellington. Abbott Molecular Unit D 31-33 Sirius Road Lane Cove 2066 Sydney Australia Phone: +61 2 9857 1092
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

A4	Australasian Chapter of Sexual Health Medicine
The Royal Australasian College of Physicians Adult Medicine Division Australasian Chapter of Sexual Health Medicine	The Australasian Chapter of Sexual Health Medicine is the professional body responsible for the education and training of doctors wishing to specialise in sexual health. The Chapter contributes to the professional development of its Fellows and Trainees as well as other health professionals through its scientific meetings. The Chapter provides expert advice to government and other agencies on sexual health matters and its Fellows contribute to policy development at state and national level.
	Education Officer (training related enquiries)
	Education Services Department The Royal Australasian College of Physicians 145 Macquarie Street SYDNEY NSW 2000 Tel: +61 2 9256 9669 Fax: + 61 2 9256 9698 Email: shmedtraining@racp.edu.au
	Executive Officer (all other enquiries) Australasian Chapter of Sexual Health Medicine The Royal Australasian College of Physicians 145 Macquarie Street SYDNEY NSW 2000 Tel: +61 2 9256 9643 Fax: +61 2 9256 9693
	Email: shmed@racp.edu.au
B6	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, multi- disciplinary 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 5220 E: arcshs@latrobe.edu.au www.latrobe adu au/arcshs
A1	Australian Therapeutic Supplies
FOUR SEASONS CONDOMS	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 IS04074-20002(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	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 Together we can prevail."	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
Eurnet Institute Medical Research. Practical Action.	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

A13	Cepheid
Cepheid. A better way.	Cepheid is a leading molecular diagnostics company that is dedicated to improving healthcare by developing, manufacturing, and marketing accurate yet easy-to-use molecular systems and tests. By automating highly complex and time-consuming manual procedures, the company's solutions deliver a better way for institutions of any size to perform sophisticated genetic testing for organisms and genetic-based diseases. Through its strong molecular biology capabilities, the company is focusing on those applications where accurate, rapid, and actionable test results are needed most, such as managing infectious diseases and cancer.
A14	CSIRO Publishing
SIROPUBLISHING	CSIRO PUBLISHING operates as an independent science and technology publisher with a global reputation for quality products and services. Our internationally recognised publishing programme covers a wide range of scientific disciplines, including agriculture, the plant and animal sciences, health and environmental management. Our product range includes journals, books and magazines. We publish content in print and online, and our editorial standards and production methods are at the forefront of e-publishing standards. CSIRO PUBLISHING PO Box 1139 COLLINGWOOD, VICTORIA, 3066 AUSTRALIA Phone: +61 3 9662 7500 Fax: +61 3 9662 7555 Email: publishing.sales@csiro.au Web: www.publish.csiro.au
B3	CSL Biotherapies
CSL Biotherapies Thinking Australia®	Based in Melbourne, CSL Biotherapies manufactures and markets vaccines and pharmaceutical products in Australia and New Zealand and supplies influenza vaccines internationally. The CSL Biotherapies vaccine portfolio includes vaccines to help prevent paediatric, adult and travel related infectious diseases. CSL Biotherapies manufactures products of national significance such as antivenoms and Q Fever vaccine and produces a range of plasma related products. CSL Biotherapies also markets a range of neurological, dermatological, analgesic and urological products. CSL is a major Australian employer and is listed in the ASX Top 200. Daniela Arturi, Brand Manager, GARDASIL Phone: (03) 9389 4152 Mobile: 0401 715 005 Daniela.arturi@csl.com.au Liz Jago, Executive Assistant Phone: (03) 9389 1841 Elizabeth.jago@csl.com.au

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.
B5	Hologic Gen-Probe
HOLOGIC" \$ GEN-PROBE	HOLOGIC Gen-Probe is a global leader in the development, manufacture and marketing of molecular diagnostic products and services that are used primarily to diagnose human infectious diseases, screen donated human blood, ensure transplant compatibility and aid biomedical research and drug development. With products and technologies covering STI's, Public Health, Women's Health and the Blood Banking sector, HOLOGIC Gen-Probe is a company focused on providing accurate, fast and reliable results to enable the best outcome for disease diagnosis and better patient management. For all product or contact information, please visit: www.gen-probe.com or email: customerservice@ gen-probe.com
A2	IUSTI
All	Angelika Stary and Raj Patel, chair and co-chair of the joint meeting of the 20th ISSTDR and 14th IUSTi, are pleased to invite you to the beautiful city of Vienna. The conference will take place from July 14 to 17, 2013, in Vienna's Hofburg Congress Center (former winter palace of the Austrian emperor Franz Joseph I) located in the heart of the city. There, you will experience a scientific program of very high quality, reflecting the broad range of STI/HIV science and clinical practice. For more information, our STI & AIDS Congress Vienna 2013 booth is waiting for you! STI & AIDS WORLD CONGRESS VIENNA 2013 c/o Vienna Medical Academy Alser Strasse 4, 1090 Vienna, Austria Tel: 0043 1 405 13 83 11 Fax: 0043 1 407 82 74 Email: STIvienna2013@medacad.org www.STIvienna2013.com

C1	MSD Australia
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, NJ, 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 propie hving with revolues	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

A3	VCS Pathology
VCS Pathology	VCS Pathology is specialist laboratory & a health promotion charity reporting conventional Pap tests, Thin Prep specimens, gynaecological histology, HPV and Chlamydia testing. VCS Pathology employs three Liaison Physicians who are responsible for the delivery of free education updates to health practitioners in Victoria and at relevant Congresss throughout Australia. Education focuses on the National Cervical Screening Program (including the potential future direction of screening), Pap test technique, the Human Papilloma Virus (HPV), HPV testing, HPV Vaccines and testing for Chlamydia. Please visit our stand to request a Chlamydia poster or contact: Lyndal Ritchie (03) 9250 0360 Iritchie@ vcs.org.au
D1	ViiV Healthcare
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
Next to Booth C1	John Hopkins University Point-of-Care Testing Needs Assessment
DHNS HOPKINS HEDICINE	The mission of the Johns Hopkins University Center for Point-of-Care Testing for Sexually Transmitted Diseases is to facilitate the creation and commercialization of point-of-care (POC) tests for the diagnosis of sexually transmitted diseases. We are a diverse group of clinicians, social scientists, basic scientists, and administrators who have come together since 2007 to measure feasibility, acceptability and accuracy of POC testing in primary care settings, and to develop methods of home delivery of over-the-counter (OTC) tests to end-users via the Internet. Our goals are to reach and instruct scientists in the biotechnology community toward development of assays that are meaningful with regard to sensitivity and specificity and that can positively influence public health, and to ensure that assays which prove to be worthy of pilot testing have specifications and qualifications to be of sufficient scientific merit to be acceptable for future clinical trials and FDA submission. This porject aims to assess the needs of clinicians for desirable attributes doe POC tests for STIs

FULL CONGRESS PROGRAM



FULL CONGRESS PROGRAM

SUNDA	IT 14 UCI UBEK
3.00pm- 6.00pm	Registration Open - Melbourne Convention Centre, Foyer Plenary 3
9.00am- 5.00pm	IUSTI EXCO Meeting Melbourne Convention Centre
	Room: Hospitality Suites, Exhibition Hall Bays 13-14, Room 4.201 - 4.204
6.30pm- 10.00pm	IUSTI Board Dinner and Sexual Health Conference Convenors Dinner
MOND	AY 15 OCTOBER
7.00am	Registration - Melbourne Convention Centre, Foyer Plenary 3
8.30am-	13th IUSTI World Congress and 2012 Australasian Sexual Health Conference: Opening Ceremony sponsored by the Department of Health and Ageing
10.00am	Room: Plenary 3, Door 4 Lower Ground Chairs: Richard Hillman and David Lewis
8.35am– 8.40am	Welcome to Country
8.40am– 8.45am	Introduction by Conference Convenor Professor Christopher Fairley, Professor, Sexual Health, University of Melbourne; Director, Melbourne Sexual Health Centre, Melbourne, VIC, Australia
8.45am– 8.52am	Introduction by IUSTI Representative Dr Raj Patel, President- IUSTI, Genito Urinary Medicine, The Royal South Hants Hospital, England
8.52am– 9.00am	Welcome to the Conference and Introduction of the Gollow Lecturer Professor Richard Hillman, President, Australasian Chapter of Sexual Health Medicine, Sydney, NSW, Australia
9.00am- 10.00am	Gollow Lecture: 'Will Herpes ever be curable?' A review of the problems , the science and the reasons for study failure (but always adding more to our knowledge)
	Dr Raj Patel, President- IUSTI, Genito Urinary Medicine, The Royal South Hants Hospital, England.
10.00am- 10.30am	Morning Tea in Exhibition and Poster Area Exhibition Hall, Bays 13 - 14,

	enary 1	fessor, Global Health, Adjunct Professor, Epidemiology, School of	, Associate Director for Science, Division of STD Prevention, Centers	sexually transmitted infections in Australian Aboriginal and		13-14, Room 4.201 - 4.203	Satellite Session: The first NHMRC Program Grant on sexually transmissible infections: A progress report to stakeholders at the halfway mark - Room 212	Introduction Professor John Kaldor, Public Health Interventions Research Group, The Kirby Institute, Sydney, NSW, Australia	Point of care, home specimen and other new approaches to getting STI tests done Dr Rebecca Guy, Senior Lecturer, Sexual Health Program, The Kirby Institute, Sydney, NSW , Australia	Molecular techniques utilized to answer STI questions Associate Professor Sepehr Tabrizi, The Royal Women's Hospital, Melbourne, Vic, Australia	Approaches to preventing anal cancer Professor Andrew Grulich, Professor and Head of HIV Epidemiology and Prevention Program The Kirby Institute, Sydney, NSW, Australia	Panel Discussion and questions led by Chief Investigators
	nference: Pl	Medicine, Pro	of Medicine	es to address		ion Hall Bays	12.15pm- 1.15pm	12.15pm- 12.20pm	12.20pm- 12.35pm	12.35pm- 12.50pm	12.50pm- 1.05pm	1.05pm- 1.15pm
AY 15 OCTOBER	13th IUSTI World Congress and 2012 Australasian Sexual Health C Room: Plenary 3, Door 4 Lower Ground Chairs: Janet Wilson and Hunter Hansfield	What are the essential and effective approaches to STI control? Professor King Holmes, Chair, Global Health, Professor, Department of Public Health, University of Washington, USA.	Networks and STI Professor Sevgi Aral, Clinical Professor, University of Washington Schor for Disease Control and Prevention (CDC), USA	What's required to make a difference - the need to upscale strategi Torres Strait Island communities Mr James Ward, Deputy Director, Baker Institute, NT, Australia	Lunch in Exhibition and Poster Area Exhibition Hall, Bays 13 - 14	Chapter Education Committee Meeting - Hospitality Suites, Exhibi	Satellite Session - American Social Health Association and the American STD Association Room 219 and 220	Trichomonis Vaginalis Infection: Time for a Diagnostic Paradigm Shift Professor Charlotte Gaydos, Division of Infectious Diseases, Johns Hopkins University, Baltimore, Maryland, USA	Clinical Performance of Molecular Diagnostic Assays for Detection of Cervical Cancer Associate Professor, Jennifer S. Smith, Research Associate Professor, Department of Epidemiology, University of North Carolina, Chapel	Hill, North Carolina, USA	Dr. Michael Leung, Head of Department of Microbiology, Western Diagnostic Pathology, WA, Australia	
MOND	10.30am 12.00pm	10.30am- 11.00am	11.00am- 11.30am	11.30am- 12.00pm	12.00pm- 1.00pm	12.00pm- 1.30pm	12.15pm 1.15pm	12.15pm 12.35pm	12.35pm 12.55pm	10 55 000	1.15pm	

MOND	AY 15 OCTOBER				
1.30pm- 3.00pm	Proffered Paper Session: Bacterial vaginosis and gonorrhoea	1.30pm- 3.00pm	Proffered Paper Session: New testing strategies, from lab to the real world	1.30pm- 3.00pm	Proffered Paper Session: Addressing sexual risk and STI among men who have sex with men
	Room: Plenary 3 Chairs: Catriona Bradshaw and Somesh Gupta		Room: 219 and 220 Chairs: Sepehr Tabrizi and Keith Radcliffe		Room: 212 Chairs: Anna McNulty and Immy Ahmed-Jushuf
1.30pm– 1.45pm	Lactic acid, a natural microbicide in the female genital tract Muriel Aldunate (Australia)	1.30pm- 1.45pm	Laboratory evaluation of five point of care tests for the diagnosis of syphilis Louise Causer (Australia)	1.30pm- 1.45pm	incidence of syphilis reinfection in MSM in Victoria, Australia Jane Goller (Australia)
1.45pm- 2.00pm	A pilot study to propose disk diffusion interpretation breakpoints for gentamicin susceptibility testing of <i>neisseria gonorrhoeae</i> Manju Bala (India)	1.45pm- 2.00pm	An overview of successful large scale automated case detection: Assisting public health with the identification of reportable conditions Judy Gichoya (Kenya)	1.45pm- 2.00pm	Increases in the comprehensiveness of STI testing among gay men in Melbourne and Sydney: Findings from the gay community periodic surveys, 2003-2011 Martin Holt (Australia)
2.00pm– 2.15pm	Behavioural and contraceptive factors associated with BV recurrence in participants enrolled in a randomized controlled trial Lenka Vodstrcil (Australia)	2.00pm– 2.15pm	Point of care testing improves accuracy of STI care in an ED Jill Huppert (USA)	2.00pm– 2.15pm	Factors related to condom use during anal intercourse with casual partners among younger gay and bisexual men in New Zealand; results from national sociobehavioural surveillance (2006-2011) Vathan Lachowsky (Canada)
2.15pm– 2.30pm	Bacterial vaginosis as a risk factor for acquiring sexually transmitted diseases Peter Kimbowa (Uganda)	2.15pm– 2.30pm	Targeted community screen, routine health centre testing or both: An evaluation of strategies in an endemic setting Bronwyn Silver (Australia)	2.15pm– 2.30pm	Queer as f**k: Reaching and engaging gay men in sexual health promotion through social networking sites Margaret Hellard (Australia)
2.30pm– 2.45pm	Clinical study demonstrates efficacy and safety of spl7013 gel (vivagel®) for the treatment of bacterial vaginosis Jeremy Paull (Australia)	2.30pm– 2.45pm	Analytical performance of Genexpert [®] CT/NG, the first real-time PCR point-of-care assay for the detection of chlamydia trachomatis and <i>neisseria gonorrhoeae</i> Sepehr Tabrizi (Australia)	2.30pm– 2.45pm	What factors are associated with azithromycin resistant treponema pallidum in Sydney, Australia? ^D hillip Read (Australia)
2.45pm– 3.00pm	Rethinking gonococcal anti-microbial surveillance in the era of Ceftriaxone resistance: PCR-based detection of neisseria gonorrhoeae strains of public health importance David Whiley (Australia)	2.45pm– 3.00pm	Detection of Syphilis IgM using dried blood spots Joy Liu (Australia)	2.45pm- 3.00pm	Do homosexual men have HIV tests more frequently if they are offered point of care HIV testing in a clinic? A randomised controlled trial fim Read (Australia)
3.00pm- 3.30pm	Afternoon Tea in Exhibition and Poster Ar Exhibition Hall, Bays 13 - 14	ea			

MOND	AY 15 OCTOBER				
3.30pm- 5.00pm	Symposium Session: Adolescent Vaccines	3.30pm- 5.00pm	Symposium Session: Sexual networks, behaviour and mixing and STI transmission	3.30pm- 5.00pm	USTI Regions Symposium Session: Hot topics from around the world
	Room: Plenary 3 Chairs Anthony Cunningham and Rachel Skinner		Room: 219 and 220 Chairs: Sevgi Aral and Jane Hocking		Room: 212 Chairs: Keith Raddiffe and Yaw Adu Sarkodie
3.30pm– 3.52pm	Immunisation for sexually acquired herpes simplex virus Professor Anthony Cunningham, Executive Director, Westmead Millennium Institute for Medical Research, Westmead, NSW, Australia	3.30pm– 3.40pm	Overview: Sexual networks, Behavior and mixing and STI transmission Professor Sevgi Atal, Clinical Professor, University of Washington School of Medicine, Associate Director for Science, Division of STD Prevention, Centers for Disease Control and Prevention (CDC), USA	3.30pm– 3.50pm	EPT: To Be or Not To BE? Professor Charlotte Gaydos, Professor, Division Infectious Disease Medicine, Johns Hopkins University, Baltimore, USA
3.52pm– 4.15pm	Exploiting Systems Immunology approach to design Prophylactic Vaccine for Human Cytomegalovirus Professor Rajev Khanna, Senior Principal Research Fellow, NH&MRC, Director, Australian Centre for Vaccine Development, Queensland Institute of Medical Research, QLD, Australia	3.40pm– 4.05pm	Distribution of MSM behaviours within populations and how this impacts on STI transmission Associate Professor David Wilson, Head of Surveillance and Evaluation Program, Kirby Institute, University of New South Wales, Sydney, NSW, Australia	3.50pm- 4.10pm	HIV Treatment as Prevention – How ready is Africa? Professor Yaw Adu Sarkodie, Professor of Clinical Microbiology, School of Medical Sciences, Kwame Nkrumah University of Science and Technology, Ghana; Consultant Clinical Microbiologist and Genitourinary Physician, Komfo Anokye Ieaching Hospital, Kumasi, Ghana
4.15pm– 4.36pm	Vaccines for Epstein Barr Virus Professor Scott Burrows, Principle Research Fellow (NHMRC), Queensland Institute of Medical Research, Brisbane, QLD, Australia	4.05pm– 4.25pm	Modelling the impact of enhanced STI screening strategies in remote Indigenous communities Dr Ben Hui, Mathematical Modeler, Kirby Institute, Sydney, NSW, Australia	4.10pm- 4.20pm	is your sexual health service delivering what patients want? Professor Jonathan Ross, Professor, Sexual Health and HIV, University Hospital Birmingham, Birmingham, UK
4.36pm- 5.00pm	Hepatitis B Vaccination in Adolescents Associate Professor Joseph Torresi, Infectious Diseases Physician, Austin Hospital, Heidelberg; Associate Professor of Medicine, University of Melbourne, VIC, Australia	4.25pm– 4.45pm	Sexual behaviour in heterosexual populations: implications for chlamydia control Professor Nicola Low, Professor of Epidemiology and Public Health, University of Bern, Institute of Social and Preventive Medicine, Bern, Switzerland	4.20pm- 4.40pm	Pre-exposure prophylaxis against HIV Dr Keith Radcliffe, Consultant, HIV and Sexual Health Medicine, University Hospital, Birmingham, UK; Regional Director of IUSTI Europe
		4.45pm- 5.00pm	Discussion	4.40pm- 5.00pm	Discussion
5.00pm- 5.30pm	IUSTI General Assembly - Room 212				
5.30pm- 7.30pm	Welcome Reception and Poster Viewing E Exhibition Hall, Bays 13- 14	vening [Dı	rinks and Canapes to be served from 5.30p	[mu	

TUESD	AY 16 OCTOBER
7.00am	Registration
7.00am-	Satellite Session: World Health Organization (WHO)
8.30am	Evidence to support elimination of mother-to-child transmission (MTCT) of syphilis
	Room: 219 and 220 Chair: Nathalie Broutet
7.00am–	Updated estimates of global syphilis in pregnant women and congenital syphilis
7.30am	Lori Newman (WHO, Switzerland)
7.30am–	Health policy and elimination goal of MTCT of HIV and syphilis, the example of China
8.00am	Xiang-Sheng Chen (National Center for STD Control, China), Flora Wu (University College London, UK)
8.00am–	Integration of syphilis into broader MCH service provision
8.30am	Mary Kamb (CDC, USA)
8.30am-	13th IUSTI World Congress and 2012 Australasian Sexual Health Conference: Plenary 2
	Room: Plenary 3, Door 4 Lower Ground Chairs: Angelika Stary and Basil Donovan
8.30am–	Optimising the management of pelvic inflammatory disease
9.00am	Professor Jonathan Ross, Professor, Sexual Health and HIV, University Hospital Birmingham, Birmingham, UK
9.00am–	HPV: The Future? 10 years from now
9.30am	Professor Suzanne Garland, Director of Microbiology & Infectious Diseases, The Royal Women's Hospital, Melbourne, VIC, Australia
9.30am– 10.00am	Multi-drug resistant gonorrhoea – can we hold back the tide? Professor David Lewis, IUSTI World President Elect and IUSTI Regional Director Africa, Head, Centre for HIV and Sexually Transmitted Infections, National Institute of Communicable Diseases, National Health Laboratory Service, South Africa
10.00am-	Morning Tea in Exhibition and Poster Area
10.30am	Exhibition Hall, Bays 13 - 14

	- IUSTI Asia Pacific Session:	Room: 212 Chairs: Kamal Al Faour and Darren Russell	Introduction: IUSTI Asia Pacific Dr Brian Mulhall, Chair, Branch Committee, IUSTI Asia Pacific	India: Sexualities and STI/HIV-a kaleidoscope of colours	 STI and HIV in India; Current scenario Associate Professor Somesh Gupta, Department of Dermatology and Venerology, All India Institute of Medical Sciences, New Delhi, India Additional Professor Sunil Sethi, STD and TB division; Vice Chair, IUSTI Asia Pacific, South Asia Subregion Department of Medical Microbiology, PGIMER, Chandigarh, India Microbiology, PGIMER, Chandigarh, India Microbiology, PGIMER, Chandigarh, India India's response to HIV and STI Professor Kaushal Verma, Department of Dermatology and Venereology, All India Institute of Medical Sciences, New Delhi, India Discussion
	10.30am- 12.00pm		10.30am- 10.35am	10.35am- 11.20am	10.35am- 10.45am 10.45am- 10.55am- 11.055am- 11.05am- 11.05am- 11.20am-
	Symposium Session: Chlamydia update – current microbiological issues	Room: 219 and 220 Chairs: Hunter Hansfield and Jane Hocking	Should we worry about chlamydia treatment failure? Associate Professor Jane Hocking, University of Melbourne, VIC, Australia	Azithromycin treatment in Chlamydia infection – lessons from mouse models Professor Kenneth Beagley, Professor of Immunology and Deputy Director, Queensland University of Technology, QLD, Australia	Chlamydia serology – what can it tell us about chronic chlamydia infection/ upper genital infection? Dr Kelly Cunningham, Postdoctoral Research- associate, Institute of Health and Biomedical Innovation, Queensland University of Technology, Brisbane, QLD, Australia
	10.30am– 12.00pm		10.30am– 10.50am	10.50am– 11.10am	11.10am- 11.30am
AY 16 OCTOBER	– Symposium Session: Improved Partner Management	Room: Plenary 3 Chairs: Yaw Adu Sarkodie and Marcus Chen	 Expedited Partner Therapy for Gonorrhea and Chimaydial Infection Professor Matthew Golden, Director, HIV/ STD Program, UW Center for AIDS & STD, 	Harborview Medical Center, Seattle, USA	 Improving partner notification through the use of newer communication technologies Associate Professor Marcus Chen, Specialist, Melbourne Sexual Health Centre, Melbourne, VIC, Australia
TUESD	10.30am- 12.00pm		10.30am- 10.55am		10.55am- 11.20am

TUESD	AY 16 OCTOBER				
11.20am– 11.45am	Future research for improving partner notification in high-, middle- and low-resource countries Dr Marc Steben, Medical Advisor, STI unit, Québec National Public Health Institute, Montréal, Qc, Canada	11.30am– 11.50am	Chlamydia vaccines - what can we hope for? Professor Kenneth Beagley, Professor of Immunology and Deputy Director, Queensland University of Technology, QLD, Australia	11.20am– 12.00pm	Papua New Guinea: STI/HIV: Facts, Figures, and Plans from a Pacific neighbour
11.45am	Discussion	11.50am– 12.00pm	Discussion	11.20am- 11.30am- 11.40am- 11.40am- 11.50am- 11.50am- 12.00pm	The Papua New Guinea HIV epidemic Dr John Millan, President, Papua New Guinea Sexual Health Society, Papua New Guinea Challenges in using point of care syphilis rapid tests in a yaws endemic area Dr Gregory J. Law, Adviser, Sexual Health, STIS & HV Disease Control Branch, National Department of Health, Papua New Guinea Human papillomavirus and cervical cancer in Papua New Guinea Dr Andrew Vallely, Associate Professor, Public Health Interventions Research Group, The Kirby Institute, University of New South Wales, Sydney, Australia and Deputy Wales, Sydney, Australia and Deputy Director (Science), and Head, Sexual & Reproductive Health Unit (SHU) Papua New Guinea Institute of Medical Research (PNG IMR), Goroka, Papua New Guinea Discutor Science Institute of Medical Research (PNG IMR), Goroka, Papua New Guinea
12.00pm- 1.00pm	Lunch in Exhibition and Poster Area Exhibition Hall, Bays 13 - 14				
12.00pm- 1.30pm	Chapter Committee Meeting Hospitality Suites, Exhibition Hall Bays 1:	8-14, Room	14.201 - 4.203		

	om Crossing the great divide – urban to remote: The sexual health of Australia's first peoples	Room: 212 Chairs: James Ward and Mark Saunders	m- Chlamydia testing and follow up in young people attending urban and regional Aboriginal Community Controlled Health Services Marry Ellen Harrod	m- Opportunities for chlamydia testing in four regional Aboriginal m community controlled health services in New South Wales Simon Graham Simon Graham	 m- High levels of re-testing after chlamydia and gonorrhoea infection in remote aboriginal communities 2009 - 2011: Findings fromt the STRIVE trial Linda Garton 	 m- High rates of chlamydia positivity in Aboriginal and Torres m Strait Islander people attending Australasian sexual health services: The Australian collaboration for chlamydia enchanced sentinel surveillance (ACCESS) Catherine O'Connor 	 Mn- Understanding sexual health risk: Serial population surveys of knowledge, attitudes and practices among young people in remote North Queensland (NQ) communities 	- Discussion
	12.15p - 1.15p		12.15p. 12.25p [.]	12.25p	12.35p 12.45pi	12.45p 12.55p	12.55pi 1.05pm	1.05pr 1.15pr
ESDAY 16 OCTOBER	Satellite Session: Sekisul Diagnostics: Benefits of Point of care pm STI tests; the <i>Trichomonas</i> example	Room: 219 and 220 Chair: David Whiley	5pm- Benefits of Point of care STI tests; the Trichomonas example pm Associate Professor Jill S Huppert, MD, MPH, Associate Professor of Gynecology and Pediatrics, Cincinnati Children's Hospital Medical	Center, Cincinnati, Ohio, USA				
D	12.1		12.1; 1.15					

	om- Proffered Paper Session: Chlamydia, om acceptable, automated, and at home	Room: 212 Chairs: Chavalit Mangkalaviraj and Marian Pitts	 mmassing contraction in the second contraction is a systematic review of strategies and outcomes Muhammad Jamil (Australia) 	m- Chlamydia infection and the risk of m adverse obstetric outcomes Bette Liu (Australia)	m- Are Australian General Practitioners and Practice Nurses Equipped for Increased Chlamydia Testing? Findings from ACCEPt Rebecca Lorch (Australia)	Pm- Rapid determination of lymphogranuloma venereum servours of chlamydia trachomatis by quantitative high resolution melt analysis (HRMA) Jimmy Twin (Australia)	Pm- Is this acceptable? High chlamydia prevalence among young men in Australia results from the Australian chlamydia control effectiveness pilot (ACCEPT) Anna Yeung (Australia)	m- Automated, computer generated reminders m increase detection of gonorrhoea, chlamydia and syphilis in men who have sex with men Huachun Zou (Australia)	m- Mycoplasma genitalium: Incidence in men presenting to a public sexual health clinic Tonia Mezzini (Australia)
	1.30p 3.00p		1.30p	1.42p 1.54p	1.54p 2.06p	2.18p	2 .18p 2.30p	2.30p 2.42p	2.42p 2.54pi
	Proffered Paper Session: At risk populations from around the world	Room: 219 and 220 Chairs: Xiang-sheng Chen and Anne Robertsor	Factors affecting time trends in the prevalence of gonococcal and chlamydia infection among female sex workers (FSWS) in 24 districts of South India - a muttievel modeling analysis Pradeep Banandur (India)	The effect of comprehensive sexual education program on sexual health knowledge and sexual attitude among college students in Southwest China Xinli Chi (China)	Does having a peer confidant influence young people in rural South Africa's HIV related knowledge, perceptions and reported sexual behaviour? 'well, my friend says' Graeme Hoddinott (South Africa)	Medical male circumcision: prevalence, knowledge and intentions in young Zulu men in rural Kwazulu Natal, South Afric: John Imrie (South Africa)	Geographic and temporal heterogeneit; in HIV emergence and client solicitation among female sex workers in Pakistan Laura H Thompson (Canada)	Understanding the link between STIs and infertility: perceived risk, perceived control and knowledge among urban youth Maria Trent (USA)	
	1.30pm- 3.00pm		1.30pm– 1.45pm	1.45pm- 2.00pm	2.00pm- 2.15pm	2.15pm- 2.30pm	2.30pm- 2.45pm	2.45 pm- 3.00 pm	
AY 16 OCTOBER	Proffered Paper Session: HIV, HPV related neoplasia	Room: Plenary 3 Chairs: Adrian Mindel and Tim Read	Before and after comparison of Human Papillomavirus (HPV) genotypes in Cervical Intraepithelial Neoplasia grade 3 (CIN3) lessons following the introduction of the national HPV vaccination program in Victoria, Australia Emma Callegari (Australia)	Psychological morbidity associated with 1 anal cancer screening in homosexual men 2 Richard Hillman (Australia)	Population based cohort study in a high 2 HIV burden district of India shows higher rural incidence G Anil Kumar (India)	HIV and STIs among female sex workers 2 in 12 Regions of Thailand, 2010 Niramon Punsuwan (Thailand)	Progression and spontaneous regression 2 of high grade anal intraepithelial neoplasia 2 in HIV infected and uninfected men Winnie Tong (Australia)	Tenofovir directly suppresses HIV 1 and HSV 2 in coinfected cervico vaginal tissue ex-vivo Christophe Vanpouille (USA)	
TUESD	1.30pm- 3.00pm		1.30pm- 1.45pm	1.45pm– 2.00pm	2.00pm- 2.15pm	2.15pm– 2.30pm	2.30pm– 2.45pm	2.45pm– 3.00pm	

TUESD	AY 16 OCTOBER				
3.00pm- 3.30pm	Afternoon Tea in Exhibition and Poster Ar Exhibition Hall	ea			
3.30pm- 5.00pm	IUSTI Asia Pacific Session	3.30pm- 5.00pm	Symposium Session: Typing and sequencing methodologies: Public health relevance and advances in the field	3.30pm- 5.00pm	Symposium Session: HPV
	Room: Plenary 3 Chairs: Wresti Indriatmi, Brian P Mulhall and Priya Sen		Room: 219 and 220 Chairs: Monica Lahra and David Lewis		Room: 212 Chairs: Basil Donovan and Suzanne Garland
3.30pm- 4.20pm	China: STI control in the world's most populous country	3.30pm- 3.50pm	Typing of STI pathogens: What is the public health benefit? Professor Catherine Ison, Director, Sexually Transmitted Bacteria Reference Laboratory (STBRU, Health Protection Agency,	3.30pm- 3.50pm	Genital warts in young Australians: Past, present & future Dr Hammad Ali, Dr. Lecturer, PhD Candidate, The Kirby Institute, University of New South Wales, Sydney NSW, Australia
			LUIUUII, EIIYIAIU		
3.30pm- 3.40pm	China: Barriers to STI control in the world's most populous country Professor Xiang-Sheng Chen, Professor and Vice-Director, National Center for STD Control, Nanjing, China	3.50pm- 4.10pm	Advances in molecular typing of Neisseria gonorrhoeae and Chlamydia trachomatis isolates Professor Jo-Anne Dillon, Professor and Research Scientist, Department of Biology	3.50pm- 4.10pm	Optimizing Cervical Screening in the Context of HPV Vaccination Associate Professor Marion Saville, Executive Director, Victorian Cytology Service Inc, Melbourne, VIC, Australia
3.40pm- 3.50pm	Barrifers to STI clinical services for MSM in South China: A health service investigation Dr Li-Gang Yang, STD Control Department Director, Guangdong Provincial Center for STI & Skin Diseases Control, Guangzhou, China		and Vaccine and Infectious Disease Organization, International Vaccine Center (VIDO-InterVac), University of Saskatchewan, Saskatoon, SK, Canada		
3.50pm- 4.05pm	Technical Assistance for STI Control: Time for a re-think?	4.10pm- 4.30pm	What can we learn about Chlamydia trachomatis from whole genome	4.10pm- 4.30pm	Oropharyngeal cancer and the role of HPV Associate Professor Jane Hocking,
	Dr Graham Neilsen, Advisor on Sexual Health and Development, RTI International, Pathumwan, Bankgok, Thailand	-	sequencing: looking at the interrelationships of ocular and genital serovars at the Genome Level Professor Nicholas Thomson, Senior Scientist Pathogen Genomics, The Wellcome Trust Sanger Institute, Wellcome Trust Genome Campus, Cambridge, England	-	University of Melbourne, VIC, Australia

TUESD	AY 16 OCTOBER				
4.05pm- 4.20pm 4.30pm- 5.30pm	Drugs, sex and harm reduction in the Asia Pacific Region Professor Robert Power, Senior Principal Fellow, Burnet Institute, Melbourne, VIC, Australia IUSTI Asia Pacific AGM Room TBC	4.30pm– 5.00pm	Discussion	4.30pm- 5.00pm	Discussion
5.00pm- 6.00pm	Chapter Annual Meeting Room 212 Drinks and canapes to be served			-	
5.30pm- 7.30pm	Satellite Session: World Health Organizat Antimicrobial resistance in Neisseria gon Room: 219 and 220 TBC Chairs: Manjula Lusti-Narasimhan and An	ion (WHO) orrhoeae – oina Hança	mitigating the consequences of untreata	ble gonorr	тоеа
6.00pm- 6.15pm	Resistance patterns to third-generation c Magnus Unemo (Sweden)	ephalospo	rins: update of the situation in Europe		
6.15pm- 6.30pm	Resistance patterns to third-generation c David Lewis (South Africa)	ephalospo	rins in Africa		
6.30pm- 6.45pm	Resistance patterns to third-generation c Monica Lahra (Australia)	ephalospo	rins in the Asia-Pacific Region		
6.45pm- 7.00pm	Resistance patterns to third-generation c Ron Ballard (CDC-USA)	ephalospo	rins in the Americas		
7.00pm- 7.10pm	Breaking the chain of transmission to cor Francis Ndowa, WHO Consultant	ıbat antim	iicrobial resistance in Neisseria gonorrhoe	ae	
7.10pm- 7.30pm	Panel Discussion: WHO gonococcal antim Jo-Anne Dillon (Canada), Magnus Unemo (icrobial su Sweden), M	sceptibility surveillance programme (GAS <i>A</i> anju Bala (India), Monica Lahra (Australia)	6	

WEDNE	SDAY 17 OCTOBER				
7.00am	Registration Melbourne Convention Centre, Foyer Plen	lary 3			
7.00am- 8.30am	Penelope Lowe Trainee Update Breakfast	7.00am- 8.25am	Satellite Session - MSD HIV and The Brain	7.00am- 8.30am	Australasian Sexual Health and HIV Nurses Association (ASHHNA) Breakfast Annual General Meeting
	Room: 212 Chair: Dr Carole Khaw, Dr Ian Denham, Dr Lewis Marshall and Dr Sunita Azariah		Room: 219 and 220 Chair: Bruce Brew		Room: 214 Chair: Donna Tilley
7.00am– 7.15am	Arrivals and Breakfast	7.00am– 7.10am	Arrivals and Breakfast	7.00am– 8.30am	Nursing in Remote Aboriginal Communities: Successes and Challenges
7.15am– 7.20am	Chair Introduction Dr Carole Khaw	7.10am- 7.15am	Chair introduction Professor Bruce Brew		Coordinating a Comprehensive Sexual Health Program Ms Annie Таллем Coordinator Sexual
7.20am– 7.35am	Sex or drugs: What's going to kill you first? A Case Study of Harm Minimisation Dr Janet Towns, Forensic Physician, Victorian Institute of Forensic Medicine; Family Planning Australia, VIC, Australia	7.15am- 7.25am	Case presentation Dr Nenad Macesic		Bervice Service
7.35am– 7.50am	Delayed diagnosis of secondary syphilis: Two biopsies and three organs Dr Rohan Bopage, Infectious Diseases and Sexual Health Registrar, Prince of Wales Hospital, Sydney, NSW, Australia	7.25am- 7.50am	HIV and the Brain: Clinical features from go to whoa Dr Edwina Wright		
7.50am– 8.05am	Trichoniasis vaginalis in a prepubescent child with no disclosure of sexual assault - case presentation and literature review Dr Jennifer Hayward, Registrar, Wellington Sexual Health Service, Wellington, New Zealand	7.50am- 8.15am	HIV and the Brain: Implications for cure strategies Professor Sharon Lewin		
8.05am– 8.20am	Anal cancer in HIV positive MSMs: it's time to restart the conversation Dr Jason Ong, PhD Candidate, Prahran Market Clinic, Melbourne Sexual Health Centre, Melbourne, VIC, Australia	8.15am- 8.25am	Q&A		
8.20am– 8.30am	Discussion				
Make wa)	/ to conference opening plenary in Plenary	3 using D	oor 15 and 16 from Level One		

WEDNE	SDAY 17 OCTOBER
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
	Room: Plenary 3, Door 4 on Lower Ground Chairs: Damian Purcell and Prasada Rao
8.30am- 8.35am	Welcome to Country
8.35am-	Opening address by Government Official
8.40am	Hon Davis, Minister of Health, Victoria
8.40am-	The value of being seen and heard
8.45am	Mr Ji Wallace, Silver medalist Olympic Games Sydney 2000
8.45am- 8.50am	ACTION on HIV! - The Melbourne Declaration
8.50am–	An approach to vaccines for highly variable pathogens
9.10am	Professor Dennis Burton, Department of Immunology & Microbiology, The Scripps Research Institute, USA
9.10am–	The Global Fund: Presence and impact in the Asia-Pacific Region
9.30am	Mr Bill Bowtell AO, Executive Director, Pacific Friends of the Global Fund to Fight AIDS, Tuberculosis and Malaria, Sydney, NSW, Australia
9.30am–	The New Era of HIV Treatment as Prevention: Will Behavior Trump Biology?
9.50am	Professor Seth C. Kalichman, Professor of Psychology, University of Connecticut, USA
9.50am–	Prospects for an HIV Cure
10.10am	Professor Steven G. Deeks, Department of Medicine, University of California, San Francisco, SF CA USA
	Billum Project Associate Professor, Damian Purcell, Reader in Virology & Head, Molecular Virology Laboratory, Department of Microbiology and Immunology, University of Melbourne, Parkville, VIC, Australia
10.10am-	Morning Tea in Exhibition and Poster Area
11.00am	Exhibition Hall, Bays 13 - 14
10.15am-	The Kirby Institute and NCHSR Surveillance Reports Launch
10.45am	Room 219 and 220

WEDN	ESDAY 17 OCTOBER				
11.00am- 12.30pm	– Joint Symposium Session: Anal Cancer	11.00am– 12.30pm	Joint Symposium Session: HIV in Indonesia	11.00am- 12.30pm	
	Room: Plenary 3 Chairs: Angela Robinson and Edwina Wright		Room: 219 and 220 Chairs: Yanri Subronto and Stephen McNally		Room: 212 Chairs: Anthony Cunningham and Mina John
11.20am- 11.20am	 Place of screening using cytology and HRA Professor Joel Patelsky, Professor of Medicine Division of Infectious Diseases, University of California, San Francisco, USA 	11.00am– 11.20am	Children are the future: desire of parenthood among HIV-positive people in West Java Mr Inwan Hidayana, Center of Gender and Sexuality Studies, University of Indonesia	11.00am– 11.15am	Development of Nuclear import nhibitors as anti-HIV agents tylie Wagstaff
11.20am- 11.40am	The epidemiology of anal human papillomavirus, pre-cancerous lesions, and cancer: implications for anal cancer screening Professor Andrew Gnulich, Head, HIV Epidemiology and Prevention Program, The Kirby Institute, The University of New South Wales, NSW, Australia	11.20am- 11.40am	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 Dr Jeffrey Grierson, Senior Research Fellow, Charles La Trobe Fellow (Male to Male Sexual Practice in the Asia/Pacific Region), Australian Research Centre in Sex, Mealth & Society, La Trobe University, Melbourne, MC, Australia	11.15am- 11.30am	A mutant Tat protein provides strong protection from HIV-1 infection in numan CD4+ T cells David Harrich
11.40am- 12.00pm	 Screening HIV positive homosexual men with annual anal examinations for annual anal examinations for prim Read sexual health physician 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 Transter Jakarta Dr Ivou Utomo, Australian National University, Canberra, ACT, Australia	11.30am– 11.45am	Reduced effectiveness of the NRTIs D4T and AZT in Astrocytes: Implications for Veurocart Lachlan Gray
12.20pm- 12.20pm	 Should we be screening for anal cancer? Issues to consider Associate Professor Jane Hocking, University of Melbourne, VIC, Australia 	12.00pm- 12.20pm	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 Dr Yogi Prasetia, Medical Doctor, Bali Medika Clinic, Indonesia	11.45am– 12.00pm	Expression of HIV-1 TAT by an internal ibosome entry mechanism reveals a rovel pathway for TAT trans-activation from latent provirus lonathan Jacobson
12.20pm- 12.30pm	- Discussion	12.20pm- 12.30pm	Discussion	12.00pm– 12.15pm 12.15pm– 12.30pm–	Determining the mechanism by which HV blocks interferon induction in Lendritic cells Andrew Harman Mucosal uptake mechanisms of recombinant HV-1 fow poxvirus vaccines and safety Gillowing intranasal delivery Shubhanshi Triveci
12.30pm- 1.30pm	Lunch in Exhibition and Poster Area Exhibition Hall, Bays 13 - 14		-		
1.00pm- 1.45pm	- ASHM AGM Room 212				

WEDNE	SDAY 17 OCTOBER	I		I	
1.00pm-	Embracing innovative technology to impro	ve the h	ealth of Aboriginal and Torres Strait Islande	:r people	
1.45pm	Room: Plenary 3, Door 4 Lower Ground Chairs: Robert Monaghan and Victor Tawil				
1.00pm- 1.15pm	Developing multimedia resources in collab Mr Michael Borenstein, Centre For Disease Cc	oration v ontrol, Se	vith young Aboriginal people to improve s vual Health and Blood Borne Virus Unit, Darwi	exual he a in, NT, Au	Ith in remote and urban Australia stralia
1.15pm- 1.30pm	Smart and Deadly! Community ownership, MsKylie Stephens, Centre for Excellence in Rural Sev	collabor (ual Health	ation, and cultural respect for effective Abo ,,The University of Melbourne, Melbourne, VIC, Aust	riginal se ralia and M	:xual health promotion r Peter Waples-Growe, VACCHO, VIC, Australia
1.30pm- 1.45pm	The NSW Aboriginal Sexual and Reproduct Ms Dina Saulo, Aboriginal Health and Medica	ive Healt I Researc	h Program: Engaging Youth through Innov h Council, NSW, Australia	ation	
2.00pm- 3.30pm	Joint Symposium Session: STI Management in Indigenous Communities 3	.00pm- .30pm	Joint Symposium Session: Financing the HIV Response in the Region 3	2.00pm- 3.30pm	HIV/AIDS Conference - Theme A Symposia: Correlates of protection and a vaccine design
	Room: Plenary 3 Chairs: Nathan Ryder and James Ward		Room: 219 and 220 Chairs: Edward Reis and Heather Worth		Room: 212 Chairs: Damian Purcell and Rob Center
2.00pm– 2.15pm	An outbreak of infectious syphilis amongst 2 young Aboriginal and Torres Strait Islander 3 people in Far North West Queensland Dr Arun Menon, Townsville Sexual Health Service, Queensland Health, JQLD, Australia	.00pm- 30pm	Moderated Panel Discussion 2 Prasada Rao – UNAIDS Special Envoy Asia 2 and Pacific National HIV/AIDS Narciso Fernandes, National HIV/AIDS		Neutralizing targets on HIV Professor Dennis Burton, Department of Immunology and Microbiology, The Scripps Research Institute, USA
2.15pm– 2.30pm	Chlamydia trachmonatis, neisseria gonorrhoea and trichomonas vaginalis incidence in remote Australian Aboriginal communities: Findings from the STRIVE Trial Ms Bromwn Silver, Menzies School of Health Research, NT, Australia		Ministry of Health, Timor Leste David Fowler, Special Projects Officer, ASHM, NSW, Australia		
2.30pm- 2.45pm	Measuring the impact of STI and HIV control stategies experiences from remote communities Prof John Kaldor, Professor of Epidemiology, The Kirby Institute, NSM, Australia		3.2	.30pm- .00pm	Protection from HIV: Potential role of antibody-dependent cellular cytotoxicity (ADCC) antibodies in protective immunity Professor Stephen Kent, Department of
2.45 pm- 3.00 pm	Point-of-care tests for chlamydia and gonorrhoea infections in remote Aboriginal communities: The Test Treat ANG GO-the "TTANGO" Trial Dr Rebecca Guy, Senior Lecturer, The Kirby Institute, NS/W, Australia				Microbiology and Immunology, University of Melbourne, VIC, Australia
3.00pm- 3.15pm	The GOANNA Project: Condom use among young Aboriginal and Torres Strait Islander people MS Dina Saulo, Aboriginal Health and MS Dina Seulo, Aboriginal Health and Medical Research Council, NSW, Australia		<u>m m</u>	3.00pm- 3.30pm	Promising HIV-1 vaccine strategies to enhance mucosal immunity and CDB T cell avidity Dr Charann Rangasinghe, Fellow and Group Leader, Molecular Mucosal Vaccine Immunology Group, The John Curtin
3.15pm- 3.30pm	Discussion				School of Medical Research, Australian National University, ACT, Australia

WEDN	ESDAY 17 OCTOBER
3.30pm-	Afternoon Tea in Exhibition and Poster Area
4.00pm	Exhibition Hall, Bays 13 - 14
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-	Indigenizing HIV
4.30pm	Ms Marama Pala, Executive Director of INA (Mãori, Indigenous & South Pacific) HIV/AIDS Foundation, New Zealand
4.30pm- 5.10pm	Is an AIDS-Free Generation Feasible: Science vs. Reality 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-	Prize Presentations and Closing Remarks
5.20pm	Professor Richard Hillman, President, Australasian Chapter of Sexual Health Medicine, Sydney, NSW, Australia
5.20pm–	Closing Remarks by IUSTI President
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	Dr Nathan Ryder, 2013 Sexual Health Conference Committee Local Representative
5.30pm-	HIV/AIDS Conference Welcome Reception and Poster Viewing Evening
6.30pm	Exhibition Hall, Bays 13 - 14 Drinks and canapes will be served
7.00pm- 11.00pm	IUSTI and Sexual Health Conference Gala Dinner - Peninsula Docklands

ORAL ABSTRACTS – MONDAY



ORAL ABSTRACTS MONDAY 15 OCTOBER 2012

OPENING PLENARY

MONDAY 15 OCTOBER 2012 - 8.30AM-10.00AM

PAPER REF 1233

WILL HERPES EVER BE CURABLE?' A REVIEW OF THE PROBLEMS, THE SCIENCE AND THE REASONS FOR STUDY FAILURE (BUT ALWAYS ADDING MORE TO OUR KNOWLEDGE)

THE GOLLOW LECTURE

Patel R¹

¹University of Southampton, UK

Herpes virus infections are found extensively and appear to infect all vertebrate species. DNA mapping confirms that these viruses are ancient in origin and have co-evolved with their hosts to develop complex lifecycles, exploiting immunologically privileged sites to maintain infection and often rely on social and behavioural host attributes to enhance infectivity. They have generally evolved strategies to maintain infectivity over long periods of time and to usually precipitate non fatal but chronic disease states. Exceptions exist and a number of important animal pathogens are in the herpesviridae group. Non human herpes virus infections have been extensively studied and many insights into viral pathobiology have followed. Human cell, neuronal explant studies as well as work using rodent/rabbit animal models have teased out many of the mechanisms of viral replication, latency and immune evasion.

Clinical studies have also added to our knowledge by determining the epidemiology and clinical range of HSV disease. We now appreciate the similarities (and differences) between HSV-1 and HSV2, and their complex interactions at a population and host level. The important links between HSV infection and HIV transmission have hastened the search for better control of genital HSV infection.

Early attempts at controlling disease concentrated on therapeutic and prophylactic vaccines. Strategies that had worked for other diseases did not appear to for HSV. Work utilising live attenuated or replication defective viruses in animals showed subsequently that high levels of effective immunity could be established with these agents. Outcomes of vaccine trials in man have generally been disappointing although tantalizing glimpses of possible success have been seen. In contrast our ability with vaccines to contol animal herpes virus diseases such as Pseudorabies suggests that despite the challenges an effective human vaccine may still be developed.

Until the 1970s it was generally assumed that herpes infections were impossible to treat safely since potential viral targets were too closely linked to human cell metabolism and host protein synthesis. The development of Aciclovir (ACV) challenged this perception and opened up the search for other safe , more potent and selective antiviral therapies. To date ACV has remained the safest of the antivirals developed for HSV infection. Over 30 years it continues to be trialled in wider areas of HSV care- limiting disease, latency, infectivity and disease acquisition.. More recently its use to limit HIV transmission has also been attempted. Many of these trials have failed and repeating this work with

prodrugs of ACV and penciclovir have not been any more successful. Unravelling the reasons for this have often shed more light on our understanding of herpes virus pathobiology and offered new directions for investigation. It is clear that the current classes of licensed drugs can not achieve complete suppression of viral activity or in early disease limit the levels of latency and subsequent reactivation. The fuller understanding of the HSV genome has identified a number of new target enzymes allowing specific agents to be developed. Early work suggests that these agents are substantially better at controlling viral replication then ACV but selectivity for viral processes and safety in humans remains a principal concern.

PLENARY 1

MONDAY 15 OCTOBER 2012 -10.30AM-12.00PM

PAPER REF 1237 WHAT ARE THE ESSENTIAL AND EFFECTIVE APPROACHES TO STI CONTROL?

<u>Holmes, KK¹</u>

¹University of Washington, IUSTI

Introduction: During the early years of the HIV/AIDS pandemic, the global incidences of other STIs declined as risky sexual behaviors declined and STI control measures improved. However, the advent of combination ART has been accompanied by a resurgence of several STIs in several regions of the world. To the extent these STIs may again promote more efficient sexual transmission of HIV infection, the resurgent STI epidemics attenuate the potential benefits of scaling up ART for HIV prevention and treatment, in addition to increasing the morbidity of the STIs themselves. At a time when global resources and some national resources for STI control are being cut, synergistic clinical and public health strategies and programs are needed, as in renewed support for such programs.

Methods and Results: A large community randomized trial involving implementation of a combination of STI control strategies was undertaken in Latin America; overall results and impact on prevalence of curable STIs were recently published (Garcia PJ, Holmes KK, Carcamo CP, et. al. Lancet. 2012: 379(9821): 1120-1128). Additional results of the methods and out comes of the individual components of the combination intervention are in press or under review and will be presented. These include Condom Social Marketing and Health Communication Campaigns; mobile team outreach to female sex workers; and training programs on Syndromic Management for pharmacy workers and clinicians in public practice. Potential implementations for developing effective local, national, regional and global STI control strategies will be discussed.

Conclusion: Effective tools for curable STIs, as well as for important but not yet curable STIs, currently exist. Strategies for implementing cost effective combination programs for STI control exist, and are feasible and likely adaptable to a variety of settings even in low-income countries.

Support: The PREVEN trial was supported by the Wellcome Trust – Burroughs Welcome Fund Infectious Disease Initiative, a US NIH Center for AIDS Research and CIPRA grant.

PAPER REF 1201 NETWORKS AND STI

Aral S¹

¹Centers for Disease Control and Prevention, Atlanta, GA, USA

Many types of networks affect the epidemiology and prevention of STIs and our understanding of these phenomena. The beginning of the science of networks can be found in mathematics and more recently sociology. The past few years have been marked by the emergence of a new science of networks stimulated by the availability of massive data sets reflecting real-time network connections. This presentation summarizes recent studies of sexual networks; social networks; and patient-provider-health system networks; and discusses determinants and consequences of different types of networks.

PAPER REF 1235

WHAT'S REQUIRED TO MAKE A DIFFERENCE - THE NEED TO UPSCALE STRATEGIES TO ADDRESS SEXUALLY TRANSMITTED INFECTIONS IN AUSTRALIAN ABORIGINAL AND TORRES STRAIT ISLAND COMMUNITIES

<u>Ward J¹</u> ¹Baker IDI

Over the last decade Chlamydia rates have exploded in the Australian population and syphilis and gonorrhoea have escalated among specific population groups, but for Aboriginal and Torres Strait Islander people, these infections have been prevalent at endemic proportions and continue to occur at escalating proportions. At the same time there has been a momentous shift in the number of STI research activities underway in Aboriginal communities, which affirms the epidemic. This new research largely points to a very much hidden epidemic of STIs in urban to remote communities.

However the need to address rates of STIs in Aboriginal communities is often questioned - Do they contribute to the lower life expectancy? Should we be focussing on these when non communicable health issues contribute most to excess morbidity and mortality? What strategies are needed for Aboriginal and Torres Strait islander people to address the problem? Surely if we mass treat everyone- that will fix the problem? While these questions and issues seem complex and difficult to address, there are some advances in our knowledge being made that will contribute to the gap in service and policy and levels that currently exists. Actively engaging in the policy response is one way. Implementing STI indicators relevant to the population, and encompassing cultural and gender as a key focus of our work will surely make a difference.

This presentation will explore these gaps and focus on new strategies that may be required to address the disparity in STI rates between Aboriginal and Torres Strait islander people and non indigenous people.

PROFFERED PAPER SESSION – BACTERIAL VAGINOSIS AND GONORRHOEA MONDAY 15 OCTOBER 2012 – 1.30PM–3.00PM

PAPER REF 416

LACTIC ACID, A NATURAL MICROBICIDE IN THE FEMALE GENITAL TRACT

<u>Aldunate M^{1,2}</u>, Tyssen D¹, Johnson A¹, Latham CF¹, Sonza S¹, Moench T³, Cone R⁴ and Tachedjian G^{1,2} ¹Burnet Institute, Centre for Virology, Melbourne, Australia, ³Monash University, Department of Microbiology, Melbourne, Australia³ReProtect Inc, Baltimore, MD, USA ⁴Johns Hopkins University, Department of Biophysics, Baltimore, MD, USA

Introduction: The vagina contains a ~1% racemic mixture of D- and L-isomers of lactic acid (LA) due to anaerobic glycolysis of epithelial cells and LA-producing bacteria in this hypoxic environment. LA is likely responsible for maintenance of low pH which consequently influences microflora composition. Bacterial vaginosis (BV), an imbalance in the vaginal microflora, is a common condition associated with a decrease in lactobacilli sp. and an increase in vaginal pH. Notably, BV is a major risk factor for sexually transmitted infections, including HIV in women. Our studies show that L-LA has potent broad-spectrum HIV virucidal activity, which is more potent than HCI alone. However, the relative HIV-1 virucidal activities of LA isomers and acetic acid as well as the mechanism of viral inactivation are unknown.

Methods: CCR5-utilizing HIVBa-L and transmitted/founder strains were treated with 0.3% D- and L-LA, and pH4.0 alone for 30 min at 37°C. Samples were subsequently neutralized and viral infectivity determined in TZMbl cells. Anti-HIV activity of 1% L-LA compared to 1% acetic acid and HCl alone was also determined in a time course experiment. The impact of LA on HIV-1 particles was determined by detection of viral proteins by Western blot.

Results: At pH 4.0, 0.3% L-LA was 17-fold more potent at inactivating HIVBa-L than 0.3% D-LA. 1%L-LA (pH 3.8) rapidly inactivated HIVBa-L mediating a 10,000-fold reduction compared to 1000-fold and <10-fold for acetic acid and HCl (pH3.8), respectively. No loss of gp120 envelope or disruption of viral particles was observed.

Conclusion: L-LA has more potent HIV-1 virucidal activity compared to D-LA at threshold concentrations suggesting a stereospecific-mechanism against viral protein and is more potent than acetic acid and HCl alone. These data suggest that using L-LA to acidify microbicide formulations could potentially provide greater protection against HIV-1.

PAPER REF 182

A PILOT STUDY TO PROPOSE DISK DIFFUSION INTERPRETATION BREAKPOINTS FOR GENTAMICIN SUSCEPTIBILITY TESTING OF NEISSERIA GONORRHOEAE

<u>A/Prof Manju Bala¹</u>, Mr. Vikram Singh¹, A/Prof Seema Sood², Miss Monika Kakran¹, Prof V. Ramesh¹ ¹ Apex Regional STD Teaching, Training & Research Centre, VMMC & Safdarjung Hospital, ² Department of Microbiology, All India Institute of Medical Sciences, New Delhi, India

Background: The development of multi-drug resistant (MDR) and extensively-drug resistant (XDR) *Neisseria gonorrhoeae* (*N. gonorrhoeae*) imposes the threat of untreatable gonorrhea in future. New therapeutic options are limited and gentamicin is an alternative for future treatment. However, standard antimicrobial susceptibility testing guidelines do not have interpretation criteria for the disk diffusion test results of gentamicin. The objectives were to investigate the in vitro activity of gentamicin by MIC testing and disk diffusion method and to propose tentative interpretation breakpoints by disc diffusion technique.

Methods: A prospective study was undertaken to analyze the antimicrobial susceptibility of gentamicin between August 2010 and May 2012. Eighty *N. gonorrhoeae* strains including 71 consecutive clinical isolates, ATCC 49226 and eight WHO reference strains were tested using both methods. MIC interpretative criteria for susceptible, intermediate and resistant category were ≤ 4 , 8-16 and $\geq 32 \mu g/ml$ respectively. The relationship between MIC and inhibition zone diameter (ZD) was determined by linear regression analysis and correlation coefficient (r) was calculated.

Results: Gentamicin MICs for the quality control strains were within published ranges. Inhibition ZD ranged from 18 to 28 mm (median 23 mm). The corresponding MIC values ranged from $\leq 0.5 - 4\mu$ g/ml indicating all the isolates were susceptible to gentamicin. An acceptable linear correlation between both the test methods was achieved (r = -0.86). The regression equation was y = 11.17 - 0.36x. All MDR strains (64.8%) and strains having decreased susceptibility to extended-spectrum cephalosporins (11.3%) were susceptible to gentamicin.

Conclusion: This is the first study investigating gentamicin disc diffusion breakpoints against *N. gonorrhoeae* and suggests a cutoff ZD of \geq 18 mm as an indicator of susceptibility before the discovery of resistant strains. Our findings suggest that in resource-poor settings where MIC testing is not a feasible option, the disk diffusion test will give an indication of likely gentamicin resistance.

Disclosure of Interest Statement: Apex Regional STD Teaching, Training & Research Centre is *funded by the* Safdarjung Hospital, New Delhi. *No pharmaceutical grants were received in the development of this study.*
BEHAVIOURAL AND CONTRACEPTIVE FACTORS ASSOCIATED WITH BV RECURRENCE IN PARTICIPANTS ENROLLED IN A RANDOMIZED CONTROLLED TRIAL

Bradshaw C^{1,2,3} Vodstrcil L^{1,2}, Hocking J⁴, Law M⁵, Pirotta M⁶, Garland S^{7,8}, Deguingand D¹, Morton A², Morrow A², Fairley C^{1,2}

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Background: BV recurrence following current recommended antibiotic therapies is common, yet whether recurrence is due to persistent infection or reinfection is unknown. We present a detailed analysis of behavioural and contraceptive factors associated with BV recurrence in women enrolled in a large randomized controlled treatment trial.

Methods: Symptomatic 18-50 year old females with BV (Nugent score 7-10 or \geq 3 Amsel criteria) were enrolled in a 3-arm randomised double-blind placebo-controlled trial at Melbourne Sexual Health Centre, Australia, in 2009-10. 450 participants received 7 days of oral metronidazole and were equally randomized to one of 3 groups: vaginal clindamycin (1g 2% nocte,7 days), vaginal probiotic (12 days) or vaginal placebo (12 days), and completed a detailed questionnaire. At 1,2,3 & 6 months participants self-collected vaginal swabs and slides and completed questionnaires. Principle outcome was a Nugent score of 7-10. Cox regression was used to estimate hazard ratios for risk of BV recurrence associated with baseline and longitudinal characteristics allowing for repeated measures from participants. Univariate and multivariate analyses were stratified for treatment group.

Results: 404 (90%) women provided post-randomization data and were included in this analysis. Cumulative 6-month BV recurrence was 28%; (95%Cl 24-33%) with no difference between treatment groups, p=0.82. BV recurrence was associated with having the same sexual partner pre- and post-treatment (RSP) [Adjusted Hazard Ratio (AHR)=1.8 95%Cl 1.2-2.9], being born outside Australia (AHR=1.6; 1.0-2.1), and using an oestrogen-containing method of contraception (AHR=0.5; 0.4-0.8), and was adjusted for frequency of sexual activity. Lack of condom use showed a trend towards an association with recurrence (AHR=1.7; 0.9-3.0).

Conclusion: In this clinical trial combination oral and vaginal treatments did not alter BV recurrence rates above oral metronidazole; however, exposure to the same RSP pre- and post-treatment increased the risk of BV recurrence and use of an oestrogen-containing contraceptive halved the risk of recurrence.

BACTERIAL VAGINOSIS AS A RISK FACTOR FOR ACQUIRING SEXUALLY TRANSMITTED DISEASES

Kimbowa P 1

¹Centre for HIV, STD & TB Prevention

Background: Few studies have demonstrated that Bacterial vaginosis (BV) is associated with sexual behavior risk factors similar to those for other sexually transmitted diseases. In the present study, the prevalence of these in a multivariate analysis of data from sexually active women infected with BV and either Chlamydia trachomatis (CT), Treponema pallidum (syphilis), Neisseria gonorrhea (NG) or HIV was observed. Non-BV infected women were used as control subjects.

Methods: Data from 788 women screened in the SAVVY HIV gel phase III clinical trial in Kampala from 2009 to 20011 were analyzed, Participants were evaluated for the presence of BV, CT, Treponema pallidum (PT), NG, Trichomonas vaginalis (TV) and Human Immunodeficiency Virus (HIV), and interviewed in detail with respect to sexual behaviors after consent forms were signed. Statistical comparisons were made using t-test, chi-squared test (Pearson) arid logistic regression multivariate analysis.

Results: This study has shown a high association between BV and HIV (P< 0.01) with risk factor (0.4), which does not occurred in the other sexually transmitted diseases like NG, syphilis and Chlamydia with insignificant association (P< 1) and risk factors (0.6, 0.7, 0.9) respectively. HIV was found to be the most prevalent sexually transmitted disease with 11.2%, Chlamydia 9.2%, TV 2.3%, Syphilis 1.7% and NG the least with 1.5%. Also, BV and candidiasis were found to be the commonest cause of vaginitis in these women. We also observed mixed-infection of the organisms that cause vaginitis in these women.

Conclusions: Bacteria associated with bacterial vaginosis increase female genital-tract infection of HIV but the mechanism by which this happens is not clear. Bacterial vaginosis is not a sexually transmitted disease but predisposes one to HIV infection. It is strongly suggested that all cases of BV both symptomatic and asymptomatic that are presented in the sexual-health clinics should be treated to reduce the risk of PID, preterm delivery, and /or HIV transmission. Also, sexually active-and pregnant-women should be encouraged to frequently visit sexual-health clinics for BV screening and treatment.

CLINICAL STUDY DEMONSTRATES EFFICACY AND SAFETY OF SPL7013 GEL (VIVAGEL®) FOR THE TREATMENT OF BACTERIAL VAGINOSIS

Paull J¹, Price C¹, Edmondson S¹, Barnes A², Kinghorn G³

¹ Starpharma Pty Ltd, ² Theorem Clinical Research Pty Ltd, ³ Royal Hallamshire and Sheffield Teaching Hospitals

Introduction: SPL7013 is a drug with activity against HIV, HSV, HPV, and bacteria associated with bacterial vaginosis (BV). This clinical study assessed efficacy and safety of SPL7013 Gels for treatment of BV.

Methods: This was a phase 2, multicentre, double-blind, placebo-controlled study in women with BV diagnosed by presence of 4 Amsel criteria and Nugent score \geq 4. Patients were randomised to 0.5%, 1% or 3% SPL7013 Gel or hydroxyethyl cellulose (HEC) placebo gel administered once daily for 7 days. The primary endpoint was Clinical Cure (resolution of Amsel criteria) at Test of Cure (TOC), 2-3 weeks after last dose (Day 21-30). Genitourinary (GU) adverse events (AEs) were assessed via pelvic exam and actively solicited. Statistical significance was achieved if p<0.048 (O'Brien-Fleming adjusted significance level) compared with placebo.

Results: 132 patients were enrolled (33 placebo, 99 SPL7013 [32 at 3%, 33 at 1%, and 34 at 0.5%]). At TOC, 46% of patients receiving 1% SPL7013 Gel achieved Clinical Cure compared with 12% using placebo (p=0.006). Statistically significant Clinical Cure was not achieved in 0.5% or 3% SPL7013 Gel groups at TOC. At TOC, 22% of patients receiving 1% SPL7013 Gel, compared with just 4% using placebo, had normalisation of Nugent score. In patients with resolution of symptoms, time to resolution was markedly shorter for patients receiving SPL7013 Gels compared with placebo. Satisfaction with and acceptability of 1% SPL7013 Gel treatment was high compared with placebo. There were no differences in rates of GU or non-GU AEs between the groups.

Conclusion: 1% SPL7013 Gel (VivaGel®) once daily for 7 days led to Clinical Cure of BV and resolution of symptoms at TOC. All gels were safe and well tolerated and comparable with placebo. 1% SPL7013 Gel represents a promising new therapy for treatment of BV.

Disclosure of Interest Statement: J Paull, C Price and S Edmondson are full time employees of Starpharma Pty Ltd and were involved in the design, conduct and analysis of the study. A Barnes is an employee of Theorem Clinical Research Pty Ltd, which was paid by Starpharma Pty Ltd to conduct the study and analyze results. G Kinghorn was a consultant to Starpharma Pty Ltd and received payment for provision of expert medical advice.

RETHINKING GONOCOCCAL ANTI-MICROBIAL SURVEILLANCE IN THE ERA OF CEFTRIAXONE RESISTANCE: PCR-BASED DETECTION OF NEISSERIA GONORRHOEAE STRAINS OF PUBLIC HEALTH IMPORTANCE

Goire N¹, Ohnishi M², Limnios AE³, Lahra MM³, Nissen MD¹, Sloots TP¹, <u>Whiley DM¹</u> ¹QPID Laboratory, QCMRI, The University of Queensland, ²National Institute of Infectious Diseases, Tokyo, Japan, ³WHO Collaborating Centre for STD, Prince of Wales Hospital, Sydney, Australia;

Introduction: Recent emergence of the ceftriaxone-resistant *Neisseria gonorrhoeae* H041 and F89 strains in Japan and Europe respectively raise concerns that gonorrhoea may soon become untreatable. Further spread or emergence of these extensively drug-resistant strains of *N. gonorrhoeae* in other parts of the world is of global concern. Enhancing antimicrobial resistance surveillance (AMR) strategies to advance detection of such strains is a public health priority.

Methods: We have developed PCR-based methods for direct detection of *N. gonorrhoeae* alterations associated with reduced susceptibility to ceftriaxone, including those exhibited by the H041 and F89 strains. The methods target specific regions on the gonococcal *penA* gene. The performance characteristics of these methods were assessed using a panel of pathogenic and commensal *Neisseria* species. The methods were then applied to non-cultured clinical specimens submitted for sexual health screening.

Results: Based on the results of the Neisseria species panel, the methods developed for detection of the H041 and F89 strains have proved highly specific. To date, the H041 and F89 strains have not been detected in any samples obtained in the Australian population.

Conclusions: These studies highlight that PCR methods can be readily developed for strain-specific detection of gonococci of public health importance. The methods could be used to rapidly pinpoint incursion of resistant strains into previously unaffected populations and enhance culture-based AMR surveillance. Development and testing is ongoing.

PROFFERED PAPER SESSION - NEW TESTING STRATEGIES, FROM LAB TO THE REAL WORLD MONDAY 15 OCTOBER 2012 -1.30PM-3.00PM

PAPER REF 759 LABORATORY EVALUATION OF FIVE POINT-OF-CARE TESTS FOR THE DIAGNOSIS OF SYPHILIS

Dr Louise Causer¹, Mr Tawarot Kurumop², Mr Theo Karapanagiotidis³, Dr Claire Ryan², Dr Handan Wand¹, Dr Damian Conway¹, Dr Ian Denham⁴, Dr David Anderson⁵, Mary Garcia⁵, Dr Peter Robertson⁶

¹ The Kirby Institute, University of New South Wales, ² PNG Institute for Medical Research (IMR), ³Victorian Infectious Diseases Reference Laboratory (VIDRL), ⁴ Melbourne Sexual Health Centre (MSHC), Carlton, VIC, ³ The Burnet Institute, ⁶ SEALS Area serology Laboratory, Prince of Wales Hospital, ⁷ Sydney Sexual Health Centre (SSHC), ⁸ School of Population Health, University of Melbourne

Introduction: Syphilis point-of-care (POC) tests may reduce morbidity and ongoing transmission by increasing the proportion of people treated. We assessed the performance of five syphilis POC devices: three (Determine TP, CTK Biotech Syphilis, and SD Bioline 3.0) detect treponemal antibody only, the Burnet prototype IgM detects syphilis IgM antibody and the Chembio dual test separately detects treponemal and non-treponemal antibodies, and should be able to differentiate active from past treated infection.

Methods: Tests were evaluated using sera stored at Sydney and Melbourne laboratories. Sensitivity and specificity were calculated by standard methods, comparing POC results to *Treponema pallidum* particle agglutination (TPPA) results. Rapid plasma reagin (RPR) results were used to categorise the TPPA reactive specimens as active (RPR≥1:8, TPPA reactive) or past/treated syphilis (RPR nonreactive, TPPA reactive).

Results: In total, 1241 specimens were tested (773 TPPA reactive, 468 TPPA nonreactive). POC test sensitivities against TPPA reactivity were: Determine (97.1%, 95%CI:95.6-98.1), CTK Biotech (91.3%, 89.0-93.2), Chembio (88.3%, 85.7-90.4), SD (86.3%, 83.6-88.6), and Burnet (48.2%, 44.6-51.8). POC test specificities were: Determine (97.2%, 95.2-98.4), CTK Biotech (97.2%, 95.2-98.4), Chembio (98.3%, 96.5-99.2), SD (98.5%, 96.8-99.3), and Burnet (79.1%, 75.0-82.6). POC test sensitivities were higher for 408 active syphilis infections than for 228 past/treated infections but the ranking of tests did not change. The Chembio dual test against RPR and TPPA reactivity correctly identified 36% of past/ treated cases and 94% of active cases.

Conclusion: One syphilis POC test had very high sensitivity compared to TPPA, with three others having good sensitivity, and all had somewhat better sensitivity in active infection. Four tests showed very high specificity. The Chembio test was able to differentiate over a third of past infections from those requiring treatment thus having the potential to reduce over-treatment in high prevalence settings.

AN OVERVIEW OF SUCCESSFUL LARGE-SCALE AUTOMATED CASE DETECTION: ASSISTING PUBLIC HEALTH WITH THE IDENTIFICATION OF REPORTABLE CONDITIONS

Dr Judy Gichoya^{1,2,5}, Dr Shaun Grannis^{2,3,4}

¹REACH Informatics, ² Regenstrief Institute, ³ Indiana Center of Excellence in Public Health Informatics, ⁴ Indiana University School of Medicine, ⁵Indiana University School of Informatics

Introduction: Sexually transmitted Infection (STIs) form the bulk of diseases of public health interest. To optimally manage these diseases within a community, the true disease burden must be ascertained from information from various clinical processes. Clinical information is highly variable across and within organizations; and is often incomplete. There is under reporting, and the reporting requirements vary with time and geography. Health Information Technology offers an opportunity to improve surveillance of STI/Ds.

Methods: We leveraged the use of existing clinical data flows within the Indiana Health Information Exchange (INPC) to augment public health reporting to minimize the need for human intervention in reporting and standardize the heterogeneous data to facilitate computer inspection. The INPC was started in mid-1990, and connects more than 80 hospitals, clinics and labs with records of more than 11 million patients.

We implemented an open source notifiable condition detector in place for the last 13 years to process all incoming HL7 messages to identify potentially reportable conditions. These are mapped to LOINC, and compared to the table of reportable conditions with normal values, string comparators and a natural language processing engine. These reports are then sent as a batch to public health and infection control.

Results: The system had 97 % completeness in reportable conditions compared to health departments (19%) and hospitals (24%). Cases were identified 7.9 days earlier than spontaneous reporting. HIV, Chlamydia (and Hepatitis B are the 3 common STIs in the state. HIV comorbidities include Hepatitis C (4%), A (4%) and B (2.5%), HSV type 2, Syphilis and Salmonella.

Conclusion: Information about disease burden is required to manage STI/Ds. The extensive adoption of Health IT increases the information available from clinical care. We discuss a novel strategy utilizing such systems for public health reporting to improve STI/D surveillance in a health Information Exchange.

POINT-OF-CARE TESTING IMPROVES ACCURACY OF STI CARE IN AN ED

Dr. Jill Huppert^{1,} Ms. Regina Taylor², Dr. Jennifer Reed²

Cincinnati Children's Hospital Medical Center, Division of Gynecology ¹: Division of Emergency Medicine, ² Cincinnati, Ohio

Introduction: Accurate sexually transmitted infection (STI) care in an emergency department (ED) requires providers to balance the risk of missed diagnosis with under-treatment for the patient, and to consider the potential for antibiotic resistance. We sought to estimate the impact of a point-of-care (POC) test on over and under treatment by comparing practice patterns for gonorrhea (detected with nucleic acid amplification testing (NAAT)) to trichomoniasis (detected by POC test) for young women seen in an ED.

Methods: We retrospectively reviewed a database created for an ongoing quality improvement project that aims to improve follow-up care for STIs in our ED. Data included any ED visits by women age 14-21 where an STI test was ordered, the test result and antibiotic given. We generated control charts to display results over time, and compared over and under treatment rates for gonorrhea to trichomoniasis.

Results: The dataset included 1290 women with complete data; 8% had gonorrhea and 15% had trichomoniasis. Empiric treatment was common and did not change over time. Overtreatment was higher for women with gonorrhea than trichomoniasis (54.4% vs. 23%, p<.001). Under treatment was higher for women with gonorrhea than trichomoniasis (30.7% vs. 21%, p<.04). Over and under treatment for trichomoniasis was higher than anticipated given a POC test with results in 10 minutes. Investigation revealed that system issues required the test to be sent to the main lab, with a real-world turnaround time of 30-90 minutes.

Conclusion: A POC test improves the accuracy of STI care in an ED setting compared to standard NAAT testing. The POC test reduced both over and under treatment, even in a clinical setting with a longer than anticipated turnaround time. Given the ability of gonorrhea to develop antibiotic resistance, future efforts should focus on development of a quick and accurate POC test for gonorrhea.

Disclosure of Interest Statement: JSH has received honoraria from Genzyme Diagnostics; other authors have received no contributions relevant to this work.

TARGETED COMMUNITY SCREEN, ROUTINE HEALTH CENTRE TESTING OR BOTH: AN EVALUATION OF STRATEGIES IN AN ENDEMIC SETTING

<u>Ms Bronwyn Silver</u>^{1,2} Ms Rebecca Guy², Mr James Ward ^{2,3}, Ms Alice Rumbold ^{1,4}, Mr Nathan Ryder ⁵, Mr Jiunn-Yih Su ^{1,5}, Ms Teem-Wing Yip^{5,6}, Ms Belinda Davis ⁵, Mr John Kaldor ²

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Introduction: Bacterial sexually transmissible infections (STI) are endemic in many remote central Australian Aboriginal communities. In response, targeted community STI screens were undertaken annually over an eight-week period during 2003-2010. Health centres also offer testing routinely throughout the year. We compare these strategies (targeted annual screen and routine test) to guide future STI programs in endemic areas.

Methods: All STI test results were collated in an Alice Springs Centre for Disease Control database. Gonorrhoea and chlamydia test results from Aboriginal people aged 14–34 years in 21 remote primary health care centres during 2006-2009 were analysed to examine who accessed either or both screening strategies.

Results: From 2006-2009, 9704 tests were conducted in 2885 people, of these 53% were women. Of all people tested in any strategy in 2009, 49% were tested in the targeted annual screen only, 29% in the routine test strategy only and 22% were tested in both strategies. Almost 60% of males were tested in the targeted annual screen only, 23% in routine test only and 17% were tested in both strategies. Of all people aged <25 years, 51% were tested in the targeted annual screen only, 26% in routine test only and 23% were tested in both strategies. Testing outcomes were similar in previous years examined. In 2009, chlamydia and gonorrhoea positivity was 21% and 15% in the targeted annual screen and 11% and 14% in routine testing, respectively. Positivity varied across years.

Conclusion: A substantial proportion of people were tested in the targeted annual screen only, particularly young people and males. Offering a combination of screening strategies may maximise testing coverage and detection of infections in this endemic setting. The additional resources required to sustain this combined approach would however need to be weighed up against the public health benefits.

ANALYTICAL PERFORMANCE OF GENEXPERT® CT/NG, THE FIRST REAL-TIME PCR POINT-OF-CARE ASSAY FOR THE DETECTION OF CHLAMYDIA TRACHOMATIS AND *NEISSERIA GONORRHOEAE*

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¹The Royal Women's Hospital, Melbourne, Australia; ²Department of Obstetrics and Gynaecology, University of Melbourne, Melbourne, Australia; ³Murdoch Childrens Research Institute, Melbourne, Australia; ³WHO Collaborating Centre for Gonorrhoea and other STIs, Orebro, Sweden; ³WHO Collaborating Centre for STD Australia; Prince of Wales Hospital, Sydney, Australia; ⁴Kirby Institute University of New South Wales; Sydney, Australia.

Introduction: Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) point-ofcare tests have the potential to provide more timely treatment in remote settings. The GeneXpert (GX) CT/NG Assay is the first nucleic acid based test for the automated and rapid detection of these infections. We evaluated the analytical sensitivity and specificity of this assay using characterized bacterial strains in Australia.

Methods: Analytical sensitivity was determined using a quantitated target to determine the lower limit of detection. Extracted DNA from 15 CT serovars including the Swedish variant, as well as 128 characterized clinical *Neisseria* isolates, including 10 gonococal and 118 non-NG *Neisseria* species from two reference laboratories was examined.

Results: All 15 serovars of CT were detectable down to 10 copies per reaction, giving a CT sensitivity of 100% (95%CI:78.2-100%). GX CT/NG assay was able to detect the Swedish new variant at the same analytical sensitivity. All 10 NG isolates were also detectable down to 10 copies per reaction, giving a NG sensitivity of 100% (95%CI:69.2-100%). All 118 non-NG *Neisseria* isolates were negative for NG on GX CT/NG assay, giving a NG specificity of 100% (95%CI:96.9-100%). Three of the 11 *N. mucosa* strains and one of the 27 *N. subflava* strains tested showed positivity for one of the two NG targets. As the NG assay requires positivity by both targets, these results were interpreted as negative.

Conclusion: This laboratory evaluation demonstrated the GX CT/NG assay to be analytically highly sensitive and specific for detection of CT and NG. The assay has two targets for NG which will allow reporting positive results with more confidence and without the need to perform a supplementary assay

PAPER REF 512 DETECTION OF SYPHILIS IGM USING DRIED BLOOD SPOTS

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Introduction: Dried blood spots are known to be a useful method of sample collection for serological studies in numerous diseases. We have developed a procedure for using dried blood spots (DBS) to measure anti-treponemal IgM antibodies as a marker of active syphilis, using a commercial enzyme-linked immunosorbent assay (ELISA). Our objective is to apply this method in a longitudinal study to estimate the prevalence of active syphilis among a representative sample of prisoners in Fiji.

Methods: The DBS extraction method was optimized by modification of established DBS methods for measles IgM, and the syphilis IgM ELISA procedure was modified to provide an accurate ELISA cut off value for DBS. The optimized procedure was tested on 32 dried blood spots prepared from syphilis IgM positive (n=12, mixed titre performance panel) and IgM negative (n=20) sera reconstituted with packed red blood cells.

Results: Using the DBS extraction method in conjunction with the modified ELISA and cut off factor derived from the study, we were able to correctly identify 12/12 syphilis IgM positive (sensitivity 100%) and 19/20 syphilis IgM negative (specificity 95%) reconstituted blood spots.

Conclusion: Our study shows that dried blood spots have the potential to provide a cost effective and convenient sample collection method for syphilis seroprevalence studies. The DBS can potentially be used for testing both HIV and syphilis prevalence in remote or resource constrained settings where access to refrigeration is limited and specimen transport can take days.

PROFFERED PAPER SESSION - ADDRESSING SEXUAL RISK AND STI AMONG MEN WHO HAVE SEX WITH MEN MONDAY 15 OCTOBER 2012 - 1.30PM-3.00PM

PAPER REF 716

INCIDENCE OF SYPHILIS REINFECTION IN MSM IN VICTORIA, AUSTRALIA

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Introduction: Between 2000 and 2007, Victoria Australia experienced a resurgence of infectious syphilis among men who have sex with men (MSM). About half these cases were in HIV positive MSM and reinfection is common. In response, high MSM caseload clinics in Victoria implemented strategies to increase routine syphilis testing for MSM. We assessed syphilis reinfection incidence in MSM by HIV status following a primary infectious syphilis diagnosis at three Victorian clinics.

Methods: Laboratory syphilis testing data from January 2007 to December 2011 for three high MSM-caseload clinics in the Victorian Primary Care Network for Sentinel Surveillance on BBVs and STIs were analysed. Tests in individuals performed <60 days after a syphilis diagnosis were excluded. Syphilis reinfection incidence was estimated using the person time method and poisson regression to assess time trends. Reinfection was defined as a significant increase in non-treponemal titre in a previously infected individual.

Results: Among 455 HIV negative MSM diagnosed with syphilis retesting between January 2007 to December 2011occurred 1168 times; the proportion tested >once a year (45.6%) did not change over time (p=0.14); 37 (3.2%) retests were reinfection. Overall reinfection incidence of 7.0 per 100 person years (PY) was stable over time (p=0.13). Among 292 HIV positive MSM diagnosed with syphilis, retesting occurred 2161 times. The proportion tested three or more times (50.9%) a year did not change (p=0.56); 74 (3.4%) tests were reinfection, and reinfection incidence declined by 42.1%, from 21.4 in 2007 to 9.4 per 100 PY in 2011 (p<0.001).

Conclusion: Syphilis reinfection rates declined among HIV positive MSM from 2007 to 2011 suggesting the strategy of increasing routine syphilis testing at three MSM-focussed clinics may in part have been successful. However high reinfection rates continue; both ongoing and new prevention strategies are needed to further reduce repeated syphilis transmission in MSM.

INCREASES IN THE COMPREHENSIVENESS OF STI TESTING AMONG GAY MEN IN MELBOURNE AND SYDNEY: FINDINGS FROM THE GAY COMMUNITY PERIODIC SURVEYS, 2003-2011

<u>Dr Martin Holt</u>³, Mr Peter Hull ¹, Dr Limin Mao ¹, Dr Rebecca Guy ², Dr Iryna Zablotska ², A/Prof Garrett Prestage ², Prof John De Wit ¹

¹ National Centre in HIV Social Research, ² The Kirby Institute

Introduction: Since 2005, Australian guidelines for sexually transmissible infection (STI) testing have recommended that all sexually active gay and bisexual men be tested annually for a range of STIs. However, men may not request or be offered the full range of tests.

Methods: We analysed data from the Melbourne and Sydney Gay Community Periodic Surveys (GCPS) in 2003-2011. The GCPS are annual, cross-sectional surveys of men attending gay venues, events and clinics. We identified men who reported any STI test and comprehensive testing (≥4 different tests from: anal swab, throat swab, urine test, blood test other than HIV) in the six months prior to survey. Chi-square tests for trends were performed. Multivariate logistic regression identified associations with comprehensive testing in 2011.

Results: Responses from 21,409 participants were included. Most (90.4%) identified as gay; 68.7% were Anglo-Australian; mean age was 37.0 years (s.d.=10.7). Between 2003 and 2011, the proportion of men reporting any STI test increased from 47.5% to 58.3% (p<0.001). The biggest increase was in anal swab testing (23.7-45.3%, p<0.001). Men reporting comprehensive testing increased from 17.4% to 40.5% (p<0.001). The likelihood of comprehensive testing was associated with age (adjusted odds ratio [AOR]=0.97, 95%Cl=0.96-0.98), being HIV-negative (AOR=6.65, 95%Cl=4.33-10.22) or HIV-positive (AOR=13.10, 95%Cl=8.03-21.36) vs. untested, unprotected anal intercourse with casual partners (AOR=1.23, 95%Cl=1.00-1.51), number of male sex partners (AOR=1.81, 95%Cl=1.66-1.98), spending all free time with gay men vs. none (AOR=2.76, 95%Cl=1.20-6.38) and Year 12 vs. university education (AOR=0.70, 95%Cl=0.55-0.88).

Conclusion: There have been significant improvements in the proportions of men in Melbourne and Sydney reporting any STI testing and comprehensive testing. However, comprehensive testing remains much less likely than having any STI test. Opportunities are being missed to test men for a range of STIs using a range of sampling methods, which means infections are likely to be missed.

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 Gay Community Periodic Surveys are funded by state and territory health departments.

FACTORS RELATED TO CONDOM USE DURING ANAL INTERCOURSE WITH CASUAL PARTNERS AMONG YOUNGER GAY AND BISEXUAL MEN IN NEW ZEALAND; RESULTS FROM NATIONAL SOCIOBEHAVIOURAL SURVEILLANCE (2006-2011)

<u>Mr Nathan Lachowsky</u>^{1,2} Dr Peter Saxton ², Dr Nigel Dickson ³, Dr Anthony Hughes ⁴, Dr Cate Dewey ¹, Dr Alastair Summerlee ¹

¹University of Guelph, Canada, ² AIDS Epidemiology Group, University of Otago, New Zealand, ³ New Zealand AIDS Foundation

Introduction: The objective was to conduct New Zealand's first investigation into condom use with casual partners during receptive anal intercourse (casRAI) and insertive anal intercourse (casIAI) among younger gay, bisexual, and other men who have sex with men aged 16-29 (YMSM).

Methods: The study included 3,052 YMSM from the Gay Auckland Periodic Sex Survey and Gay men's Online Sex Survey: 2006-2011 rounds. Factors associated with high condom use (HCU: "always" or "almost always" used condoms in <6 months) for casRAI and casIAI were identified with backward stepwise multivariate logistic regression retaining at p<0.05; [adjusted OR (95%CI)] are presented.

Results: Of 1,508 YMSM who reported casRAI, 73.7% reported HCU. For casRAI, HCU increased for older age [per year: 1.05 (1.00-1.10)], having a tertiary degree or higher [1.79 (1.24-2.58)], and more sexual partners in <6 months [e.g. 11-20 versus one: 3.93 (2.01-7.68)]. HCU decreased for Pacific Islander ethnicities [compared to European/Pākehā ethnicities: 0.35 (0.17-0.71)].

Of 1,512 YMSM who reported casIAI, 76.1% reported HCU. For casIAI, HCU increased for having tested for HIV in <12 months [1.64 (1.20-2.24)] and having two sexual partners versus one in <6 months [1.81 (1.05-3.13)]. HCU decreased for having had sex with a woman in <6 months [0.65 (0.45-0.94)].

For both casRAI and casIAI, HCU was negatively associated with not having a regular partner (versus reporting a boyfriend) [casRAI: 0.12 (0.03-0.48) and casIAI: 0.03 (0.00-0.29)]. HCU was also associated with multiple attitude measures on condom use [e.g. disagreement that "I would rather risk HIV than use a condom" for casRAI: 4.04 (2.75-5.93) and for casIAI: 2.94 (2.03-4.26)].

Conclusion: Factors associated with HCU with casual partners differed by anal modality, mostly by behaviors and attitudes, and by select sociodemographics only for casRAI. Understanding these factors among YMSM in New Zealand can inform future health promotion and 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.

QUEER AS F**K: REACHING AND ENGAGING GAY MEN IN SEXUAL HEALTH PROMOTION THROUGH SOCIAL NETWORKING SITES

Ms Alisa Pedrana^{1,2} Dr Mark Stoove^{1,2}, Mr Jason Asselin³, Mr Colin Batrouney³, Dr Shanton Chang⁴, Professor Steve Howard⁴, Ms Olivia Ilic⁵, <u>Professor Margaret Hellard^{1,2}</u>

¹Burnet Institute, Centre for Population Health, Melbourne, Australia, ²Monash University, Department of Epidemiology and Preventive Medicine, Melbourne, Australia ⁻Victorian AIDS Council/Gay Men's Health Centre, Health Promotion, Melbourne, Australia, ⁴Melbourne University, Information Systems, Melbourne, Australia, ³XMachine, Melbourne, Australia.

Introduction: The popularity, interactivity and potential to create and engage communities makes social networking sites (SNS) an ideal platform for health promotion. However few health promotion interventions using SNS have been trialed and even fewer rigorously evaluated. 'Queer as F**k' (QAF) began as pilot project (2010) to deliver sexual health promotion through short webisodes on SNS to gay men. Now in its 6th season, QAF is among the most successful attempts internationally to exploit the enormous health promotion potential of social media. We present a process evaluation covering the first five series of QAF.

Methods: Adapting evaluation methods from the health promotion, information systems and creative spheres, this process evaluation incorporated a) website insight statistics, b) focus groups with users, and c) qualitative content analysis of online dialogue between users to assess intervention reach, acceptability and engagement.

Results: From April 2010 – April 2012, over 70 QAF webisodes delivered on Facebook and YouTube attracted over 4,600 predominantly male fans from 15 countries.

These webisodes have accumulated over 100,000 views; ranging from 124-21,666 views per episode. Approximately 200 unique users engage with QAF on a weekly basis resulting in over 450,000 posts. Evaluation participants supported the balance of education and entertainment and accurately recalled sexual health themes from the videos. They indicated that QAF offered on going sexual health reminders and reported the SNS initiative delivered sexual health messages in an engaging, informative and accessible manner.

Conclusion: While many groups are using SNS for health promotion, an overwhelming majority are not effectively exploiting SNS functions to engage target audiences. QAF has emerged as a successful example of exploiting the reach and engagement potential of SNS, and provides a model for delivering and evaluating health promotion interventions on SNS.

Disclosure of Interest Statement: This project was funded by the Victorian Department of Health.

WHAT FACTORS ARE ASSOCIATED WITH AZITHROMYCIN RESISTANT TREPONEMA PALLIDUM IN SYDNEY, AUSTRALIA?

<u>Dr Phillip Read</u> ^{1,2} Dr Neisha Jeoffreys ³, Professor Lyn Gilbert ³, Professor Basil Donovan ^{1,2} ¹ Sydney Sexual Health Centre, Sydney Hospital, ² The Kirby Institute, University of New South Wales, ³ Centre for Infectious Diseases and Microbiology-Public Health, Westmead Hospital

Introduction: Azithromycin resistant *Treponema pallidum* (TP) is increasing worldwide. This study aimed to describe the characteristics of patients with and without azithromycin resistance at the Sydney Sexual Health Centre.

Methods: Stored samples positive for TP DNA by PCR during 2008-2010 were tested for the presence of the A2058G mutation on the 23s TP ribosome using PCR followed by endonuclease digestion. Clinical, demographic and serological data were extracted from medical notes. Chi-square tests or Fisher's exact test were used to assess differences between those with and without azithromycin resistance.

Results: Azithromycin resistance testing was successful in 44/48 samples testing PCR positive for TP during the time period, 31 from primary and 13 from secondary lesions. The mean age of these patients was 38 years (range 21-57), none identified as Aboriginal or Torres Strait islander. 43/44 were men: 3 reported both male and female partners, and 1 exclusively female partners. The remaining 38 reported only male partners. 12/44 (27%) were HIV positive and 13/44 had a history of prior syphilis. 11/44 potentially acquired syphilis outside Australia. 4/44 had received azithromycin in the preceding 12 months. The median RPR titre at diagnosis was 16, though 7 patients had non-reactive RPR tests.

35/44 (79.5%) harboured the A2058G mutation. 8/12 (67%) samples from HIV positive, and 27/32 (84%) samples from HIV negative patients demonstrated resistance (p=0.188). 29/35 (63%) patients with, and 4/9 (44%) without the A2508G mutation acquired infection in Australia. (p=0.001). There were no other statistically significant differences between patients with and without the A2508G mutation. One patient with resistant TP infection progressed clinically despite azithromycin treatment for urethritis.

Conclusion: Azithromycin resistance is common in both HIV positive and HIV negative patients in Sydney, and may be more prevalent in Australia than neighbouring countries. Risk factors for resistance require further exploration.

Disclosure of Interest Statement: PJR received the Royal Australasian College of Physicians 2012 Novartis Fellowship in Sexual Health Research

DO HOMOSEXUAL MEN HAVE HIV TESTS MORE FREQUENTLY IF THEY ARE OFFERED POINT-OF-CARE HIV TESTING IN A CLINIC? A RANDOMISED CONTROLLED TRIAL

<u>Dr Tim Read</u>^{1,2}, Ms Andrea Morrow², AProf Jane Hocking³, AProf Catriona Bradshaw^{1,2,4}, Prof Andrew Grulich⁵, Prof Christopher Fairley^{1,2}, AProf Marcus Chen^{1,2}

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Introduction: Mathematical modelling suggests that increasing the frequency of HIV testing among homosexual men could reduce HIV transmission. Surveys and international experience indicate many individuals prefer rapid testing for HIV. This study aimed to determine whether access to rapid HIV tests in a clinic increases the frequency of HIV testing among homosexual men.

Methods: We undertook a randomised controlled trial where men reporting sex with men attending Melbourne Sexual Health Centre for HIV testing where offered access to point-of-care HIV testing using the Determine HIV1/2 Ag/Ab Combo test (Alere) over an 18 month period. The control arm consisted of men with access to usual laboratory-based HIV serology over the same period. Participants completed a short questionnaire at baseline, 6, 12 and 18 months about HIV testing and their sexual behaviour. HIV tests reported at other clinics were confirmed by contacting those clinics.

Results: Four hundred men were enrolled from September 2010 to March 2011 with 201 randomised to the rapid test intervention arm and 199 to the conventional serology control arm. In the intervention and control arms respectively, median ages were 30 and 29, proportions completing post-secondary education were 75% and 74% and the median time since last HIV test was 6 months in both arms. The median (intraquartile range) number of male sexual partners in the previous year was 10 (5 -18) and 8 (4 – 15) respectively and proportions reporting 100% use of condoms for any casual partners were 54% and 58%. Completion of the study is anticipated in September 2012 and results for the primary outcome, frequency of HIV testing, will be presented.

Conclusion: Results of this study will provide empirical data on whether access to point of care HIV testing within clinical services is likely to increase the frequency of HIV testing among homosexual men.

Disclosure of Interest Statement: rapid tests were provided by the manufacturer Alere.

SYMPOSIUM SESSION - ADOLESCENT VACCINES MONDAY 15 OCTOBER 2012 - 3.30PM-5.00PM

PAPER REF 1203

IMMUNISATION FOR SEXUALLY ACQUIRED HERPES SIMPLEX VIRUS

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Background: Herpes simplex virus (HSV) types 1 and 2 cause herpes labialis and genital herpes respectively, although genital herpes caused by HSV1 is now predominant worldwide in adolescence and even early adulthood. Adult HSV1 seroprevalence in western countries is 55% to 80% (80% in Australia), acquired in two peaks, infancy and adolescence. HSV2 is almost exclusively acquired sexually.

Methods: HSVs seroprevalence is highly variable geographically, reaching 12% in Australian adults but up to 80% in African countries. Occasional severe complications of genital HSV(2) disease include acute urinary retention, meningitis and neonatal herpes (fatal in 25% of cases despite antiviral drugs). In addition prior infection with HSV2 consistently enhances HIV acquisition by sexual transmission 3-7 fold. Ultimately a preadolescent vaccine effective against both all HSV1 and 2 infections and diseases is needed to control these diseases.

Results: The HSV2 glycoprotein D/adjuvant dMPL candidate vaccine (Simplirix trial; GSK, 2002) when administered in adolescence showed only partial efficacy in two large clinical trials: 73% in preventing HSV2 genital herpes in HSV1/2 seronegative women exposed to partners with the disease and in the latest Herpevac trial (2012), only against HSV1 genital disease. Combinations of viral peptides or proteins with adjuvants (like Simplirix) are required for optimal immunogenicity.

Conclusion: For more efficacious vaccines a broader range of antigens inducing a broader immune response are required, underpinned by greater knowledge of the protective immune mechanisms controlling initial HSV infection of skin and neurone.

PAPER REF 1245 EXPLOITING SYSTEMS IMMUNOLOGY APPROACH TO DESIGN PROPHYLACTIC VACCINE FOR HUMAN CYTOMEGALOVIRUS

Vijayendra Dasari¹, Corey Smith¹, Rajiv Khanna¹

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Development of an effective prophylactic vaccine for the prevention of human cytomegalovirus (CMV)-associated diseases remains a significant challenge. Extensive studies in healthy virus carriers and individuals with CMV-associated diseases have clearly indicated that induction of both humoral and cellular immune responses are crucial to afford protection against CMV-associated clinical disease. There is emerging evidence which supports a direct role of innate immune responses in the induction of an effective adaptive immunity. Here we have used a systems immunology approach to identify early gene 'signatures' of innate immunity to formulate a novel vaccine formulation for CMV. Vaccine formulations based on CMV polyepitope protein and glycoprotein B in combination with human compatible adjuvants were tested in HLA class I transgenic mice. The CMV polyepitope protein includes multiple HLA class I-restricted T cell epitopes as a 'string of beads'. Computational analyses of gene signatures and ex vivo functional investigation showed that CMV vaccine formulations based on TLR4 and/or TLR9 agonists were most efficient in activating dendritic cells and in inducing strong humoral and cellular (both CD4+ and CD8+T cells) immune responses. Furthermore the antiviral antibody responses induced showed anti-viral neutralizing capacity and the T cell responses showed polyfunctional capacity. Based on these observations, we have now successfully designed a novel CMV vaccine which includes CMV polyepitope protein and glycoprotein B adjuvanted with IC31°. IC31° is a novel adjuvant which combines the immunostimulatory effects of an 11-mer antibacterial peptide (KLKL(5)KLK) and a synthetic oligodeoxynucleotide (ODN1a) which is a TLR9 agonist without containing cytosine phosphate guanine (CpG) motifs. This vaccine formulation is now progressing to a formal Phase I clinical trial in healthy individuals and serongeative transplant patients.

PAPER REF 1123 VACCINES FOR EPSTEIN BARR VIRUS

Submitted by Prof Scott Burrows Burrows SR¹

¹Australian Centre for Vaccine Development, Queensland Institute of Medical Research

Epstein-Barr virus (EBV) causes infectious mononucleosis (IM), post-transplant lymphoproliferative disease (PTLD) and is associated with undifferentiated nasopharyngeal carcinoma (NPC), certain types of Hodgkin's lymphoma (HD) and endemic Burkitt's lymphoma (BL). EBV has developed sophisticated systems to evade of host immune responses and, as a consequence, EBV vaccines have been particularly difficult to design. It is unlikely that vaccination will achieve sterilizing immunity and so a major goal of EBV vaccination is the prevention of disease and not infection. Furthermore, therapeutic vaccination to treat EBV-associated tumours is also a major realistic object. Since EBV has been formally classified as a Grade I carcinogen, and a number of its genes can independently transform certain cell types, the use of killed, attenuated or recombinant EBV vaccines is not feasible. The commercial potential of vaccines to prevent IM is guestionable because IM almost always resolves itself over a relatively short time. Nonetheless, vaccines based on the gp350 or EBNA3 antigens, aimed at reducing or preventing the symptoms of IM, have been used in small-scale human trials. These vaccines may also find application in preventing PTLD in sero-negative solid organ transplant recipients who are particularly susceptible to this disease. Therapeutic vaccines to treat HD and NPC are currently generating strong interest due to recent success with T cell adoptive immunotherapy. These tumour cells express the EBV latent antigens, EBNA1, LMP1 and LMP2 which are potential targets for the immune system, and vaccines aimed at enhancing the immune response to these proteins are likely to be effective. The prospect of developing a therapeutic vaccine for BL is less promising due to down regulation of the MHC class I- antigen processing machinery. However, recent studies have suggested some promising alternative therapeutic strategies such as targeting the tumour cells through virus-specific CD4⁺ cytotoxic T cells.

PAPER REF 1246 HEPATITIS B VACCINATION IN ADOLESCENTS

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Over 2 billion people have been infected with hepatitis B virus (HBV) worldwide and it is estimated that globally there are over 400 million chronic carriers. Each year there are 4.5 million new hepatitis B infections worldwide and annually up to 700,000 people die from complications of acute and chronic of hepatitis B infection.

In areas of high endemicity the life time risk of acquiring HBV infection is >60% while the risk varies between 20 and 60% for countries of intermediate endemicity and 10 to 20% in countries of low endemicity. The benefit of the introduction of hepatitis B vaccination programs in to countries of high endemicity has been shown by several country experiences. For example, in Taiwan the introduction of a vaccination program resulted in a fall in the HBV carrier rate from 10% to 0.8% over a 23-year period. During this period the incidence of hepatocellular carcinoma also fell from 0.7 to 0.36 cases per 100,000.

Australia has one of the world's largest Asian-born immigrant populations. Half of the Asian-born immigrants are from Southeast Asian countries that have high-level HBV endemicity. The prevalence of HBsAg in Australia is 0.6% however there are geographically distinct subsets within the population that have substantially higher prevalence rates. Universal vaccination programs were implemented in Victoria in 1998 for 12-13-year-old adolescents and in 2000 for all infants. As a result the prevalence of anti-HBs increased from 36% in 1995 & 72% in 2005 for infants 0-4 yr olds and from 13% in 1995 to 58% by 2000 in 10-14 yr olds. However, vaccination programs for adolescents have not been maintained and there is now concern that with ongoing transmission of HBV within the Australian population non-immune adolescents will be at substantial risk of acquiring hepatitis B infection. Adolescents are more likely than adults to acquire HBV because of increased risk taking behavior.

An adolescent immunisation program could be delivered as part of a wider package on health and sex education, a school-based program and as a two-dose schedule making vaccination more acceptable to adolescents and parents. Monitoring the uptake of such a program also presents a number of problems. However, in spite of these issues the implementation of adolescent hepatitis B immunization programs is likely to provide a greater benefit to the population as a whole and warrants further discussion.

SYMPOSIUM SESSION - SEXUAL NETWORKS, BEHAVIOUR AND MIXING AND STI TRANSMISSION MONDAY 15 OCTOBER 2012 – 3.30PM–5.00PM

PAPER REF 1200 OVERVIEW: SEXUAL NETWORKS: BEHAVIOR AND MIXING AND STI TRANSMISSION

<u>Aral S¹</u>

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Patterns of formation and dissolution of sexual ties determine several parameters that define the sexual structure other than sexual networks, including partnership duration, gap length, partnership concurrency, patterns of sexual mixing and sexual core – periphery and core-to-core linkages. This presentation will provide a brief overview of these parameters and their role in STI spread.

DISTRIBUTION OF MSM BEHAVIOURS WITHIN POPULATIONS AND HOW THIS IMPACTS ON STI TRANSMISSION

Wilson D¹

¹Kirby Institute, University of New South Wales

MODELLING THE IMPACT OF ENHANCED STI SCREENING STRATEGIES IN REMOTE INDIGENOUS COMMUNITIES

<u>Hui B</u>¹Wilson D⁻¹, Ward J², Guy R1, Kaldor J¹, Law M1, Hocking J³, Regan D¹ ¹The Kirby Institute, The University of New South Wales, ² Baker IDI Heart and Diabetes Institute, ³ Centre for Women's Health, Gender and Society, The University of Melbourne.

Background: Hyper-endemic levels of sexually transmitted infections (STI) persist in many remote Indigenous communities in Australia despite high levels of screening. We use mathematical modelling to investigate the possible impact of enhanced screening strategies on STI transmission.

Methods: Mathematical models of gonorrhoea and chlamydia transmission were developed to compare the potential impact of: 1) continuous versus community-wide mass screening; 2) increasing the proportion treated among those testing positive; 3) reducing the delay between testing and treatment; and 4) the use of point-of-care (POC) diagnostic testing and treatment.

Results: The models predict that continuous screening will have the greatest impact in reducing STI prevalence, but the benefits are compromised if there is a low return rate for treatment. If high screening coverage and high treatment return rate cannot be sustained in a continuous screening strategy, a combination of continuous screening with annual mass screens may be most effective in reducing STI prevalence. Reducing the delay between screening and treatment was found to have little impact on STI prevalence, but the introduction of POC testing and treatment may result in substantially greater reductions in prevalence compared with traditional diagnostic methods, even if the POC testing is of only moderate sensitivity.

Conclusions: Of the strategies considered in the model, the results suggests that increasing coverage and treatment following screening is the key to reducing gonorrhoea and chlamydia prevalence in these communities. The overall impact of screening can be considerably enhanced by theintroduction of point-of-care diagnosis and treatment. However, the full health-economic benefit of POC tests will depend on factors such as their cost, performance, and acceptability to patients and health service providers.

SEXUAL BEHAVIOUR IN HETEROSEXUAL POPULATIONS: IMPLICATIONS FOR CHLAMYDIA CONTROL

Low N¹

¹ University of Bern

IUSTI REGIONS SYMPOSIUM - HOT TOPICS FROM AROUND THE WORLD MONDAY 15 OCTOBER 2012 - 3.30PM-5.00PM

PAPER REF 1129 EPT: TO BE OR NOT TO BE?

<u>Gaydos, CA</u>1

¹Division of Infectious Diseases, Johns Hopkins University

Introduction: EPT or Expedited Partner Therapy is the treatment of sex partners exposed to a treatable STI without a clinical evaluation from a health care provider. The intervention is also called Patient-Delivered Partner Therapy (PDPT).

Methods: Various models of EPT have been studied and implemented in the United States since 2001. This strategy relies on clinicians giving either medications or prescriptions to index patients for his/her sex partner(s). The object is to reduce infection rates and especially reinfection rates. In the U.S. numerous national organizations and professional societies have endorsed EPT, including the CDC (2006), American Bar Association, the American Medical Association, the Society for Adolescent Health and Medicine, the American Academy of Pediatrics, and the American Congress of Obstetricians and Gynecologists. Barriers exist such as state laws, pharmacy laws, and reimbursement practices.

Results: As of now in the United States, controversy exists as to its effectiveness and its legal status. EPT is permissible in 31 states and Baltimore, Maryland. EPT is potentially allowable in 12 states, the District of Columbia, and Puerto Rico. EPT is likely prohibited in 7 states. Using EPT has the added benefit of saving resources for health departments and clinicians. EPT has traditionally been evaluated for chlamydia and gonorrhea. Five clinical trials have demonstrated an overall relative risk of 0.73 in preventing reinfection rates.

Conclusion: Overcoming barriers to the routine use of EPT will be of key importance to more extensive and effective use. More widespread use of EPT with quality evaluation has the potential to prevent re-infections and eventually lower infections prevalences of chlamydia and gonorrhea.

PAPER REF 1196 HIV TREATMENT AS PREVENTION – HOW READY IS AFRICA?

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There is evidence that ever since the advent of combination antiretroviral therapy people with suppressed or undetectable HIV viral loads, especially those on therapy. are a great deal less likely to transmit HIV than untreated persons. In the last couple of vears, two pivotal studies in heterosexual couples where one of the partners has HIV have demonstrated that HIV-positive people who are on antiretroviral treatment are about 20 times less likely to transmit the virus to their partners than people who are not taking treatment. The Partners in Prevention study, which was designed to find out if treating herpes might reduce HIV transmission, found that the minority of its participants who started taking ARVs were 92% less likely to transmit HIV to their partners once they started therapy. The HPTN 052 study which randomized HIV positive partners in heterosexual couples either to start taking ARVs immediately, at an average CD4 count of 436 cells/mm3, or to delay taking them till their CD4 count fell below 250 cells/mm³ found that people on treatment were 96% less likely to transmit HIV to their partners. than untreated people This study also showed that if a sufficiently large proportion of the HIV-positive population could be treated and their viral loads brought down to undetectable levels, transmission might become rare enough for the epidemic to stop in its tracks. On a population level this can be expressed as a reduction in the 'community' viral load'. Applied in the field to Africa, treatment as prevention (TAP) as this known, could lead to a substantial reduction of new infections, thus slowing down the growth of the epidemic on the continent. 4 steps are necessary to make TAP work; testing, linking to care, proportion of HIV infected on therapy and proportion failing therapy. With dwindling global support for HIV treatment programmes in Africa can these conditions be optimized to make TAP successful? These will be discussed in the session.

IS YOUR SEXUAL HEALTH SERVICE DELIVERING WHAT PATIENTS WANT?

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¹University Hospital Birmingham NHS Trust, Birmingham, UK

Introduction: Historically health services, including sexual health, have measured performance against established clinical standards as a measure of quality. Although important, these measures fail to account for the issues which patients identify as being of greatest importance when they attend a sexual health clinic. Increasingly, health care funders also expect services to measure and respond to patient reported measures of their experience when attending a clinic.

Methods: A systematic review to evaluate questionnaires used to measure patient experience in sexual health clinics was undertaken. Using the results of the review and interviews with patients in focus groups a validated questionnaire was developed, which was further evaluated and revised using cognitive testing and piloting.

Results: The review identified five main themes which were of importance to patients – convenience of clinic location, availability of appointments, staff attitude, effective provision of information and maintaining confidentiality. A 48 item questionnaire was developed using a tick box format which patients can complete in 5-8 minutes.

Conclusion: A validated questionnaire to measure patient identified priorities when they attend a sexual health clinic has been developed and is available at: **http://www. bashh.org/groups/patient_and_public_involvement**. The questionnaire can be used as part of the measurement of quality in sexual health services.

PAPER REF 1132 PRE-EXPOSURE PROPHYLAXIS AGAINST HIV

Radcliffe KW¹

¹IUSTI European Regional Director.

There is now strong evidence that pre-exposure prophylaxis (PrEP) against HIV infection with antiretroviral drugs is effective in both heterosexual men and women, and in men-who-have-sex-with-men (MSM). The best evidence is for the use of a daily tablet of a combination of tenofovir and emtricitabine (Truvada) which provided protection against infection in the range 44-73%. Further analysis suggests that the protective effect may approach 100% in persons who use the agent as instructed and that failures result from non-adherence. There is also trial evidence that use of tenofovir as a vaginal gel around the time of coitus might be effective in women. Several trials are under way to look at alternative agents, regimens and delivery systems for PrEP. Despite this evidence policymakers and clinicians are unsure about how to implement PrEP in routine clinical practice. This is because of concerns about inducing viral resistance, toxicity and more unsafe sexual behaviour (risk compensation): evidence from the trials is so far reassuring on all these points but doubts remain because of relatively short follow-up. Additional concerns are over cost and whether in real-world application persons will be so non-adherent as to render the approach ineffective. Further research is necessary to address effectiveness and cost-effectiveness and clinical guidelines will need to be written before PrEP can be implemented. The most suitable populations to be offered PrEP in European countries will be MSM who exhibit the highest levels of sexual risk behaviours; sexual health clinics would be a very suitable setting for delivering PrEP to these individuals

ORAL ABSTRACTS – TUESDAY



ORAL ABSTRACTS TUESDAY 16 OCTOBER 2012

PLENARY 2

TUESDAY 16 OCTOBER 2012 - 8.30AM-10.00AM

PAPER REF 1166

OPTIMISING THE MANAGEMENT OF PELVIC INFLAMMATORY DISEASE Ross ${\sf J}^{\tt L}$

¹University Hospital Birmingham, UK

The management of women with pelvic infection remains suboptimal with high rates of chronic pelvic pain and infertility. Screening for chlamydia in asymptomatic individuals has the potential to reduce the incidence of PID but screening protocols providing the greatest efficacy have not yet been developed and cost-effectiveness remains uncertain. For those women presenting with pelvic infection the prognosis is generally good if rapid effective treatment is given. Improvements in clinical diagnostic accuracy for pelvic infection may be achieved through training, and patient education is needed to ensure rapid presentation for treatment. There is a strong evidence base for the choice of antibiotic therapy, and guidelines are available and generally consistent, but implementation is variable. Appropriate patient information for women with PID has recently been developed and is available from IUSTI and other medical

PAPER REF 1229 HPV: THE FUTURE? 10 YEARS FROM NOW

Garland S.M.^{1.2.3}

¹ Department of Clinical Microbiology and Infectious Diseases, Royal Women's Hospital, ² Department of Obstetrics and Gynaecology, The University of Melbourne, ³Murdoch Childrens Research Institute

In recent years there has been a great explosion of knowledge on human papillomavirus (HPV), from proof of its aetiological role in cervical cancer, a proportion of other anogenital cancers (vaginal, vulvar, anal, penile), as well as some oropharyngeal cancers, to development of prophylactic vaccines. Subsequently, from large phase 3 clinical trials we have seen vaccine efficacy, immunogenicity, as well as safety against vaccine-related genotypes.

With some early public health campaigns resulting in high coverage of the target population, already in real world situations, vaccine effectiveness is being seen. For those diseases with the shortest incubation diseases (genital warts and high grade cervical lesions) significant and dramatic reductions are being reported. Additionally vaccine effectiveness is translating to herd immunity in those not being vaccinated (for both genital warts as well as vaccine-related HPV infections).

So what do we predict for the next 10 years? With the recent announcement of GAVI endorsement of HPV vaccines and the potential for \$5/dose for GAVI eligible countries, means that preventative vaccines are a reality for those counties where the greatest burden of disease is suffered. Moreover, next generation vaccines with greater valencies, manufacture of high quality vaccines in countries with the greatest burden of HPV related disease, targeting of male vaccination, as well as new dosage regimens are predicted.

Ultimately, reduction in HPV related cancers, plus the rare, but devastating recurrent respiratory papillomatosis should start to be seen. Whether effective therapeutic vaccines will be in use to treat those with disease is certainly hoped for.

MULTI-DRUG RESISTANT GONORRHOEA - CAN WE HOLD BACK THE TIDE?

<u>David A. Lewis¹</u>

¹Centre For HIV & STIs

Within a few years of introduction of antibiotics, the gonococcus began to reveal its extraordinary ability to acquire resistance determinants, either chromosomally or on plasmids. Following the loss of the fluoroquinolones in the 1990s in the Western Pacific region, we have now witnessed the emergence and spread of gonococci which fail to respond to single dose oral cephalosporins. The emergence and spread of such multi-drug resistant Neisseria gonorrhoeae (MDR-Ng) was initially limited to the Western Pacific region, with earliest reports coming from Japan and subsequently from Hong Kong and Australia. Such strains are now circulating in Europe, the USA and, most recently, Africa. These MDR-Ng strains fail to respond to oral cephalosporins and to at least two other classes of antimicrobial agents in current or previous use. The responsible resistant mechanisms are multiple, including the presence of mosaic penA genes as well as signature point mutations in both this and other key gonococcal genes encoding proteins which can influence the ability of cephalosporins to exert their bactericidal effect. Most recently, aonococci with very high minimum inhibitory concentrations for ceftriaxone have been described in, which fit the proposed definition of extensivelydrug resistant N. gonorrhoeae (XDR-Ng) on the basis of decreased susceptibility to all cephalosporins as well as to at least three other classes of antimicrobial agents. Treatment options are now limited and multi-drug therapy has been advocated as the best way to way manage gonorrhoea cases. However, as this plenary will outline, drug therapy is only one component of the required public health approach to contain the further spread of MDR/XDR-Ng. Holding back the inevitable tide of untreatable gonorrhoea is aging to becoming increasingly difficult unless the full range of required public health interventions is both supported by governments and funded appropriately.

SYMPOSIUM SESSION - IMPROVED PARTNER MANAGEMENT TUESDAY 16 OCTOBER 2012 - 10.30AM-12.00PM

PAPER REF 1230 EXPEDITED PARTNER THERAPY FOR GONORRHEA AND CHLMAYDIAL INFECTION

<u>Golden MR¹</u>

¹ University of Washington and Public Health – Seattle & King County, Seattle, WA, USA

Introduction: Expedited partner therapy (EPT) is the practice of treating the sex partners of persons with curable sexually transmitted infections (STI) without requiring partners to first undergo a medical evaluation.

Methods: Review of the current state of EPT.

Results: Randomized controlled trials evaluating EPT focusing on patient delivered partner therapy (PDPT) have shown that EPT increases partner treatment and decreases patients' risk of reinfection with gonorrhea or chlamydial infection. EPT is now legal throughout most of the U.S., but has only been systematically promoted and studied in a few areas. A stepped-wedge community-level randomized trial evaluating a public health program promoting EPT in Washington State found that EPT was scalable, with over half of all heterosexuals being offered PDPT and over 30% receiving medications for their partners; rates of STI declined concurrent with the introduction of EPT, but were not significantly associated with the intervention. Alternative models of EPT that do not rely on PDPT are under investigation in the U.K. Gonococcal resistance and the occurrence of other undiagnosed STI may limit the utility of EPT in some settings and in some populations.

Conclusion: EPT is a promising STI prevention intervention.

Disclosure of Interest Statement: Dr. Golden has received free medication for research studies from Pfizer Pharmaceuticals, and free tests kits from Genprobe diagnostics.

IMPROVING PARTNER NOTIFICATION THROUGH THE USE OF NEWER COMMUNICATION TECHNOLOGIES

Marcus Chen¹²

¹ Melbourne Sexual Health Centre, Alfred Health, Melbourne, ² Melbourne School of Population Health, University of Melbourne

Background: Barriers to improved partner notification are multiple and include the fact that many individuals diagnosed with an STI are reluctant or unable to contact their sexual partners. Web based services have been established to help facilitate notification of partners using text messages and email and these together with newer communication technologies offer an opportunity to improve communication between partners.

Methods: In this symposium, experience with web based partner notification services will be discussed including the results of an evaluation of the service Let Them Know.

Results: Use of the *Let Them Know* website has grown across Australia since its launch in 2008. Between March 2010 and March 2011 there were 13,000 visits to the website with 37% of visits resulting in a text message being sent. Eighty four percent of messages to partners were anonymous. Among 1383 consecutive website users asked, 70% indicated that they were more likely to contact a partner because of the website. The proportion of visits to the website from smartphones grew from 13% in 2010-11 to 42% in 2012.

Conclusion: Web based services may be effective in improving communication between STI infected individuals and their sexual partners. Such services need to be developed and adapted to ensure optimal targeting, uptake and use by individuals diagnosed with an STI with measures in place to reduce possible misuse.
FUTURE RESEARCH FOR IMPROVING PARTNER NOTIFICATION IN HIGH-, MIDDLE- AND LOW-RESOURCE COUNTRIES

Steben M¹-Cheuk E², Ronald A², Fast M²

¹Institut national de santé publique du Québec, Canada, ² National Collaborating Centre for Infectious Diseases, Winnipeg, Canada

Introduction: Partner notification is one of the central pillars of communicable disease control in public health in some high income countries. It involves the identification and assessment of individuals who are reported to have come into contact with an infected person. Despite ongoing efforts and resources dedicated to partner notification for sexually transmitted infections (STIs), the incidence of STIs continues to rise, calling into question the effectiveness of partner notification in preventing and controlling the spread of STIs at the population level.

Methods: Reflecting on the Canadian experience in STI prevention and control, this presentation will highlight current knowledge gaps in partner notification and outline the work of the National Collaborating Centre for Infectious Diseases that begins to answer some of these outstanding questions.

Results: Adding to this persistent question about the effectiveness of partner notification is the social complexity of implementing an intervention for STIs that are often stigmatizing and in populations who may be considered vulnerable. Questions that arise are:

- Which model of partner notification should be used with a particular target population?
- What is the optimal mix of staff from professional and non-professional staff that is optimal for a partner notification program?
- What is the role of expedited partner therapy? What are its limitations?
- What are the legal and ethical issues practitioners should consider when conducting partner notification?
- How should practitioners deal with unintended consequences of partner notification such as stigma and partner violence?
- How can partner notification be conducted through the lens of the social determinants of health?

Conclusion: This presentation will provide examples of potential or already undertaken innovative sexual health strategies in middle- and low-income countries that might serve as valuable lessons for high-resource countries.

SYMPOSIUM SESSION - CHLAMYDIA UPDATE – CURRENT MICROBIOLOGICAL ISSUES TUESDAY 16 OCTOBER 2012 – 10.30AM–12.00PM

PAPER REF 1256 SHOULD WE WORRY ABOUT CHLAMYDIA TREATMENT FAILURE?

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¹Centre for Women's Health, Gender and Society, Melbourne School of Population Health, University of Melbourne.

Repeat chlamydia infections following treatment with 1 gram azithromycin are common with several studies reporting repeat infection rates in women ranging from 13% to 34% within 12 months. Repeat infections may represent: 1) re-infection due to unprotected sexual contact with an infected partner; 2) treatment failure as a result of noncompliance with treatment, poor absorption of the drug, reduced antimicrobial susceptibility or antimicrobial resistance; or 3) persistence due to host factors such as immune response or other undefined host factors. While most repeat infections are generally considered to be re-infections through exposure to an infected partner, emerging evidence suggests that treatment failure following treatment with 1 gram azithromycin, may account for a significant proportion. Studies have found that chlamydia treatment failure may be at least 8%, with rates even higher among men with urethritis. This is considerably higher than the 2-3% failure expected based on results of previous chlamydia treatment trials that with the exception of one trial, all used the less sensitive culture or immunoassay to measure antimicrobial cure.

Distinguishing between treatment failure and re-infection is important to focus treatment recommendations and infection control mechanisms. For example, if many repeat infections are due to antibiotic treatment failure, then international recommendations on chlamydia treatment need to be re-evaluated. If most are re-infections, then strategies to expedite partner treatment are necessary. We are conducting a cohort study of young women infected with chlamydia that aims to generate estimates of chlamydia treatment failure following treatment with 1 gram azithromycin. As part of this study, we have developed an assay to measure azithromycin concentration in cervical mucosa to determine whether treatment failure is due to poor absorption of the antibiotic. Further detail about this study (The Australian Chlamydia Treatment Study-ACTS) and the issue of chlamydia treatment failure will be provided.

AZITHROMYCIN TREATMENT IN CHLAMYDIA INFECTION – LESSONS FROM MOUSE MODELS

Harvie MCG, O'Meara CP, Armitage CW, Timms P, <u>Beagley KW¹</u> ¹Institute of Health and Biomedical Innovation, Queensland University of Technology

Chlamydial infection is asymptomatic and affected more than 74000 Australians in 2010. Despite apparently effective antibiotic treatment with azithromycin the incidence of infection continues to increase. Infection with Chlamydia can cause damaging inflammatory pathology in the reproductive tract, leading to tubal scarring and infertility. Animal models of Chlamydia infection show that the best method of protection against re-infection is a previous live infection. Unfortunately repeated chlamydial infection leads to severe adverse pathology and inflammation of the upper reproductive tract. Early treatment with antibiotics clears chlamydial infection and prevents the development of adverse pathology, but individuals remain susceptible to reinfection. This dichotomy between protection against bacterial infection and protection against inflammatory pathology complicates the development of an effective anti-chlamydia vaccine.

Using a murine model of genital Chlamydia infection we have used timed antibiotic intervention to allow us to differentiate between what constitutes a protective versus pro-inflammatory immune response against infection. We have found that early treatment with azithromycin within two to eight days of infection prevents the development of pathology, even after a second untreated infection. However treatment that occurs late in infection at ten to twenty days post infection did not prevent the development of pathology. Conversely late treatment conferred better protection against reinfection with Chlamydia than early antibiotic intervention.

Using this model we have investigated the role of both innate and adaptive immune response in driving both pathological and protective outcomes. Surprisingly we found no role for CD4T cells in mediating either pathology or protective immunity after adoptive transfer. Our current data suggests there may be an important role for macrophages in driving Chlamydia- induced inflammatory pathology. We hope that the findings from this work will lead to new tools for the development of a chlamydial vaccine that limits infection and protects against inflammatory disease.

PAPER REF 1138 CHLAMYDIA SEROLOGY WHAT CAN IT TELL US ABOUT CHRONIC CHLAMYDIA INFECTION/UPPER GENITAL INFECTION?

Kelly Cunningham¹, Charles Armitage, Willa Huston ¹Institute of Health and Biomedical Innovation

Chlamydia trachomatis is an often undetected infection, with serious potential sequelae including the development of pelvic inflammatory disease (PID), ectopic pregnancy, and infertility. Currently, PCR testing is used to diagnose a current infection, while it is possible to use serology to detect prior or current infections. The commercial available tests typically utilise the detection of antibodies against the surface Major Outer Membrane Protein (MOMP) or chlamydial Heat Shock Protein 60 (cHSP60). However, there has been mixed reports on the reliability and clinical applicability of serology for diagnosis of infection or seguelae. As the currently available diagnostic serological tests have reported sensitivities ranging from only 12-69%, and specificities ranging from 62-100% which means they are not in common use. The detection of Chlamydiarelated sequelae currently relies upon laparoscopic procedures or hysterosalpingography, suggesting a need for the identification of sensitive and specific markers of these sequelae that may be used for less invasive and pre-emptive testing. Our research has investigated persistence-associated proteases and their reaction with antibodies in serum of patients with sequelae. While different antigens elicit varying immune responses, pathology cohort-specific responses have not been identified. Our further research aims to generate a predictive diagnostic serological tool for patients who have, or are at risk of developing seguelae following chlamydial infection.

PAPER REF 1202 CHLAMYDIA VACCINES - WHAT CAN WE HOPE FOR?

<u>Beagley KW</u>-O'Meara CP¹, Harvie MCG¹, Armitage CW¹, Andrews D¹, Huston WM¹, Wilson DP² and Timms P¹ ¹Institute of Health and Biomedical Innovation, Queensland University of Pathology, Kelvin Grove, QLD 4059 ²The Kirby Institute, Faculty of Medicine, University of New South Wales

The incidence of chlamydial infection continues to increase worldwide, despite the existence of antibiotic treatment that is effective in most cases. Currently, no vaccines are approved for human use. Extensive studies in animal models have demonstrated that vaccination can reduce both the duration of infection and the level of shedding. however sterilizing immunity has not yet been demonstrated in any studies. In the commonly used mouse infection model recovery from a primary infection provides the greatest level of protection, as measured by the magnitude and duration of shedding into the lower reproductive tract, but in these animals the second infection results in severe hydrosalpinx and oviduct blockage. In the majority of animal studies. protection against damaging inflammatory pathology is not measured however, and we would argue that protection against inflammation that can cause blockage of the oviducts (fallopian tubes) should be the major goal of a vaccine to prevent chlamydial disease. Using mouse models, novel mucosal adjuvants and non-injectable routes of vaccine delivery we have developed immunization protocols that protect against pathology but not infection and vaccines that protect against infection but not pathology. These data not only show that bacterial burden and pathology are not causally related, but also provide tools to allow us to identify the immune mechanisms responsible for protection and those that contribute to tissue damage. Modeling studies, based on these data, demonstrate that even a vaccine that does not elicit sterilizing immunity could reduce the incidence of chlamvdial infection in the human population. For a pathogen such as *Chlamvdia*, where the consequences of acute infection are relatively minor but the long-term consequences impose a significant and increasing health burden, the goal of a vaccine that limits the magnitude and duration of infection and prevents upper tract pathology may be realistic and achievable.

IUSTI ASIA PACIFIC SESSION TUESDAY 16 OCTOBER 2012 – 10.30AM-12.00PM

INDIA: SEXUALITIES AND STI/ HIV - A KALEIDOSCOPE OF COLOURS

PAPER REF 1192 STI AND HIV IN INDIA: CURRENT SCENARIO

Somesh Gupta¹

¹All India Institute of Medical Sciences

Sexually transmitted infections and HIV are a significant public health problem in India. Unfortunately, in spite of their great impact on quality of life and the economy of the country, these infections are losing focus in government's priorities. National AIDS Control Organization, which was a key force behind the successful control of a rapidly expanding HIV epidemic, is at the risk of losing its independent status, as the government is considering its merging into National Rural Health Mission.

Sexually transmitted infections affect young and productive age group and are important cause of economic burden to a nation which has bottom heavy population pyramid. Younger population means more people vulnerable to HIV and STI.

Indian's HIV prevention program is a success story. The HIV epidemic is on the decline due to concerted prevention efforts by the governmental and non-governmental organizations. Now the infection is concentrated in some high risk group such as MSM, female sex workers and their male clients, and long distance truckers. Adult HIV prevalence has declined from 0.39% in 2004 to 0.31% in 2009. This is well below the WHO/UNAIDS threshold of 1% for generalised epidemic. The annual new infections have also been declined by over 50% in the past decade. However, because of the huge population of the country, even with this modest prevalence, the absolute number of people living with HIV is whopping 2.39 million – highest in Asia and third in the World.

In various studies, Herpes Simplex Virus-2 seroprevalence rates in general adult population of India vary from 7.9 to 18.9%, which means 100-200 million individuals have acquired HSV-2 infection. There is significant heterogeneity in HSV-2 prevalence in some of the southern states with higher prevalence in women and in rural area. Rapidly expanding highway and road network is equalizing epidemic and rural and urban area. Population data on syphilis is not available, but prevalence of syphilis in sex workers varies from 9.7% to 10.8% and in long distance truck drivers it is up to 22%.

Thanks to the unregulated antibiotic use, fear of HIV, condom use, and safer sexual practices, tropical bacterial STI such as Lymphogranuloma venereum, donovanosis and chancroid are at the verge of elimination. Overall, the number of STD clinic attendees at major STD centers has declined to almost half at many major tertiary care STD centers during last 25 years.

In conclusion, India has a significant burden of HIV and STI, but they are on decline. The prevalence of Bacterial STI is declining but that of viral STI rising.

PAPER REF 1163 RISK FACTORS FOR STI/HIV IN INDIA

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¹Dept of Medical Microbiology, PostGraduate Institute of Medical Education and Research, Chandigarh, India.

Background: South Asia has yet to come to terms with HIV/AIDS and is facing an HIV epidemic that is severe in magnitude and scope, with an estimated 5.5 to 6 million people currently infected. Atleast 60 percent of HIV-positive people in Asia live in India alone (2.5-3 million). The epidemic is heterogeneous and diverse, requiring well informed, prioritized, and effective responses.

Issues: A diverse range of structural factors amplify STI and HIV vulnerability and risk in India , including widespread poverty and socioeconomic inequality, illiteracy, low social status of women, trafficking of women into commercial sex, and a large sex work industry. High rates of sexually transmitted infections and limited condom use prevail, and social stigma is an important impediment to delivering effective programs..A link between sex trafficking and HIV is emerging; in India, over 60% of those trafficked into sex work are adolescent girls in the age group of 12-16 years (UNDP, 2005). Homosexuality has traditionally been a taboo subject. A culturally identifiable group known by the Urdu term "hijra" lives in most parts of India; most are castrated males and dress as females.. MSM in India are at significant risk of HIV infection because of frequent risky sex, and poor health-seeking behaviours.

Conclusions: Stigma reduction through multisectoral approaches is essential to provide a supportive environment for risk reduction and to increase access and use of prevention and care services. Efforts are being made to strengthen the STI/RTI service delivery through targeted intervention programme for the High Risk Groups and some anti trafficking programmes have been initiated to reduce the risk of acquiring STI and HIV.

PAPER REF 1147 INDIA'S RESPONSE TO HIV AND STI EPIDEMIC; A SUCCESS STORY

<u>Kaushal Verma¹</u>

¹Department of Dermatology & Venereology, All India Institute of Medical Sciences, New Delhi, India.

An estimated 5.5 million HIV infected people were there in India in 2005 which came down to about 2.39 million (p = 0.31%) in 2009. This vast decline in number has occurred due to a strong national commitment and mobilization of resources towards HIV/STI control activities. Health education, behavioural change communication & condom usage promotion have been the key factors to HIV/STI control in India. The control measures were initiated through National Aids Control Programs (NACP). NACP-I (1992-1999) focused on initiating a national commitment, increasing awareness and addressing blood safety which resulted in increased awareness, banning of professional blood donors, universal screening of donated blood and establishment of a decentralized mechanism to facilitate effective state-level responses. Targeted interventions for high-risk groups, preventive interventions among general population, involvement of NGOs and other sectors and State AIDS Control Societies (SACS) for youth campaigns, blood safety checks and HIV testing were the main thrust areas in NACP - II (1999-2006). Public platforms were used to raise awareness about the epidemic. This lead to increased awareness level amongst youth and condom use to protect against HIV/STIs. HIV prevalence decreased in women too in southern states, NACP-III (2007-2012) has been launched to reverse the HIV epidemic by 2012 through treatment of STIs, voluntary counseling and testing and preventive measures with strong focus on condom promotion by installation of condom vending machines in colleges, road-side restaurants and other public places. Launch of school based adolescence program to reach out to some 35 million students in 1.5 lac schools and to train school children as peer educators in villages with high HIV prevalence. ART centres have been increased and people needing ART are assured of ARV drugs. These sustained control measures and a strong national commitment lead to containment of HIV/STI epidemic in India.

PAPUA NEW GUINEA: STI/ HIV: FACTS, FIGURES, AND PLANS FROM A PACIFIC NEIGHBOUR

PAPER REF 1205 THE PAPUA NEW GUINEA HIV EPIDEMIC

<u>Millan J</u>1

¹Papua New Guinea Sexual Health Society

Introduction: Biological and behavioural data shows that the HIV epidemic in Papua New Guinea is still a significant problem. Recent data show that the prevalence of HIV is much lower than was estimated and projected in previous years. Papua New Guinea became the fourth country in the Asia Pacific region to declare a generalized HIV epidemic, after the prevalence of HIV among antenatal women in the Port Moresby General Hospital passed one percent in 2003. This situation has changed in the past few years.

Methods: The latest epidemiological data from the national department of health and several sexual behaviour studies and surveys conducted in the country were reviewed to assess the characteristics and pattern of the HIV epidemic in the general population.

Results: By 2010 a total of 203 ANC sites in the country were providing data on the number of pregnant women receiving counselling and testing. The ANC sites tested a total of 50,000 antenatal women and of these 250 tested positive for HIV infection. Evidence from sexual behavioral studies suggests that males and females are exchanging sex with other males and females, men have sex with men without identifying themselves with any specific population, and heterosexual anal sex is a common sexual practice.

Conclusion: Behavioural data indicates that sexual practice's across PNG varies a lot and it is not feasible to clearly describe and define the epidemic patterns. Concurrent sexual partnerships and transactional sex are observed to be common sexual practices.

PAPER REF 1241 CHALLENGES IN USING POINT OF CARE SYPHILIS RAPID TESTS IN A YAWS ENDEMIC AREA

Law G¹

¹PNG National Department of Health

Introduction: In Papua New Guinea (PNG), the Standard Operating Procedures for testing for syphilis include the use of a non-treponemal test (VDRL or RPR). For all cases that have a reactive result, the serum is then tested with a treponeme specific test (TPHA). Many lowland areas of PNG are also yaws endemic. Neither VDRL/RPR nor TPHA can differentiate between syphilis and yaws. The combination of a reactive VDRL/RPR and a positive TPHA however, does indicate a current treponemal infection. In PNG this means either syphilis or yaws and the treatment for both is the same. Clinical judgement must be used to make the final diagnosis.

Issues: Syphilis screening has been part of antenatal care in PNG for many years. The problem has been that VDRL/RPR require at least a basically functioning laboratory. In rural health facilities in PNG, functioning laboratory facilities are almost non-existent. This has meant that antenatal screening for syphilis has been limited to provincial and some district level hospitals. In 2005, the use of a point of care (POC) syphilis rapid test was introduced for use in rural antenatal clinics. This test is a single treponemal specific antibody test that cannot distinguish between current active infection and past infection, or between syphilis and yaws. The test really indicates a life-time exposure to either syphilis or yaws and is not of itself diagnostic of current infection. This has resulted in many women being diagnosed as having syphilis when in fact they could have had yaws as a child. In some instances the test has been used in an unauthorised way as a community screening tool for syphilis, in a yaws endemic area, causing turmoil and distress.

Conclusion: Great care must be taken when using a single treponemal specific antibody test to screen for syphilis, in a yaws endemic area.

Conflict of Interest: I declare that I have no conflicts of interest.

HUMAN PAPILLOMAVIRUS AND CERVICAL CANCER IN PAPUA NEW GUINEA

Vallely A^{1,2}. Ryan C^{2,3}, Mola GDL⁴, Kaldor JM¹

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Cervical cancer is the most common cancer among women in Papua New Guinea (PNG) and a leading cause of premature death. Despite the estimated burden of cervical cancer, there is very limited information available on the epidemiology of human papillomavirus (HPV) in PNG. No large-scale surveys have previously been conducted to establish the prevalence of HPV among women in the general population or among those who may be at increased risk, such as women attending sexual health clinics, or women who engage in commercial and/or 'exchange' sex (sex for money, gifts or favours). The only survey to date was conducted among 114 women attending a gynaecology clinic in Goroka in the mid-1990s: this reported a 33% prevalence of HPV-16/18.

The PNG Institute of Medical Research (PNGIMR) is currently leading a collaborative HPV and cervical cancer research program that includes three large-scale clinic-based studies. This research will provide the first robust estimates of HPV type prevalence among women at different levels of sexual risk in PNG. A total of 2500-3000 women will be recruited at antenatal, well woman and sexual health clinics at nine sites in PNG. These data will be essential to future decision making regarding the introduction of polyvalent HPV vaccines for primary cervical cancer prevention in PNG.

CROSSING THE GREAT DIVIDE – URBAN TO REMOTE: THE SEXUAL HEALTH OF AUSTRALIA'S FIRST PEOPLES TUESDAY 16 OCTOBER 2012 – 12.15PM–1.15PM

PAPER REF 726

CHLAMYDIA TESTING AND FOLLOW UP IN YOUNG PEOPLE ATTENDING URBAN AND REGIONAL ABORIGINAL COMMUNITY CONTROLLED HEALTH SERVICES

<u>Dr Mary Ellen Harrod¹</u>, Prof John Kaldor¹, Dr Sophie Couzos², Prof Basil Donovan¹, Ms Dea Delaney-Thiele³, Mr Mark Saunders², Mr James Ward⁴, Mr Sid Williams⁵

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Introduction: While chlamydia infections are reported in Aboriginal and Torres Strait Islander people at three times the rate of non-Indigenous people nationally, our understanding of the true prevalence of infection is incomplete. The aim of this study was to present a comprehensive picture of chlamydia testing, positivity and follow up in Aboriginal Community Controlled Health Services (ACCHs) participating in REACCH, a collaborative program of STI and BBV clinical research.

Methods: We examined chlamydia testing, positivity and re-testing in patients aged 15-29 years attending five participating ACCHSs from 2009-2011. Data were extracted using GRHANITE™, a software tool that securely captures data from clinic patient information management systems. Analysis by age and sex was undertaken using SPSS and STATA.

Results: A total of 8,844 patients (57% female) aged 15-29 years attended one of the services in the 3-year study period. The percentage of female patients tested per year for chlamydia during the study was 16%, with those aged 15-24 most likely to be tested (17%). Overall, 6% of male patients were tested, with those aged between 20-24 year old males most likely to be tested (9%). Chlamydia positivity was 12% overall (10% in females and 20% in males). In females, chlamydia positivity was highest in 15-19 year olds at 17% and in males it was 25% among 20-24 year olds. Of patients who tested positive, 30% of females and 3% of males were re-tested for chlamydia following the initial positive result in accordance with published guidelines. The positivity rate increased over the study period from 9% in 2009 to 12% in 2012.

Conclusion: The high positivity rate in young people indicates a clear need for increased focus on chlamydia. ACCHSs have a critical role to play in addressing chlamydia infections in the Australian Aboriginal Population.

OPPORTUNITIES FOR CHLAMYDIA TESTING IN FOUR REGIONAL ABORIGINAL COMMUNITY CONTROLLED HEALTH SERVICES IN NEW SOUTH WALES

<u>Mr Simon Graham</u>¹: Dr Rebecca Guy¹, Dr Handan Wand¹, Dr Janet Knox², Ms Patricia Bullen³, Ms Debbie McCowen³, Mr O'Brien Chris³, Ms Soderlund Cheryl³, Professor Basil Donovan¹⁴, Professor John Kaldor¹

- ¹ Kirby Institute, University of New South Wales, Sydney NSW
- ² Consultant, Sexual Health Physician
- ³ Aboriginal Community Controlled Health Services in regional NSW
- ⁴ Sydney Sexual Health Centre, Sydney Hospital, NSW

⁵ Baker IDI Heart & Diabetes Institute, Darwin NT

Introduction: Higher rates of chlamydia have been reported in Indigenous compared to non-Indigenous Australians. Guidelines recommend annual chlamydia testing of people aged 15-29 years. We examined opportunities for chlamydia testing by reason for attendance and demographic factors in four regional Aboriginal Community Controlled Health Services (ACCHS) in NSW.

Methods: Data were collected from the patient information management system from four regional ACCHS in NSW from 1st July to 31st December 2011. All patients aged 15-24 years who attended the ACCHS were included. For all consultations we collected age, sex, Aboriginal status, consultation date, reason for consultation, chlamydia test and result. We created a hierarchy with consultations related to sexually transmissible infections (STI), reproductive health and adult health check considered to provide the greatest opportunity for chlamydia testing.

Results: There were 387 patients (171 males, 216 females) aged 15-24 years who had 765 consultations. Overall 18% were tested for chlamydia during their first visit, 23% of males and 16% of females (p<0.01) with 9% testing positive. Among females, 7% of their first visits were due STI symptoms or check (39% were tested), 22% were reproductive health related (7% were tested), 12% were for an adult health check (48% were tested), 2% were for preventative health assessments (0% were tested) and 57% were for general medical consultations (22% were tested). Among males, 3% of first visits were due to a STI symptom or check (75% were tested), 18% were for an adult health check (33% were tested), 1% were for preventative health assessment (0% tested), and 72% for general medical consultations (39% were tested).

Conclusion: Opportunities to increase chlamydia testing as part of reproductive health and adult health checks are possible. ACCHS are implementing strategies to increase chlamydia testing as part of a sexual health quality improvement program known as SHIMMER.

HIGH LEVELS OF RE-TESTING AFTER CHLAMYDIA AND GONORRHOEA INFECTION IN REMOTE ABORIGINAL COMMUNITIES 2009-2011: FINDINGS FROM THE STRIVE TRIAL

<u>Ms Linda Garton</u>¹. Ms Amalie Dyda¹, Dr Rebecca Guy¹, Ms Bronwyn Silver², Ms Debbie Taylor-Thomson², Ms Belinda Hengel³, Dr Janet Knox¹, Ms Skye McGregor¹, Professor John Kaldor¹, Mr James Ward¹²

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Introduction: Re-testing 3 months after treatment for chlamydia and gonorrhoea infection is important to detect re-infections which are common and increase the risk of pelvic inflammatory disease. We assessed the prevalence of re-testing and repeat positivity in remote health services participating in the STRIVE trial.

Methods: Laboratory data from 66 remote health services participating in STRIVE were collated for the period 2009-2011 (baseline). We focused on all positive chlamydia and/or gonorrhoea tests in the period 1 January 2009 to 30 April 2010 and then allowed another 12 months for re-testing. We stratified re-testing by time interval (<2 months, 2-4, and 5-12), age group and sex. We also calculated the chlamydia and/or gonorrhoea positivity at re-test.

Results: A total of 1731 positive chlamydia and/or gonorrhoea tests occurred in the study period and 941 (54.4%) of people were re-tested within 12 months. Re-testing was higher in women (60.5%) than in men (44.2%). In men, re-testing within 12 months was highest in 16-19 year olds (47.0%) and among women was highest in 25-29 year olds (69.3%). Of patients with a positive test, 10.0% were re-tested within <2 months, 18.1% within 2-4 months and 26.3% within 5-12 months. Chlamydia and/or gonorrhoea repeat positivity was 23.1% overall; higher in men (30.0%) than in women (20.0%). In both men and women, repeat positivity was highest in 16-19 year olds; 38.9% and 26.6%, respectively.

Conclusion: In late 2009 guidelines were formalised in the Northern Territory recommending re-testing 3 months after treatment of these infections. Our findings highlight that considerable re-testing was already occurring, but only about a third in the recommended time interval of 3 months (+/- 1 month). As part of the STRIVE quality improvement progam, STRIVE coordinators will work with services to increase re-testing at 3 months.

Disclosure of Interest Statement: The STRIVE Trial is funded by grant received from the National Health and Medical Research Council.

HIGH RATES OF CHLAMYDIA POSITIVITY IN ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE ATTENDING AUSTRALIAN SEXUAL HEALTH SERVICES; THE AUSTRALIAN COLLABORATION FOR CHLAMYDIA ENHANCED SENTINEL SURVEILLANCE (ACCESS)

<u>O'Connor CC^{123.8}li</u> H¹, Guy R¹, Templeton DJ¹²³, Fairley CK⁴⁵, Chen MY⁴⁵, Dickson B⁶, Marshall L⁸, Grulich AE¹, Kaldor J¹, Hellard M⁷, Donovan B¹⁹, Ward J¹¹⁰, on behalf of the ACCESS Collaboration.*

The Kirby Institute, The University of New South Wales, Sydney NSW, 2052 Australia RPA Sexual Health Clinic, RPA Hospital, Camperdown, Sydney, NSW, Australia Central Clinical School, Sydney Medical School, University of Sydney, NSW, Australia School of Population Health, University of Melbourne, Melbourne VIC, Australia Melbourne Sexual Health Centre, Carlton, Victoria, Australia CaraData Pty Ltd, Parkwood, QLD, Australia Centre for Population Health, Macfarlane Burnett Institute for Medical Research and Public Health, Melbourne, VIC, Australia Fremantle Hospital, Fremantle, Western Australia, Australia Sydney Sexual Health Centre, Sydney Hospital, Sydney NSW, Australia Baker Institute, Alice Springs, Northern Territory, Australia.

Introduction: Australia has a widely dispersed network of public sexual health services that see large numbers of people at risk of genital *Chlamydia trachomatis* infection. ACCESS was established to monitor chlamydia testing and positivity rates nationally and to assist the interpretation of chlamydia diagnoses reported through passive surveillance. We report on chlamydia testing and positivity in Aboriginal and Torres Strait Islander people attending 25 sexual health services participating in ACCESS between 2004 and 2010.

Methods: Using line-listed data, we analysed by Aboriginal and Torres Strait Islander status, testing rates based on first visits and chlamydia positivity in those tested. Outcomes were stratified by age group, sex, and year of attendance and were compared with other clients using a chi-square test.

Results: From 2004 to 2010, 9,519 Aboriginal and Torres Strait Islander people attended participating sexual health services, comprising 4.2% of all initial visits. Of these 6,463(68%) were tested for chlamydia. In women overall chlamydia positivity rate was 14.9% and 20.3% in 15-19 year olds, 16.3% in 20-24 year olds, 13.1% in 25-29 year olds and 5.3% in 30+ year olds. In men overall chlamydia positivity rate was 14.7% and 17.6% in 15-19 year olds, 21.0% in 20-24 year olds, 13.2% in 25-29 year olds and 7.7% in 30+ year olds. In the same time period, chlamydia positivity increased in Aboriginal and Torres Strait Islander men from 11.7% to 20.8% (p<0.01) and from 13.8% to 22.2% in women (p<0.04).

Conclusion: The high Chlamydia positivity rates and increases over time highlight the need for enhanced prevention and screening programs in Aboriginal and Torres Strait Islander people in Australia.

Disclosure: The 'ACCESS project' was funded by the Australian Government Department of Health and Ageing from 2007 to 2010, as part of the national Chlamydia Pilot Program.

UNDERSTANDING SEXUAL HEALTH RISK: SERIAL POPULATION SURVEYS OF KNOWLEDGE, ATTITUDES AND PRACTICES AMONG YOUNG PEOPLE IN REMOTE NORTH QUEENSLAND (NQ) COMMUNITIES

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¹Sexual Health Program, Cairns Public Health Unit, Tropical Regional Services, Queensland Health ²Health Promotion, Cairns Public Health Unit, Tropical Regional Services, Queensland Health

Introduction: Remote living youth experience significant sexual health disadvantage, evidenced by high rates of sexually transmitted infections (STI), their adverse reproductive consequences and increased risk of HIV. Reducing this risk requires health promotion efforts informed by a robust understanding of knowledge, attitudes and practices (KAP) in relation to safe sex and STI/HIV.

Methods: Surveys of KAP (adapted from the 5 yearly national secondary school survey) combined with facilitator-led same-gender focus groups, were conducted in a selection of remote locations across NQ in 2007, and again in 2010. In 2007, 131 (F:74; M:57), and in 2010, 211 (F:114; M:97) Aboriginal / Torres Strait Islander people aged 15-19 years, participated. Where possible, results were compared with findings from the 2008 national survey.

Results: The 2010 sample represented 22% of the eligible population and is broadly representative of regional youth across a range of socioeconomic parameters. In 2010, Indigenous youth answered 56% of the (HIV) knowledge questions correctly compared with 85% of national youth. 60% (males) and 35% (females) in the Indigenous survey report an age of sexual debut of 14 years or less. 51% of sexually active Indigenous males (vs 37% nationally) and 35% females (vs 27% nationally) report 3 or more partners in the previous 12 months. 78% of Indigenous youth report being at "no" or "low" risk of STI/HIV. The 2010 findings reinforce those of 2007, the exception being a significant decline in 2010 in the proportion of males (91% to 75%) and a significant increase in the proportion of females (72% to 85%) reporting that they are sexually active.

Conclusion: The findings illustrate the persistent additional risk faced by remote NQ youth. They also demonstrate the robustness of the methodology providing a population level snapshot for NQ. Repeat regional surveys will be conducted to evaluate on-going health promotion initiatives.

PROFFERED PAPER SESSION - HPV RELATED NEOPLASIA AND HIV

TUESDAY 16 OCTOBER 2012 - 1.30PM-3.00PM

PAPER REF 594

BEFORE AND AFTER COMPARISON OF HUMAN PAPILLOMAVIRUS (HPV) GENOTYPES IN CERVICAL INTRAEPITHELIAL NEOPLASIA GRADE 3 (CIN3) LESIONS FOLLOWING THE INTRODUCTION OF THE NATIONAL HPV VACCINATION PROGRAM IN VICTORIA, AUSTRALIA.

<u>Callegari E^{1,5}</u> Young E¹, Tabone T¹, Tabrizi S², Brotherton J³, Pitts M⁴, Gertig D³, Wark J⁵, Jayasinghe Y², Saville M³, Tan J², Pyman J², Wrede D², Garland S.M.¹².

¹Murdoch Childrens Research Institute, ²Royal Women's Hospital, ³Victorian Cytology Service, ⁴LaTrobe University, ⁵The University of Melbourne,

Introduction: HPV is the cause of cervical dysplasia and the subsequent development of cervical cancer. In Australia, the National HPV Vaccination Program began in April 2007 in an effort to reduce the incidence of cervical cancer. The VACCINE study aims to assess the effectiveness of the vaccine in reducing the proportion of CIN3 lesions positive for vaccine-specific HPV types.

Methods: CIN3 positive cervical biopsies submitted for pathology at the Royal Women's Hospital or Victorian Cytology Service since June 2011 from vaccine age eligible women (i.e. born after 30th June 1981) were identified and tested for HPV genotypes using whole tissue section processing. This involved DNA extraction from archival paraffin embedded biopsy sections by the automated MagNA Pure instrument (Roche) and detection using the PapType HPV Genotyping Assay (Genera Biosystems).

Results: Among 114 women with CIN3 on biopsy, 97.4% of cases tested positive for HPV, with 55% of cases positive for HPV16 and 13% for HPV18. HPV16 positivity was slightly but not significantly higher amongst women 26-30 years compared to those 20-25 (57% vs 53%, $\chi^2(1)=0.14, p=0.71$). Compared to the age equivalent pre-vaccine population1, a lower percentage of cases in women aged 20-25 were HPV16 positive (53% vs 69.7%, $\chi^2(1)=3.79, p=0.05$). However, no difference was detected amongst women aged 26-30 (57% vs 59%, $\chi^2(1)=0.09$, p=0.77). Considering HPV18 together with HPV16, there was no significant difference in the percentage of cases positive for HPV16/18 amongst women aged 20-25 (60% vs 72%, $\chi^2(1)=2.15, p=0.14$), or amongst women aged 26-30 (68% vs 65%, $\chi^2(1)=0.11, p=0.74$).

Conclusion: These interim findings demonstrate a significant decline in the proportion of CIN3 biopsies containing HPV16 in women aged 20-25 years in Victoria, representing the youngest women eligible for free vaccination from 2007. Further progression of the study is required to monitor changes in the proportions of other HPV genotypes, including HPV18.

Disclosure of Interest Statement: Authors Tabrizi, Brotherton, and Garland were chief investigators on the WHINURS study, a study of HPV prevalence in Australian women, which was funded by a grant from the Cooperative Research Centre for Aboriginal Health, as well as education grants in aid from GlaxoSmithKline and CSL Limited. SM Garland has received advisory board fees and grant support from CSL and GSK, and lecture fees from Merck and GSK. SM Garland has received funding through her institution to conduct Phase III clinical trials of HPV vaccine studies for MSD and GSK. SM Garland is a member of the Merck Global Advisory Board, the Merck Scientific Advisory Committee for HPV prophylactic vaccines, as well as being on the Australian Advisory Boards on cervical cancer for GSK and CSL. JML Brotherton, M Saville, D Gertig and SM Garland are investigators on an Australian Research Council Linkage Grant, for which CSL Biotherapies is a partner organisation. The authors have no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict.

PSYCHOLOGICAL MORBIDITY ASSOCIATED WITH ANAL CANCER SCREENING IN HOMOSEXUAL MEN

<u>A/Prof Richard Hillman</u>^{1,2} Dr Kirsten McCaffery¹, Dr Mary Poynten², Clin Ass Prof David Templeton^{2,3}, Ms Dorothy Machalek³, Dr Fengli Jin³, Professor Christopher Fairley⁴, Professor Suzanne Garland⁴, Professor Andrew Grullichj² ¹University of Sydney, Sydney, Australia, ²Kirby Institute, University of New South Wales, Sydney, Australia, ³RPA Sexual Health, Royal Prince Alfred Hospital, Sydney, Australia, ⁴University of Melbourne, Melbourne, Australia

Background: Homosexual men are at greatly increased risk of anal cancer. Cervical cancer screening is associated with substantial psychological morbidity, but little is known of the l impact of anal cancer screening.

Methods: The Study for the Prevention of Anal Cancer (SPANC) is a 3-year communityrecruited prospective study. Participants undergo digital anal examination, anal Pap swab for cytology and high resolution anoscopy at time 0, 6 months, 1 year and yearly thereafter, after which all results are discussed with participants and written explanations provided. Questionnaires based on validated cervical cancer screening scales were developed to measure the psychological impact of study procedures. These were completed by participants at home, on-line or on paper, 2 weeks and 3 months after they received their screening results.

Results: By April 2012, 218 participants (median age 49 years; 31% HIV positive) had enrolled, and 130 had attended their second visit, that is at 6 months since enrolment. At their first visit, 33% received a diagnosis of HGAIN (High Grade Anal Intraepithelial Neoplasia). Baseline psychological distress was higher in HIV positive versus negative participants (p=0.003) but this difference was not seen on subsequent visits. Compared to men with normal/Low-grade anal intraepithelial neoplasia (LGAIN) biopsy results, those with HGAIN were more likely at baseline to: feel that they were at increased likelihood of developing anal cancer at baseline (p=0.004), have fear about anal cancer (p=0.001), have worse feelings about their anal health (p=0.009) and have more concern that there was something seriously wrong with them (p<0.001). Men with HGAIN were less likely to report that the screening test gave them peace of mind (p<0.001).

Conclusion: A diagnosis of HGAIN was associated with significant levels of psychological morbidity, compared with men with LGAIN/normal findings. The potential for adverse psychological effects should be considered when designing anal cancer screening programs.

POPULATION-BASED COHORT STUDY IN A HIGH HIV BURDEN DISTRICT OF INDIA SHOWS HIGHER RURAL INCIDENCE

Prof Lalit Dandona ^{1,2} <u>Dr G Anil Kumar</u>¹, Prof Vemu Lakshmi ³, Mr G Mushtaq Ahmed ¹, Mr Mohammed Akbar¹, Mr S P Ramgopal ¹, Dr Talasila Sudha ³, Prof Michel Alary⁴

¹ Public Health Foundation of India, New Delhi, India,² Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA, USA, ³ Department of Microbiology, Nizam's Institute of Medical Sciences, Hyderabad, India, ⁴Centre hospitalier *affilié* universitaire de Québec, Quebec, Canada

Introduction: To assess HIV incidence and its associations in the population of a high HIV burden district in Andhra Pradesh state in southern India.

Methods: We re-surveyed a population-based cohort of 12,617 adults in Guntur district of Andhra Pradesh for which we had reported a baseline HIV prevalence of 1.72% (rural 1.64%, urban 1.89%) among the 15-49 years age group in 2004-2005. We conducted interviews to assess risk behavior and performed HIV testing again in 2010-2011. We assessed compositional bias of the follow-up sample, assessed the rate of new HIV infection, and its associations using multiple logistic regression.

Results: The participation rate in the follow-up was 74.9% and 63.9% of the baseline rural and urban samples, respectively. Over a mean follow-up of 5.6 years, the annual incidence of HIV was 1.24 per 1000 (95% CI 0.81-1.67). The annual incidence was higher among rural men (1.77 per 1000) than urban men (0.75 per 1000) and also among rural women (1.18 per 1000) than urban women (0.54 per 1000). The compositional bias in the follow-up sample was modest, which would not affect this trend. The strongest association with incidence was a HIV positive spouse in the baseline for both men (odds ratio 363, 95% CI 73-1802) and women (odds ratio 48, 95% CI 15-158). Among men, the other associations with HIV incidence were a history of blood transfusion (odds ratio 6.1, 95% CI 1.1-341) and more than one lifetime woman sex partner (odds ratio 3.8, 95% CI 2.0-7.2).

Conclusion: These first population-based cohort incidence data from India suggest that rural areas of high HIV burden states would need more attention to prevent new HIV infections, and that spouses of HIV positive persons need to be targeted more effectively by HIV prevention programmes

HIV AND STIS AMONG FEMALE SEX WORKERS IN 12 REGIONS OF THAILAND, 2010

 $\underline{\rm Ms}$ Niramon Punsuwan 1 Mr Chawetsan Namwat 1 , Mr Watcharapol Sinor 1 , Ms Supiya Jantaramanee 1 , Mrs Orapan Sangwonloy 2

¹Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health, Thailand, ²Senior Epidemiologist consultant, Bangkok, Thailand.

Introduction: Female sex workers (FSW) have a high risk of exposure to sexually transmitted infections (STI) including HIV. There is a lack of information on the epidemiology of these infections in this high-risk group in Thailand. The objective of study to determine the prevalence of HIV and associated risk factors among female sex workers (FSWs) in 12 Regions of Thailand.

Methods: 3,689 FSWs in 12 provinces (each province/region) of Thailand were enrolled in a cross sectional study. Subjects were interviewed using a standardised questionnaire about selected socio-demographic and behavioral characteristics, history of STIs, and information about their cohabiting partners (husbands or live-in partners). Serological tests were done for HIV and urine tests (PCR) for chlamydia and gonorrhoea. Associations between HIV and selected features of FSWs and their partners were examined using univariate and multivariate logistic regression analysis.

Results: HIV prevalence among FSWs in 12 provinces of Thailand was 3.1%. CT, NG prevalence was 7.8%, 3.0%. In multivariate analysis between STI and selected features of FSWs, age of sex exchange \leq 28 (OR = 0.34, p = 0.001), and duration of sex exchange (OR = 1.17, p = 0.034) were associated with HIV infection. No condom use with regular non-paying partner (OR = 0.42, p = 0.038) was a borderline protective factor for HIV. FSWs with CT, NG positive were 1.59, 1.71 times more likely to be infected with HIV compared to those with non-reactive CT, NG.

Conclusion: Safe sex practices including consistent condom in commercial sex must be re-enforced. Further study on risk factors of HIV and syphilis co-infection in the current HIV epidemic is needed for better prevention and control measures.

PROGRESSION AND SPONTANEOUS REGRESSION OF HIGH-GRADE ANAL INTRAEPITHELIAL NEOPLASIA IN HIV-INFECTED AND UNINFECTED MEN

Dr Winnie Tong ¹. Dr Fengyi Jin ², Mr Leo McHugh ³, Ms Tara Maher ¹, Mr Brett Sinclair ¹, A/Professor Richard Hillman ¹³, Professor Andrew Carr ¹

¹Centre for Applied Medical Research, St Vincent's Hospital; ²Kirby Institute for Infection and Immunity in Society, University of New South Wales; ³Westmead Hospital, Sydney, Australia.

Background: Spontaneous regression of high-grade anal intraepithelial neoplasia (HGAIN) has not been reported.

Methods: We retrospectively reviewed all St Vincent's Hospital AIN clinic patients through January 2011. Cohort enrolment date was the date of each participant's first anal pap smear or high-resolution anoscopy (HRA). Progression was defined as having histologically-confirmed AIN3 with preceding lower grade histology, normal HRA, or negative cytology. Regression was defined as histologically-confirmed AIN3 that proceeded to lower-grade histology, normal HRA, or negative cytology. The most abnormal result was used if >1 biopsy was collected at any one HRA. For AIN3 regression, results after referral for surgical excision of HGAIN were censored.

Results: Of 575 patients: median age 46 years (IQR 37 to 52); 99.3% men; 73.0% HIV+ (median HIV duration 13.8 years [IQR 6.4 to 19.8], median CD4+ count 500 cells/µL [IQR 357 to 662], 83.5% undetectable plasma HIV viral load). Median follow-up was 1.06 years (IQR 0.26 to 2.76). 324 (56%) patients had >1 clinic visit.

The progression rate to AIN3 was 9.69/100 person-years (PY) (95% CI 6.73-13.94). Rates of progression increased with increasing age (P trend=0.001). The hazard ratio (HR) for progression to AIN3 was higher (2.66 [95% CI 1.21-5.86]) in HIV+ vs HIV-uninfected (P=0.015), and 3.61 (95% CI 1.56-8.36) in HIV+ with nadir CD4+ count <200 cells/ μ L vs HIV-uninfected (P=0.003).

The regression rate from AIN3 was 63.50/100 PY (95% CI 44.12-91.37). The HR for regression from AIN3 was lower (0.43 [95% CI 0.19-0.97]) in HIV+ vs HIV-uninfected (P=0.042), and 0.35 (95%CI 0.13-1.00) in HIV+ with nadir CD4+ count <200 cells/ μ L vs HIV-uninfected (P=0.049).

Conclusion: This is the first study to report spontaneous regression of AIN3, which was more common than progression to AIN3.

Disclosure of Interest Statement: Winnie Tong, Jeff Jin, Leo McHugh, Tara Maher and Brett Sinclair declare no conflicts of interest.

Richard Hillman has received travel assistance from Merck & CSL, and serves on the International Scientific Advisory Board for Merck.

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.

TENOFOVIR DIRECTLY SUPPRESSES HIV-1 AND HSV-2 IN COINFECTED CERVICO-VAGINAL TISSUE EX-VIVO

<u>Dr Christophe Vanpouille</u>¹. Dr Graciela Andrei², Dr Andrea Lisco¹, Dr Andrea Introini¹, Dr Robert Snoeck², Dr Leonid Margolis¹, Pr Jan Balzarini²

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Background: CAPRISA 004 showed that a 1% tenofovir vaginal gel was efficient in preventing HIV sexual transmission by 39%. Surprisingly, a 51% reduction of the risk of acquisition of herpes simplex virus (HSV) type 2, a common HIV-1 copathogen, which facilitates HIV transmission and worsens the clinical course of HIV disease, was also observed. This effect of tenofovir gel on HSV-2 was not anticipated, since tenofovir has been previously shown to exhibit minimal anti-HSV activity.

Methods: Human tissues (cervico-vaginal and tonsillar) were infected *ex vivo* with HIV-1LAI.04, HSV-1F, HSV-2G, HSV-2MS or with a combination of HIV-1 and one of the HSV-2 strains and then treated with tenofovir. HSV-2 and HIV-1 replication were respectively monitored by measuring HSV-2 viral DNA and p24gag accumulated in culture media over 3 days.

Results: Tenofovir suppressed replication of HSV-1F, HSV-2G and HSV-2MS in a dose-dependent manner with EC50s of 7 µg/ml [95% Confidence Interval (CI):10-44] for HSV-1F; 14 µg/ml (CI: 10-163) for HSV-2G, and 19 µg/ml (CI: 27-127) for HSV-2MS. 66 µg/ml tenofovir reduced HSV-1F, HSV-2G and HSV-2MS replication by 99±0.1%, 87±12% and 91.7±3.2%, respectively, compared to infected donor matched-untreated tissues (p<0.01). At that concentration, no measurable tonsillar depletion of total T cells, total B cells or subsets of naïve and memory T-cells (n=3, p>0.4) was observed. In HIV-1/HSV-2 coinfected tissues, 66 µg/ml tenofovir suppressed HSV-2G replication by 96±1% (n=6; p<0.01) and HIV-1LAI.04 by 100%.

Conclusion: Using cervico-vaginal tissue culture *ex vivo* that recapitulates many of the *in vivo* features, we showed that tenofovir, at the concentration achieved in topical vaginal application (which is substantially higher than achieved upon systemic administration), acts as a double-targeted antiviral agent. These data explain the inhibition of HSV-2 observed in the CAPRISA 004 trial. Topical application of the drug is a key requirement for this dual preventive anti-HIV/HSV effect.

PROFFERED PAPER SESSION - AT RISK POPULATIONS FROM AROUND THE WORLD TUESDAY 16 OCTOBER 2012 – 1.30PM–3.00PM

PAPER REF 481

FACTORS AFFECTING TIME TRENDS IN THE PREVALENCE OF GONOCOCCAL AND CHLAMYDIAL INFECTION AMONG FEMALE SEX WORKERS (FSWS) IN 24 DISTRICTS OF SOUTH INDIA - A MULTILEVEL MODELING ANALYSIS

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Introduction: The impact evaluation of Avahan, the India-AIDS initiative of the Bill & Melinda Gates Foundation, includes the assessment of time trends in bio-behavioural indicators among the populations targeted by the intervention. We evaluated the impact of individual, contextual and program variables on the trends in the prevalence of infection by either *Chlamydia trachomatis* or *Neisseria gonorrhoeae* (CT/NG) between 2 survey rounds among FSWs.

Methods: Random-effect multilevel logistic regression was performed with CT/NG as the outcome. Survey data from 24 Avahan intervention districts were used for individual variables (level one: individual). Program indicators and contextual district level variables were collected from the Avahan computerized monitoring and information system and Indian government datasets, respectively (level 2: district). To verify the impact of these variables on the observed CT/NG trends, interaction terms between significant variables and the round were considered for inclusion in the model.

Results: CT/NG among FSWs significantly decreased from 7.2% to 5.9% (Adjusted Odds Ratio (AOR)=0.83, 95% Confidence Interval (CI): 0.74-0.94). Increasing age ((p-value for trend<0.0001), consistent condom use (AOR=0.78, 95%CI:0.67-0.92), and longer duration in sex work (p-value for trend<0.0001) were associated with lower CT/NG prevalence. HIV (AOR=1.41, 95%CI:1.22-1.63) and Syphilis (AOR=1.54, 95%CI:1.30-1.83) were risk factors for CT/NG. The percentage of FSWs regularly contacted by the programme was associated with lower CT/NG prevalence (AOR=0.99, 95%CI:0.98-1.00). Strangely, there was a significant interaction between the percentage of muslim population at the district level and survey round, with lower decrease in CT/NG in districts with higher levels of muslim population (p-valueinteraction=0.045).

Conclusion: The significant reduction in CT/NG prevalence between the two survey rounds and the lower risk of CT/NG corresponding to regular contact with FSW suggests the impact of Avahan. Such impact may however be modulated by some individual and contextual factors that need to be understood to better adjust the interventions.

THE EFFECT OF COMPREHENSIVE SEXUAL EDUCATION PROGRAM ON SEXUAL HEALTH KNOWLEDGE AND SEXUAL ATTITUDE AMONG COLLEGE STUDENTS IN SOUTHWEST CHINA

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Introduction: The purpose of this study was to evaluate whether a comprehensive sexual education program for college students in Southwest China: (1) improved sexual health knowledge in reproduction, contraception, condom use, STDS, and HIV; (2) increased accepting attitudes toward LGBT individuals; and (3) altered participants' attitudes toward premarital sex and monogamy.

Methods: The program used diverse teaching methods, providing 6 sessions over a period of 9 weeks about sexual health knowledge and sexual attitudes to college students (aged 18-26) in Southwest China. Sexual health knowledge and sexual attitudes of 80 comprehensive sexual education class students (education group) and 92 general mental health education class students (control group) were measured at baseline, the end of course (post-test), and 3 weeks after the end of course (follow-up).

Results: There were significant effects of the program on: (1) sexual health knowledge, including reproductive health, contraception, condom use, and HIV/AIDS; and (2) positive attitudes toward sexual minorities, although these changes may require further reinforcement. In contrast, the program did not alter students' attitudes about premarital sex or monogamy.

Conclusion: The results are discussed in terms of recommendations of sex education in China, and future directions for research.

Disclosure of Interest Statement: "The effect of comprehensive sexual education program on sexual health knowledge and sexual attitude among college students in Southwest China". This is an original study, not previously published, and not under concurrent consideration elsewhere. The research was conducted in compliance with the ethics guidelines of the APA.

DOES HAVING A PEER-CONFIDANT INFLUENCE YOUNG PEOPLE IN RURAL SOUTH AFRICA'S HIV-RELATED KNOWLEDGE, PERCEPTIONS AND REPORTED SEXUAL BEHAVIOUR? – "WELL, MY FRIEND SAYS..."

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Introduction: Sexual health interventions targeting young people often seek to shape peer norms and peer-mediated interventions remain popular. In rural South Africa, it is usually culturally expected that young people 'should not' discuss sex or HIV. We asked whether having a peer-confidant, 'with whom you discuss sex and HIV', influenced young people's sexual health knowledge, perceptions of peers'sexual behaviour and their own sexual debut.

Methods: Data were drawn from a survey of 6813 (F: 3806) young people enrolled in 48 secondary schools (aged 13-17) in rural KwaZulu-Natal, South Africa. An 80-item questionnaire was delivered using a cellphone-based platform (*Mobenzi*).Chi-squared results of reporting a same- or an opposite-sex confidant on 4 HIV-related knowledge variables and 2 sexual behaviour variables were calculated using *R*.

Results: More young people reported having a same-sex [F: 45.1%(1717/3806); M: 55.3% (1663/3007)] than an opposite-sex confidant [F: 17.7%(674/3806), M: 28.7% (863/3007)]. Those reporting any confidant were significantly more confident about the accuracy of their HIV-related knowledge(same-sex 66.0%*vs* 33%; opposite-sex 65.0% *vs* 60.5%), knew pregnancy could occur at first sex (same-sex 54.1%*vs* 46.6%; opposite-sex 56.3% *vs* 48.6%), and knew 3 lifetime sex partners was less risky than 10 (same-sex 45.8% *vs* 40.1%; opposite-sex 48.8% *vs* 41.2%)(p<0.01in each comparison).Only those reporting an opposite-sex confidant were significantly more likely to report friends as their primary HIV/pregnancy-related knowledge source (7.7% vs 5.9%; p=0.02). Those reporting any confidant were more likely to believe their peers were sexually active (same-sex 37.3% vs 28.1%; opposite-sex 38.6% vs 31.0%) and to self-report being sexually experienced (same-sex 15.3% vs7.9%; opposite-sex 18.6% vs9.5%)(p<0.01 in each comparison).

Conclusions: Understanding how peer-connectedness functions in different cultures is an important consideration when designing interventions, but encouraging peer-connectedness as a singular outcome may be a double-edged sword.

MEDICAL MALE CIRCUMCISION: PREVALENCE, KNOWLEDGE AND INTENTIONS IN YOUNG ZULU MEN IN RURAL KWAZULU-NATAL, SOUTH AFRICA

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Introduction: Medical male circumcision (MMC) reduces HIV acquisition risk in men, and is being rolled-out in South Africa. There is significant demand even in communities without a tradition of circumcision. We examined MMC prevalence, knowledge and intentions in 2 samples of young Zulu men in rural South Africa.

Methods: Data were drawn from 2 surveys: a cross-sectional survey of 3007 schoolattending men (13-17 years old) and the baseline survey of a study examining recruitment and retention strategies for biomedical intervention trials (235 non-school attending men, 18-35 years old). Three MMC questions were common to both surveys, with 1 additional question asked of school-attending men. We explored prevalence, acceptability and place where procedure was performed in circumcised men, and knowledge of benefits and circumcision intentions in uncircumcised men. Chi-squared comparisons were performed in *R*.

Results: Overall circumcision rates were 8.4% (253/3007) in school attending men; 6.8% (16/235) non-school attending men, with no significant difference between groups (p=0.46). Most circumcised men reported having the procedure, as adults, in a public hospital (47.2%) or private clinic (24.7%). Among uncircumcised men, 45.8% (1363/2973) indicated their intention to have the procedure, and of these 74.7% cited health benefit/preventing HIV as their main motivation. Among uncircumcised men, the sexually experienced men were more likely to indicate an intention to be circumcised than the sexually naïve men (54% vs 44%; p =<0.01).

Conclusions: Circumcision rates among rural Zulu men are low. Circumcised men were willing to undergo the procedure in hospital or clinic reflects current availability, but nonetheless encourages the possibility of diversification of providers, while knowledge of health benefits and circumcision intention confirm the need for increased delivery-capacity. That men's intention to undergo circumcision was positively associated with sexual experience suggests interventions promote circumcision, particularly to those not yet sexually active.

GEOGRAPHIC AND TEMPORAL HETEROGENEITY IN HIV EMERGENCE AND CLIENT SOLICITATION AMONG FEMALE SEX WORKERS IN PAKISTAN

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Introduction: Evidence suggests that HIV is emerging among female sex workers (FSWs) across Pakistan. We sought to examine the pattern of HIV emergence and changes in the practice of sex work in this population.

Methods: Two cross-sectional biological and behavioural surveys of 3,647 and 3,340 FSWs were conducted across 9 cities in 2006 and 2011. We used logistic regression to examine individual risk factors for HIV.

Results: There were no cases of HIV in 2006, but prevalence had increased to 0.63% (95% CI: 0.43-0.92) by 2011, and ranged from 0% in Peshawar and Quetta to 0.53% and 1.9% in the relatively less conservative cities of Lahore and Karachi, respectively. In 2011, HIV positivity was associated with recent injection drug use (adjusted odds ratio, AOR 4.7; 95% CI: 1.1-19.6) and the absence of program exposure (AOR 7.5; 95% CI: 1.5-39.1).

In the more conservative cities of Quetta and Peshawar, home-based solicitation remained common (22.0% and 38.4% in 2011) and unchanged between rounds, while solicitation through mediators dropped in Quetta from 27.7% to 16.9% and from 43.2% to 23.8% in Peshawar. In the less conservative cities of Lahore and Karachi, the proportion of home-based FSWs increased from 12.2% to 43.7% and from 17.4% to 35.0%, respectively. Solicitation through mediators remained relatively high in Lahore (41.3%) and Karachi (39.9%) in 2011.

In 2006, the use of mobile phones for solicitation varied between 9.4% in Lahore and 33.2% in Peshawar. By 2011, phone-solicitation had increased in all cities.

Conclusion: HIV is emerging among FSWs in Pakistan, and the potential exists for early interventions to avert the realization of a sustained epidemic. Patterns of behavior vary across Pakistan and must be considered when designing HIV prevention programs.

UNDERSTANDING THE LINK BETWEEN STIS AND INFERTILITY: PERCEIVED RISK, PERCEIVED CONTROL, AND KNOWLEDGE AMONG URBAN YOUTH

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Introduction: Prior research has also demonstrated that urban youth in high STI prevalence communities highly value future fertility; but little is known about how adolescent perceptions of infertility influence protective sexual behaviors such as condom use. The objective of this study is to examine the relationship between STI-related knowledge, perceived risk for infertility, and perceived control over future infertility and condom use behaviors.

Methods: Household data collection was performed on 389 youth, aged 15-24 years residing in STI prevalent neighborhoods. Participants provided demographic and sexual health history information and completed the Fertility Awareness Scale (FAS) that contains three subscales measuring perceived risk (PR) (α =0.79) and perceived control (PC) over future fertility problems (α =0.68) and STI-related infertility knowledge (IK) (α = 0.87). Cross-sectional data were analyzed using logistic regression analyses.

Results: More than half wondered if they would be able to get pregnant in the future, only 43% thought that they could control fertility problems in the future. While the majority (61%) reported condom use at last sex, but only 36% reported consistent condom use. Mean FAS subscale scores were as follows: PR 6.7 (2.8), PC) 9.9 (2.7), and STI-related IK 1.8 (1.7). While the average knowledge score is indicative of a 50% knowledge accuracy, participants with higher knowledge scores were actually less likely to use condoms at last sex (AOR: 0.87, 95% Cl0.76-0.99, p=0.03) and use condoms consistently (AOR: 0.81, 95% Cl 0.69-0.94, p=0.007), controlling for age and gender. Perceived risk and control were not associated with condom use behavior.

Conclusion: There is a deficit in STI-related fertility knowledge and a disconnect between perceived risk and control over future fertility among urban youth. Developing novel strategies to convince youth that prevention of STI-related fertility issues are within their control may be an important next step in STI prevention.

Disclosure of Interest Statement: This work was supported by the by a grant from the Centers for Disease Control and Prevention, K01 DP001128.

PROFFERED PAPER SESSION - CHLAMYDIA, ACCEPTABLE, AUTOMATED, AND AT HOME TUESDAY 16 OCTOBER 2012 – 1.30PM–3.00PM

PAPER REF 688 HOME-BASED CHLAMYDIA SCREENING: A SYSTEMATIC REVIEW OF STRATEGIES AND OUTCOMES

<u>Dr Muhammad Jamil¹-</u> Dr Jane Hocking², Dr Heidi Bauer³, Dr Hammad Ali¹, Dr Handan Wand¹, Miss Kirsty Smith¹, Dr Jennifer Walker⁴, Dr Basil Donovan¹, Dr John Kaldor¹, Dr Rebecca Guy¹

¹ The Kirby Institute, University of New South Wales, ² Centre for Women's Health, Gender and Society, University of Melbourne, ³ STD Control Branch, California Department of Public Health, Richmond, ⁴Centre for Excellence in Rural Sexual Health, University of Melbourne

Background: Low chlamydia (CT) testing rates in primary-care in many countries have encouraged the development of screening programs in non-clinical settings. We describe the testing outcomes of home-based CT screening programs.

Methods: We systematically reviewed English-language literature describing CT screening programs with home-based self-collected specimens between 2005 and January 2011. The studies were grouped into program types and study medians were calculated.

Results: Twenty-two programs involved the use of postal test-kits (PTKs); most were in Europe (59%) and targeted both male and females (73%). In seven programs, people were invited (phone calls/letters) to receive PTKs: a median of 37% requested PTKs, 79% of these returned specimens, and 19% were tested overall (total tests:46225) with median CT positivity of 2.0%. PTKs were sent with invitation letters in five programs: a median of 29% of those invited were tested (total tests:15126) and median CT positivity was 4.6%. PTKs were ordered through internet or telephone without any direct invitation in four programs, but the kits were promoted through advertising strategies: a median of 32% returned specimens (total tests:2666) and median CT positivity was 9.1%. Another strategy involved personnel directly inviting people to receive PTKs (4 programs): a median of 46% people accepted PTKs, 21% of these returned specimens, and 9.1% were tested overall (total tests:341) with median CT positivity of 1.5%. Two programs involved PTKs to be picked-up from designated locations: 6765 PTKs were picked-up and 1167(17%) were returned overall. Two programs used combination of pick-up, internet and in-person invitation strategies (total tests:2395). Reminders (letters/phone calls/SMS/second PTK) were used (6 programs) which increased the specimen return rates.

Conclusions: Home-based screening programs have been established in different countries and use a variety of strategies. The use of internet appears to be a promising strategy. Reminders were shown to be important component of PTK programs.

CHLAMYDIA INFECTION AND THE RISK OF ADVERSE OBSTETRIC OUTCOMES

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Introduction: Diagnoses of chlamydia have been increasing in young Australian women but there is limited information on what effect chlamydia has on the risk of spontaneous preterm birth and other adverse obstetric outcomes.

Methods: A cohort study was conducted using probabilistic record linkage of two statutory databases in New South Wales (NSW), Australia. The NSW Midwives Data Collection records all births in NSW and the NSW Notifiable Conditions Information Management System records all diagnoses of genital chlamydia. In a cohort of women giving birth defined from the Midwives Data Collection, we examined the association between having a linked record of genital chlamydia, and three adverse obstetric outcomes, spontaneous pre-term birth, small for gestational age, and stillbirth using multivariate logistic regression. No information on chlamydia testing was available.

Results: From 1999-2008, among 351350 primiparous women with a singleton delivery, 14115 (4%) had a spontaneous preterm birth, 42068 (12%) had a small for gestational age baby and 2233 (0.6%) had a stillbirth. 3617 (1%) women linked to a record of chlamydia prior to their birth with the majority of diagnoses (80%) made before the estimated conception date. After adjusting for potential confounders including maternal age, socioeconomic status, Indigenous status, smoking and other notifiable infections there were no significant associations between chlamydia and preterm birth, OR=1.3, 95%CI 0.97-1.31, small for gestational age OR 0.99, 95%CI 0.89-1.09, and stillbirth OR=1.35, 95%CI 0.97-1.88. The effect did not vary when different intervals between the chlamydia diagnosis and the birth were compared. When analyses were restricted to a population more likely to have been tested, that is women aged <25 years and giving birth from 2005-2008, the risk of preterm birth became significant OR=1.43, 95%CI 1.16-1.75.

Conclusion: A prior history of chlamydia infection indicates a predisposition to spontaneous preterm birth.

PAPER REF 11<u>61</u>

ARE AUSTRALIAN GENERAL PRACTITIONERS AND PRACTICE NURSES EQUIPPED FOR INCREASED CHLAMYDIA TESTING? FINDINGS FROM ACCEPT

 $\frac{Lorch R^3}{2} Yeung A^2, Hocking J^2, Wood A^2, Vaisey A^2, Fairley CK^{2.3}, Low N^5, Donovan B^1, Kaldor J^1, Law M^1, Gunn J^4, Temple Smith M^4, Guy R^1, on behalf of the ACCEPt consortium$

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Introduction: In Australia, chlamydia is the most common notifiable infection with 80% of notifications in 16-29 year olds and prevalence highest in women under 25. The Australian Chlamydia Control Effectiveness Pilot (ACCEPt) will determine if a multi-faceted intervention can increase chlamydia testing from current low rates of around 10%, and if increased testing can reduce prevalence. To inform the intervention, we determined general practitioners (GPs) and practice nurses (PNs) chlamydia knowledge and practices.

Methods: A survey was conducted among GPs and PNs at time of clinic recruitment.

Results: Of 607 GPs and 126 PNs enrolled in ACCEPt; 86% and 78% completed the questionnaire, respectively. The proportion of GPs correctly identifying the two age groups with the highest infection rates in women (15-19,20-24 yrs) and men (20-24,25-29 yrs) was 32% and 17% (GPs) and 26% and 16% (PNs), respectively. Nearly all GPs and PNs reported that they would test symptomatic patients <25 yrs (99%), however fewer GPs than PNs would offer testing to asymptomatic patients <25, including women having a Pap smear (55% vs. 84%); antenatal checkup (44% vs. 83%) and Aboriginal men with a sore throat (33% vs. 79%). Fewer GPs than PNs identified that retesting was recommended after a chlamydia diagnosis (86% vs. 95%); and the recommended time frame for re-testing was 3 months (26% vs 40%). Less than half of PNs (41%) reported involvement in chlamydia testing but 79% wanted greater involvement and 87% wanted further training.

Conclusion: Our survey reveals some gaps in chlamydia knowledge and management among GPs and PNs that may be contributing to current low testing rates in general practice. PNs want to become more involved in chlamydia management in general practice and could help increase chlamydia testing rates.

RAPID DETERMINATION OF LYMPHOGRANULOMA VENEREUM SEROVARS OF CHLAMYDIA TRACHOMATIS BY QUANTITATIVE HIGH-RESOLUTION MELT ANALYSIS (HRMA)

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Introduction: Chlamydia trachomatis is an obligate intracellular pathogenic bacterium consisting of 15 serovars responsible for conditions such as trachoma (serovars A-C), genital tract infections (serovars D-K), as well as the more invasive genital infection lymphogranuloma venereum (LGV) (serovars L1-3). LGV infections require a more prolonged and intensive treatment than that for other *C. trachomatis* infections. It is therefore, clinically important to differentiate LGV cases from other chlamydia infections, particularly in HIV positive MSM. High-resolution melt analysis (HRMA) is an economical alternative to DNA sequencing and probe-based qPCR which consists of comparing the melt profiles of DNA containing SNPs of interest. Such assays for *C. trachomatis* exist; however rely on a lengthy nested PCR step.

Methods: A single step HRMA assay was developed to differentiate LGV causing serovars of *C. trachomatis* from other serovars, targeting a 61bp fragment of the *ompA* gene flanking a SNP at position 30 whereby LGV serovars carry a guanine and non-LGV serovars an adenine. Being a single step assay this HRMA is also quantitative.

Results: The detection limit of this assay was found to be approximately 10 copies per reaction, comparable to other qPCR based methodologies. Using a panel of known *C. trachomatis* positive clinical samples (n=32), the HRMA assay demonstrated a 93.8% sensitivity when compared to a commonly used qPCR methodology also targeting the *ompA* gene.

Conclusion: The HRMA assay described is the first single step HRMA to identify LGV causing serovars of *C. trachomatis* and can potentially identify mixed LGV/non-LGV infections. Although this assay has a sensitivity comparable to that of qPCR, it was primarily designed to differentiate the LGV status of known *C. trachomatis* positives, and as with other HRMA assays, are not suitable as a primary diagnostic test.

IS THIS ACCEPTABLE? HIGH CHLAMYDIA PREVALENCE AMONG YOUNG MEN IN AUSTRALIA - RESULTS FROM THE AUSTRALIAN CHLAMYDIA CONTROL EFFECTIVENESS PILOT (ACCEPT)

<u>Miss Anna Yeung</u> ¹. Associate Professor Meredith Temple-Smith ³, Professor Christopher Fairley ³⁴, Doctor Rebecca Guy ⁵, Professor Nicola Low ⁴, Professor Basil Donovan ⁵, Professor John Kaldor ⁵, Professor Matthew Law ⁵, Professor Jane Gunn ², Associate Professor Jane Hocking ¹

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Background: Few chlamydia prevalence data for Australian men are available. ACCEPt is a multi-state cluster randomised trial that aims to increase annual testing in 16–29 year-olds attending general practice to reduce the prevalence of chlamydia; measured at the beginning and end of the trial. We report on the baseline prevalence survey findings for men.

Methods: A research assistant, placed in each clinic, recruited a consecutive sample of 70–100 patients aged 16–29 within each postcode (4000 patients in total). Patients completed a demographic and sexual behaviour questionnaire and had a chlamydia test. Data was analysed by age group, location and Aboriginal status, and logistic regression was undertaken to identify factors associated with chlamydia prevalence.

Results: 1098 men have participated in 150 clinics in 52 areas across QLD, NSW, VIC and SA. 70.1% of eligible males were recruited, of which 4.4% were Aboriginal. Chlamydia prevalence was 4.8% (95%Cl:3.6-6.3) but was 6.4% in the Aboriginal population (95%Cl:1.3-17.5); slightly higher among rural (5.1%;95%Cl:3.7-6.8) than metropolitan men (2.6%;95%Cl:0.8-6.1;p=0.1); higher in 20-24 year-olds (6.2%;95%Cl:4.2-8.8) than in 16–19 year-olds (3.9%;95%Cl:1.9-7.0), or 25-29 year-olds (4.3%;95%Cl:2.3-7.2). Gaps in knowledge were present; some were unaware that chlamydia can cause infertility (23.5%;95%Cl:21.1-26.1), and others were unaware that chlamydia affects 5% of young people (34.3%;95%Cl:31.6-37.2). Regression analysis found the following factors were associated with a chlamydia diagnosis; 3 or more new partners in the last 12 months (OR=3.7;95%Cl:1.3-8.5) and symptoms or STI contact (OR=4.6;95%Cl:1.8-11.9).

Conclusions: These results highlight that Australian men carry a significant burden of chlamydia infection. Current guidelines recommend testing people under 25, but the data shows that males 25-29 still have a high prevalence of chlamydia. Males need to be targeted for testing if we are to have a chance at reducing the prevalence of chlamydia in young people.

AUTOMATED, COMPUTER GENERATED REMINDERS INCREASE DETECTION OF GONORRHOEA, CHLAMYDIA AND SYPHILIS IN MEN WHO HAVE SEX WITH MEN

Submitted by Mr. Huachun Zou

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Introduction: Guidelines recommend at least annual screening of men who have sex with men (MSM) but few clinic-based interventions have been shown to increase detection of bacterial sexually transmitted infections (STIs) among MSM.

Methods: We examined the effect of a fully automated, computer generated text message and email reminder service utilising computer assisted self interview on testing and detection of STIs among MSM attending a sexual health service. We compared clinic visits, testing rates and detection of STIs between men who received the reminders 3 monthly to men who were not offered the reminders (controls) over a 12 month period.

Results: Compared to the controls (n=978), men receiving the reminders (n=587) were more likely to re-attend within 12 months (89.5% vs 70.8%, p < 0.001) and a higher proportion were tested for: pharyngeal gonorrhoea (67.0% vs 33.6%, p < 0.001), rectal gonorrhoea (62.7% vs 31.1%, p < 0.001), urethral chlamydia (67.3% vs 39.3%, p < 0.001), rectal chlamydia (62.9% vs 31.3%, p < 0.001), syphilis (67.0% vs 39.3%, p < 0.001) and HIV (64.9% vs 36.7%, p < 0.001). Compared with controls, men receiving reminders had a higher detection rate for: rectal gonorrhoea (3.7% vs 1.2%, p = 0.001), urethral chlamydia (3.1% vs 1.4%, p = 0.027), rectal chlamydia (6.6% vs 2.8%, p < 0.001), and early, latent syphilis (1.7% vs 0.4%, p = 0.008).

Conclusion: To our knowledge this is the first controlled clinical intervention that is associated with increased detection of chlamydia, gonorrhoea and syphilis among MSM. The reminder system was fully automated requiring no staff support.

MYCOPLASMA GENITALIUM: INCIDENCE IN MEN PRESENTING TO A PUBLIC SEXUAL HEALTH CLINIC

<u>Dr Tonia Mezzini</u>^{1,} Dr Russell Waddell², Dr Robert Douglas³, Dr Tania Saldon⁴ ¹ Clinic 275 Royal Adelaide Hospital,² Clinic 275 Royal Adelaide Hospital, ³ Sports Medicine SA⁴ IMVS, Flinders Medical Centre

Introduction: Mycoplasma genitalium was first reported as a cause of non-gonococcal urethritis (NGU) in men in the early 1980s. We aimed to determine, amongst symptomatic male patients presenting to the clinic, the incidence of *M. genitalium* infection, and the clinical, demographic and microbiological factors associated with *M. genitalium* infection.

Methods: From May 2007 - June 2011, men presenting to the clinic with symptoms of urethritis were identified and underwent urethral swab, which was microscopically assessed for urethritis. A first void urine sample was tested for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* using the Aptima Combo-2 assay. A portion of the urine sample was sent for PCR analysis for *M. genitalium*.

Results: 1182 men were eligible for the study, and 96 men (8.1%) tested positive for *M. genitalium*. Men identifying as solely MSM constituted 16.3% (n=193) of the sample. Their infection rate was 3.1% (n=6). The infection rate for MSW men was 9.1%. For all men, the *M.genitalium* co-infection rate was 14.6% (n=14) with *C.trachomatis* and 3.1% (n=3) with *N. gonorrhoeae*. Co-variates of potential influence upon *M.genitalium* infection were analysed by univariate analysis. We determined that five (of 17) investigated predictors were significantly associated with *M.genitalium* infection, namely urethral discharge, positive urethral smear, identification as exclusively heterosexual, and lack of co-infection with *C.trachomatis* or *N.gonorrhoeae*. Surprisingly, there was no association of *M.genitalium* infection to previous STD, nor the number of sexual partners.

Conclusion: In Adelaide, *M.genitalium* is an uncommon STD amongst men symptomatic for urethritis, and is primarily an infection of MSW men.

IUSTI ASIA PACIFIC SESSION TUESDAY 16 OCTOBER 2012 – 3.30PM–5.00PM

CHINA: STI CONTROL IN THE WORLD'S MOST POPULOUS COUNTRY

PAPER REF 4866 CHINA: BARRIERS TO STI CONTROL IN THE WORLD'S MOST POPULOUS COUNTRY

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¹National Center for STD Control, Nanjing, China

Sexually transmitted infections (STIs), particularly syphilis, have made a strong resurgence in China at a rate faster than any other country since 1980s. In addition to a series of national programmes and work plans to control HIV/AIDS, the Chinese Ministry of Health released the national 10-year plan for prevention and control of syphilis in China. Although increasing efforts to prevent and control STI epidemic have been made through the national and local programmes, there are still many barriers to the implementation of these programmes. The barriers mainly include those at programming and implementation levels. The barriers at programming level include: poor cooperation between departments and poor accountability of the participating agencies in health system, and inadequate financial commitment and poor capacities to implementation of the programmes at the programing level; and those at implementation level include: poor access to the hard-to-reach populations who have high prevalence of STIs, such as men who have sex with men (MSM) and female sex workers (FSWS) working in the low-tier sex work venues, low affordability to STI medical care, lack of trust between targeted population and public health and medical care providers, social stigma and concerns on confidentiality, and lack of micro-environment to support delivery of intervention and care. Further studies are needed to clarify these barriers and their impact on implementing the prevention and control strategies, and provide evidence to develop the control programme in China.
BARRIERS TO STI CLINICAL SERVICES FOR MSM IN SOUTH CHINA: A HEALTH SERVICE INVESTIGATION

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Background: MSM are a most-at-risk population for sexually transmitted infections in China with high incidence of HIV and syphilis infection. This study aimed to evaluate sexual health clinical services for MSM in Guangdong Province, a southern coastal province in China.

Methods: In each of the 21 cities in Guangdong Province, one general hospital and one local STD control center were contacted to collect information about MSM sexual health clinical services. Questions included items about staff MSM sexual health training, availability of proctoscopy, availability of male condoms/lubricants, MSM pamphlets, and rectal smear experience. Data was collected through telephone interviews.

Results: 37 medical settings participated in the study. 18 were from general hospitals and 19 were from local STD control centers. Among medical settings that participated, 12 (32%) reported any staff MSM sexual health training, 10 (27%) medical settings reported having proctoscopes available, 10 (27%) reported having male condoms and lubricants, 5 (14%) medical settings reported having pamphlets designed for MSM, and 8 (22%) reported having performed a rectal smear in the past six months.

Conclusion: The current sexual health clinical service for MSM is inadequate in Guangdong Province. Comprehensive measures which include training and guideline development are needed to meet the growing needsfor high-quality MSM sexual health services.

PAPER REF 1143 TECHNICAL ASSISTANCE FOR STI CONTROL: TIME FOR A RE-THINK?

<u>Neilsen G¹</u> Young F2

¹ Consultant, Thailand; ² RTI International, Thailand

Introduction: Technical assistance (TA) for STI control in developing countries is usually donor-funded, provided by expatriate advisors through multi-lateral agencies or international NGOs, and informed by global or regional clinical guidelines adapted for use at national level. STI control is a reflection of the status of health systems, and improvements also mirror general health system strengthening efforts.

Issues: STI-specific program funding has declined relative to HIV programming and also been affected by the global financial crisis. Global development assistance agreements have shifted emphasis to indigenous country ownership. While local capacity has often been improved, higher-level issues, such as governance, thwart improvements elsewhere. Clinical supervision is weak or absent in most settings. Superficial TA by 'parachute' advisors fails to address structural barriers to STI programming.

Findings from randomised controlled trials of STI interventions for HIV prevention reduced donor and government support for STI programming, and other strong evidence was sidelined.

Recent advances in STI control such as periodic presumptive treatment are often rejected or unsupported, while syndromic management is inappropriately applied, and ano-rectal infections are ignored. Targeted STI interventions with priority populations remain 'boutique' models and rarely replicated to scale. Awareness of emerging threats, such as untreatable gonorrhoea, is low, responses largely absent, and relevant laboratory capacity declining. Development of rapid point-of-care diagnostics remains limited.

Program inertia has prevented innovation (e.g., rights-based approaches; voucher programs; expedited partner treatment; rapid response teams addressing violence against sex workers, men who have sex with men, and transgenders), and responses to changing community realities (e.g., the need to shift from venue-based outreach to mobile phones and the internet; and increases in gender-based violence).

Conclusions: STI control may decline unless these issues are addressed. Advocacy for policy changes supporting STI control must be strengthened. STI TA needs and outcomes must be better evaluated with specific indicators.

DRUGS, SEX AND HARM REDUCTION IN THE ASIA PACIFIC REGION

Power R¹

¹Burnet Institute, Melbourne

Globally, around 16 million people inject drugs and 3 million are living with HIV. On average, one out of every ten new HIV infections is attributed to injecting drug use and in some countries over 80 per cent of all HIV infections are related to drug use. Yet, drug use cannot be viewed in isolation when it comes to public and sexual health. Notably. high risk drug taking practices impact on sexual health in a number of ways; selling sex to raise money for drugs; substance use and sexual and domestic violence; the disinhibiting effects of certain drugs. This presentation will focus on the Asia-Pacific region, where the complexities of the relationships between sexual behaviour and drug use will be explored. It will examine the international evidence for harm reduction and its application to the Asia-Pacific region. Drawing on contemporary research from countries in South-East and Central Asia, as well as the Pacific, we will note the way in which harm reduction approaches need to be tailored to target established and emerging drug patterns and related harms to health. For instance, the use and impact of home-brew in PNG is markedly different to injecting heroin in Indonesia in terms of sexual and drug risk behaviours and the resulting interventions. A number of key contemporary issues will be examined through the use of case studies. This will include AusAID's HIV prevention program in Indonesia to illustrate the role and value of a comprehensive multi-sectoral harm reduction approach, and the way in which the Pacific Drug and Alcohol Research Network is bringing researchers and practitioners together to address neglected issues. The key question, one that has been on the agenda for more than a quarter century, is why is harm reduction still struggling to successfully address sexual risk among drug users?.

SYMPOSIUM SESSION - TYPING AND SEQUENCING METHODOLOGIES TUESDAY 16 OCTOBER 2012 – 3.30PM – 5.00PM

PAPER REF 1140

TYPING OF STI PATHOGENS: WHAT IS THE PUBLIC HEALTH BENEFIT?

Ison CA¹

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Background: Molecular typing, using discriminatory methods, has been used to compliment epidemiological data and provide enhanced data for monitoring antimicrobial resistant strains, sexual networks and investigation of evolutionary relatedness for the bacterial STIs. This has been more successful for *Neisseria gonorrhoeae*, which is genetically variable and diverse, than for *Chlamydia trachomatis* or *Treponema pallidum*, which are more conserved. Nevertheless, the majority of the studies have been retrospective and their utility for public health puroposes is unclear.

Methods: Typing of isolates of *N. gonorrhoeae* was used to test the hypothesis that molecular epidemiological studies could be useful for public health control. Gonococcal isolates collected as part of a national and a regional surveillance programme for antimicrobial resistant gonorrhea, were typed using NG-MAST (*N. gonorrhoeae*-multi antigen sequence typing). Typing data were combined with antimicrobial susceptibility and patient demographic data, where available.

Results: Selection of gonococcal isolates exhibiting decreased susceptibility (DS) to cefixime (n=416) from the national surveillance in England and Wales identified 39 sequence types, of which 92.3% (384/416) belonged to Genogroup1407 (G1407), consisting primarily of ST1407 (333/416) or closely related STs (51/384), of which predominantly 87% (305/350) were from men who have sex with men (MSM). Typing of all gonococcal isolates from 21 countries across Europe also showed that G1407 was associated with DS to cefixime, was present in 20 of the 21 countries, and accounted for 23% of all isolates. G1407 was significantly higher among MSM but was also widespread in the heterosexual population.

Conclusion: Typing has shown the dissemination of a gonococcal strain widely across Europe exhibiting decreased susceptibility to a therapeutic agent of choice. Targeting of isolates only exhibiting DS cefixime gave valuable data but lacked context whereas typing of all isolates allowed a greater understanding of the molecular epidemiology and will inform interventions.

ADVANCES IN MOLECULAR TYPING OF *NEISSERIA GONORRHOEAE* AND *CHLAMYDIA TRACHOMATIS* ISOLATES

Dillion J¹

¹International Vaccine Center (VIDO-InterVac), University of Saskatchewan

WHAT CAN WE LEARN ABOUT *CHLAMYDIA TRACHOMATIS* FROM WHOLE GENOME SEQUENCING: LOOKING AT THE INTERRELATIONSHIPS OF OCULAR AND GENITAL SEROVARS AT THE GENOME LEVEL

Harris SR¹, Clarke IN², Seth-Smith HMB¹, Solomon AW³, Cutcliffe L², Marsh P², Skilton RJ², Holland MJ³, Lewis DA^{3,7,8}, Spratt B⁵, Unemo M⁶, Parkhill J¹, <u>Thomson NR¹</u>

¹Pathogen Genomics, The Wellcome Trust Sanger Institute, Wellcome Trust Genome Campus, ² Molecular Microbiology Group, University Medical School, Southampton General Hospital, ³ Department of Clinical Research, Faculty of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, ⁴Chlamydia & Molecular Laboratory, Department of Clinical Microbiology, University College Hospitals NHS Foundation Trust, The Windeyer Institute of Medical Sciences, ⁵ Department of Infectious Disease Epidemiology, Imperial College. London, St. Mary's Hospital Campus, ⁶ National Reference Laboratory for Pathogenic Neisseria, Department of Laboratory Medicine, Clinical Microbiology, Örebro University Hospital, ⁷ Sexually Transmitted Infections Reference Centre, National Institute for Communicable Diseases (NHLS), ⁹ Department of Internal Medicine, University of the Witwatersrand

Background: Chlamydia trachomatis is an important human pathogen, responsible for diseases ranging from trachoma to sexually transmitted infections that cause substantial morbidity and economical cost in developed as well as developing countries.

Methods: We sequenced and analysed whole genome sequences from representative isolates of the trachoma (ocular and genital tract serotypes) and lymphogranuloma venereum (LGV) biovars to determine a detailed phylogeny of this species to provide a better understanding of the nature and diversity of *C. trachomatis* isolates.

Results: From our data it is clear that the *ompA* gene, which is the basis for most epidemiological investigations, is in many instances a chimera that can be exchanged in part or whole, both within and between biovars regardless of whether they cause ocular or sexually transmitted infections. Moreover we provide evidence for both exchange of and recombination within the cryptic plasmid, also an important diagnostic target. We have used our phylogenetic framework to show conclusively that the epidemic spread of *C. trachomatis*, exemplified by LGV L2b, can be driven by the clonal expansion from a single source and more broadly how genetic exchange has manifested itself in naturally circulating ocular, genital tract and LGV *C. trachomatis* isolates.

Conclusion: Our genome wide analysis shows that predicting phylogenetic relationships using the small number of genetic targets traditionally used to type *Chlamydia*, effectively masks our understanding of the true diversity of this species because of extensive recombination.

SYMPOSIUM SESSION – HPV TUESDAY 16 OCTOBER 2012 – 3.30PM–5.00PM

PAPER REF 1151

GENITAL WARTS IN YOUNG AUSTRALIANS: PAST, PRESENT & FUTURE

<u>Ali H</u>_+Guy RJ,¹ Fairley CK,²³ Read T,² Wand H,¹ Regan D,¹ Grulich AE,¹ Donovan B^{1,4} ¹ The Kirby Institute, The University of New South Wales,² Melbourne Sexual Health Centre, ³ School of Population Health, University of Melbourne,⁴ Sydney Sexual Health Centre, Sydney Hospital, Sydney, NSW, Australia.

Introduction: The national human papillomavirus (HPV) vaccine program commenced in 2007. We assessed the population effect of the vaccine program on genital warts diagnosed in sexual health clinics and treated in hospitals.

Methods: We calculated the proportion of patients diagnosed with genital warts using data collated from eight sexual health services across Australia. The analysis was restricted to Australian-born patients. We also calculated the annual number of in-patient treatments for genital warts using Medicare data.

Results: After 2007, there was a 92.6% decline in proportion of <21 year old women and 72.6% decline in proportion of 21-30 year old women diagnosed with genital warts at sexual health services. There was an increase in the proportion of >31 year old women diagnosed with warts. There was a decline in proportion of heterosexual men diagnosed with genital warts in all age groups: 81.8% decline <21 year olds, 51.1% decline in 21-30 year olds and 9.4% decline in >30 year old men. The numbers of inpatient treatments followed comparable trends with an 85% decline after 2007 in treatments for vulval/ vaginal warts in 15-24 year old women. Similarly, there was a 70.6% decline in treatments for penile warts in 15-24 year old men and a 59% decline in 25-34 year old men but no decline in men aged 35-44 years.

Conclusion: The marked decline since 2007 in the proportion of young women diagnosed with genital warts at sexual health services and also in in-patient treatments is attributable to the HPV vaccine program. The declines in heterosexual men and unvaccinated women probably reflect herd immunity. The recently approved male vaccine program could lead to near disappearance of genital warts in young people in Australia.

Disclosure: The study was funded by CSL Biotherapies.

PAPER REF 1244 OPTIMIZING CERVICAL SCREENING IN THE CONTEXT OF HPV VACCINATION

Saville M¹

¹Victorian Cytology Service Inc

Cervical cancer is caused by Human Papillomavirus and can be prevented (secondarily) through cervical screening and now (primarily) through HPV vaccination.

The development of the HPV vaccine, together with the development of new technologies for screening have necessitated a rethink of approaches to cervical screening.

Evidence in relation to alternative screening strategies is emerging at a rapid pace and this evidence should feed into any review of the role of screening in the new context.

This presentation will review the most important new evidence related to primary screening with HPV and will also outline the proposed approach for moving forwards, guided by review of existing evidence and modelling. The presentation will also address the need for ongoing research.

PAPER REF 1232 OROPHARYNGEAL CANCER AND THE ROLE OF HPV

Hocking JS¹

¹Centre for Women's Health, Gender and Society, Melbourne School of Population Health, University of Melbourne.

Cancers of the head and neck arise from the mucosa lining the oral cavity, oropharynx, hypopharynx, larynx, sinonasal tract and nasopharynx and have a considerable burden worldwide, representing the fifth most common cancer in 2008. Tobacco use and alcohol consumption are known risk factors for many of these cancers, but more recently human papillomavirus (HPV) infection has been found to be strongly associated with cancers of the oropharynx (including base of tongue and lingual tonsil, tonsil and Waldeyer's ring).

While the incidence of head and neck cancers associated with tobacco and alcohol consumption has decreased considerably in the developed world, the incidence of oropharnygeal cancers has increased, with rates increasing in Australia between 1982 and 2005 by an annual percentage increase of 1.04% (95%CI: 0.40%, 1.68%) for females and 1.42% (95%CI: 1.08%, 1.76%) for males. The proportion of oropharyngeal cancers that are HPV DNA positive has also been increasing throughout the developed world, with over 80% of HPV DNA positive cancers containing HPV16. HPV DNA positive head and neck cancers are associated with younger age and higher numbers of sexual partners, but are less associated with tobacco smoking compared with HPV DNA negative cancers.

Given the aetiologic role of HPV in oropharyngeal cancers, it is possible that the incidence of these cancers may decline following HPV vaccination. If, as epidemiological data strongly suggests, genital –oral contact is an important route of HPV16 transmission into the oropharynx, then a falling exposure to genital HPV infection due to widespread vaccination may reduce the likelihood of HPV16 transmission, the risk of subsequent persistence and eventually cancer of the oropharynx.

ORAL ABSTRACTS – WEDNESDAY



ORAL ABSTRACTS WEDNESDAY 17 OCTOBER 2012

PENELOPE LOWE TRAINEE UPDATE BREAKFAST

WEDNESDAY 17 OCTOBER 2012 - 7.00AM-8.30AM

PAPER REF 1171

SEX OR DRUGS: WHAT'S GOING TO KILL YOU FIRST? A CASE STUDY OF HARM MINIMISATION

<u>Towns J</u>1

¹Victorian Institute of Forensic Medicine

The case is of a 21 year old MSM who presented to a Young Persons' Sexual Health Clinic for a STI screen and concerns about some genital lesions. An apparently simple clinical consultation was complicated by a history that revealed the overlapping vulnerabilities of youth, unemployment, concurrent use of multiple drugs, multiple sexual partners and lack of safe sexual practices.

This case demonstrates the importance of taking a thorough psycho-social-sexual history and how the overlapping vulnerabilities of this patient led to high-risk behaviour with significant potential risks of HIV acquisition, as well as other health and safety concerns.

An overview of the emerging "legal high" synthetic drugs, their pharmacology, toxicology, interactions with commonly prescribed medications and shifting legal status will also be presented.

PAPER REF 1168 DELAYED DIAGNOSIS OF SECONDARY SYPHILIS: TWO BIOPSIES AND THREE ORGANS

Bopage R¹

¹Prince of Wales Hospital, Randwick NSW and Prince of Wales Clinical School, University of New South Wales, Australia.

A previously well Caucasian man in his sixties presented with abdominal bloating and lethargy. He underwent panendoscopy revealing mild gastritis. He was treated with esomeprozole. Liver function tests were abnormal with elevation of both alkaline phosphatase and gamma glutamyl transferase. Antinuclear antibodies were detected (speckled pattern) and antibodies to extractable nuclear antigen (SSB) were present. Liver biopsy revealed active lobular and portal hepatitis. He was treated with ursodeoxycholic acid for possible primary biliary cirrhosis.

He also had renal failure with heavy proteinuria and hypoalbuminaemia. Renal biopsy revealed membranous glomerulonephritis that was treated with high dose prednisolone for several weeks and complicated by hyperglycaemia, which was treated with gliclazide. Two weeks later he developed bilateral visual loss with visual acuity reduced to hand movements only. He was diagnosed with anterior uveitis. He requested testing for sexually transmissible infections (STIs) as he had unprotected sexual intercourse with men and women overseas some months earlier. Syphilis serology was reactive with a rapid plasma reagin (RPR) titre of 1:256. He was referred for further management and treated with intravenous benzyl penicillin 1.8g q4hourly for 14 days. His visual acuity improved and liver function, kidney function and proteinuria normalized. The prednisolone was weaned.

Simultaneous acute hepatitis and nephrotic syndrome in secondary syphilis is an unusual rare finding. Although rarely reported, this case highlights syphilis as an important differential diagnosis of nephrotic syndrome and hepatitis. This patient had a number of invasive investigations, complications secondary to treatment and a delayed diagnosis of syphilis.

This case illustrates the importance of serological testing for STIs that mimic other conditions before invasive diagnostic tests and the importance of sexual history taking.

TRICHONIASIS VAGINALIS IN A PREPUBESCENT CHILD WITH NO DISCLOSURE OF SEXUAL ASSAULT - CASE PRESENTATION AND LITERATURE REVIEW

<u>Hayward J¹</u>

¹Sexual Health and Sexual Assault Service, Wellington, New Zealand.

A Sexual Health and Sexual Assault Service was approached by the police to review contacts of a prepubescent girl who had Trichomonas vaginalis but who had made no disclosure of sexual assault. Two of the contacts tested positive for Trichomonas. There were many issues that arose in this case including:

- Explaining the significance and implications of positive and negative tests in this context to a range of people and agencies including the people being reviewed, the police, the statutory child protection agencies and potentially lawyers, judge and jury.
- Liaison and coordination between all the different agencies and health care
 professionals involved.
- The importance of close liaison between the clinician and the laboratory team so
 that the appropriate testing is carried out. In this case confirmatory molecular tests
 had to be conducted overseas.
- The logisitics of conducting this type of consultation and testing, including chain of evidence procedures.

The presentation will include a literature review with respect to Trichomonas vaginalis in the setting of child sexual assault with reference to the above issues.

PAPER REF 1170 ANAL CANCER IN HIV POSITIVE MSMS: IT'S TIME TO RESTART THE CONVERSATION

<u>Ong J¹</u>

¹Melbourne Sexual Health Centre. School of Population Health, University of Melbourne

Background: Anal cancer is a growing problem. Like cervical cancer, it is caused by Human Papillomavirus (HPV) infection. In the general population, anal cancer is uncommon, with age-standardized incidence rates between 1 and 2 per 100,000 per year. However anal cancer rates are highest in men who have sex with men (MSM) particularly those with HIV infection (with estimated incidence of 100 per 100,000 or more), reaching a level where urgent attention is needed.

Case: PC is a 49 years old HIV positive cabinet -maker who was diagnosed with a T2N0 squamous cell carcinoma of the anus. He developed an anal lump in 2010 that was treated as an anal wart for 5 months before a diagnostic biopsy confirmed anal cancer. He completed definitive chemo-radiotherapy but suffered significant complications with this treatment. Despite excellent HIV care for the last 23 years, no one had spoken to him about his increased risk for anal cancer.

For discussion:

Anal cancer trends in HIV

Primary prevention of anal cancer

Secondary prevention of anal cancer: how do we screen for anal cancer?

HIV/AIDS CONFERENCE OPENING AND JOINT CONFERENCE PLENARY WEDNESDAY 17 OCTOBER 2012 – 8.30AM–10.10AM

PAPER REF 1101 AN APPROACH TO VACCINES FOR HIGHLY VARIABLE PATHOGENS

Burton, DR¹

¹Dept 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 Bill Bowtell AO¹

¹Executive 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 S¹

¹ University of Connecticut

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.

PAPER REF 1103 PROSPECTS FOR AN HIV CURE

Steven G. Deeks, MD¹

¹Department 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 WEDNESDAY 17 OCTOBER 2012 - 11.00AM-12.30PM

PAPER REF 1213 PLACE OF SCREENING USING CYTOLOGY AND HRA

<u>Palefsky J</u>1

¹University of California

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 guadrivalent 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.

PAPER REF 1253 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.

Tim Read¹

¹Melbourne 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 \geq 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: HIV IN INDONESIA WEDNESDAY 17 OCTOBER 2012 – 11.00AM-12.30PM

PAPER REF 1239

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

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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

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¹Australian 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.

PAPER REF 1238 STI/HIV KNOWLEDGE, ATTITUDES AND BEHAVIOR: EVIDENCE FROM THE 2010 TRANSITION TO ADULTHOOD SURVEY OF GREATER JAKARTA

<u>Utomo l¹</u>

¹Australian National University

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 WEDNESDAY 17 OCTOBER 2012 – 11.00AM–12.30PM

PAPER REF 1029

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 a/b, successfully identifying several specific inhibitors of the IN/importin a/b 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 a/b 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 a/b, 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

Ann Apolloni ¹. Haran Sivakumaran ¹, Min Husan-Lin ¹, Michael Kershaw ², <u>David Harrich</u> ¹ ¹Department of Cell and Molecular Biology, Queensland Institute of Medical Research, Brisbane QLD, Australia 4006, ²Cancer Immunology Program, Peter MacCallum Cancer Center, East Melbourne, 3002, VIC, Australia 3002

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>Dr Lachlan Gray</u>^{1,2} A/Prof Gilda Tachedjian^{1,2}, Mrs Anne Ellett¹, Dr Michael Roche^{1,2}, A/Prof Bruce Brew³, Dr Stuart Turville⁴, Prof Steve Wesselingh³, A/Prof Paul Gorry^{1,26}, A/Prof Melissa Churchill^{1,2} ¹Burnet Institute, Australia. ²Monash University, Australia. ³St Vincent's Hospital Sydney, Australia. "Kirby Institute,

"Burnet institute, Australia. "Monash University, Australia. "St Vincent's Hospital Sydney, Australia. "Kirby Institute, Australia. "South Australia Health and Medical Research Institute, Australia. "University 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 EC50/EC90 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 EC90 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

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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-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 (m7A)-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

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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.

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

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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 ABORGINAL AND TORRESS STRAIT ISLANDER PEOPLE

WEDNESDAY 17 OCTOBER 2012 - 1.00PM-1.45PM

PAPER REF 1019

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

Mr Michael Borenstein, Ms Astrid Stark

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

<u>Ms Kylie Stephens</u>¹, Ms Anne Stelling¹, Mr Robert Whybrow², <u>Mr Peter Waples-Crowe³</u>, Ass/Prof Jane Tomnay¹ 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

Dino Saulo^{1,} Todd Fernando², Jackie Milsom³

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: FINANCING THE HIV RESPONSE IN THE REGION WEDNESDAY 17 OCTOBER 2012 – 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.

JOINT SYMPOSIUM SESSION: STI MANAGEMENT IN INDIGENOUS COMMUNITIES WEDNESDAY 17 OCTOBER 2012 – 2.00PM-3.30PM

PAPER REF 612

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

Ms Sandra Downing ¹. <u>Dr Arun Menon</u>, ², Ms Therese Howard ¹, Ms Angela Cooper ², Dr Patricia Fagan ¹ ¹Sexual Health Program, Cairns Public Health Unit, Tropical Regional Services, ²Townsville Sexual Health Service, Queensland 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 B¹² Ward J²³, Wand H², Garton L², Hengel B²⁴, 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.

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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

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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, guality 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 guality improvement strategies at over 70 clinical services that have predominantly Aboriginal patient populations.

PAPER REF 1065 POINT-OF-CARE TESTS FOR CHLAMYDIA AND GONORRHOEA INFECTIONS IN REMOTE ABORIGINAL COMMUNITIES: THE TEST, TREAT AND GO- THE "TTANGO" TRIAL

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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 obtained 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 Green¹-Prof John Kaldor¹, Ms Donna Ah Chee³, Dr Joanne Bryant⁴, Prof Marian Pitts⁵, Prof Anthony Smith⁵, A/Prof Heather Worth⁶, Mr James Ward², <u>Ms Dina Saulo²</u>

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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.

HIVAIDS - THEME A SYMPOSIA - CORRELATES OF PROTECTION AND A VACCINE DESIGN WEDNESDAY 17 OCTOBER 2012 – 2.00PM–3.30PM

PAPER REF 1107 NEUTRALIZING TARGETS ON HIV

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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

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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

<u>Charani Ranasinghe</u>¹, Shubhanshi Trivedi, John Stambas and Ronald J. Jackson Molecular Mucosal Vaccine Immunology Group, Dept Immunology, The John Curtin School of Medical Research, The Australian National University, ACT 0200. School of Medicine, Deakin University, VIC, 3217.

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).

13TH IUSTI WORLD CONGRESS AND 2012 AUSTRALASIAN SEXUAL HEALTH CONFERENCE CLOSING AND JOINT CONFERENCE SESSION WEDNESDAY 17 OCTOBER 2012 – 4:00PM-5:30PM

PAPER REF 1204 INDIGENIZING HIV

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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

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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.

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POSTER ABSTRACTS



POSTER ABSTRACTS

ABORIGINAL & TORRES STRAIT ISLANDER POPULATION HEALTH

POSTER NO: 1 LOCAL FLAVOUR; SEXUAL HEALTH IN THE LOCAL VICTORIAN ABORIGINAL COMMUNITY CONTROLLED HEALTH SETTING

Peter Waples-Crowe, Kat Byron¹

¹Victorian Aboriginal Community Controlled Health Organisation (VACCHO)

The rate of sexually transmissible infections in the Victorian Aboriginal population remain at higher rates than non-Indigenous Victorians. Adding to this burden is the lack of a dedicated Aboriginal sexual health workforce. The Victorian Aboriginal Community Controlled Health Organisation (VACCHO) has developed a capacity building kit for Aboriginal health workers and other key Koori workers to deliver blood borne virus, sexual and reproductive health educational workshops in their local communities. The kit includes a number of tools to ensure that the workshops are engaging, interactive and on message, including lesson plans, DVDs, activities, discussion points that are culturally relevant.

This kit is accompanied by skill enhancement training and builds on Aboriginal health worker training through VACCHO's certificate 3 and 4 provision. This training included an introduction to the purpose and effective use of the kit. Training was delivered in local regions where Aboriginal health workers could support each other and develop strong local referral and support pathways for community members. VACCHO wanted local services to engage with local community members with local faces. This emphasises VACCHOs key objective to develop the capacity of local Aboriginal community controlled health organisations.

The kit will be evaluated six months after implementation of the communities to see if there has been significant uptake of local initiatives of sexual and reproductive health.

IUSTI – BIOMEDICAL PREVENTION

POSTER NO: 2

SEXUAL HEALTH FOR REGIONAL ABORIGINAL WOMEN - IS A CHANGE TO AN IMPROVED CERVICAL SCREENING POPULATION POSSIBLE?

Anderson S¹

¹Baarlinjan Medical Clinic, Ballarat and District Aboriginal Cooperative

Introduction: At the Baarlinjan Medical Clinic, in Wutherong country, in western Victoria, the level of Koori women's participation in cervical screening has been a long standing challenge. The clinic is one of Ballarat and District Aboriginal Cooperatives many services and has six doctors, four nurses, two mental health nurses and a range of allied health services.

Using the PCS Clinical Audit Tool the clinic identified the eligible female population for cervical screening in February 2009 as being 133 Aboriginal women of whom only 29.3% had Pap tests recorded. The challenges increased with a rapidly growing eligible population rising to 220 women by June 2012.

Early in 2011 a permission form was developed to obtain women's Pap test and BreastScreen histories so that the clinic could provide appropriate follow up care. This provided an opportunity to start a broad conversation about Pap tests with the women through a range of contacts when the women attended the clinic and was less threatening than asking them directly to have a Pap test.

The Baarlinjan Team and elders provided considerable consultation on the best way forward from a cultural perspective and together with a combination of strategies the awareness of the need for Pap tests grew and more women were screened.

Recall lists provided opportunities for phone calls and all Pap test registries responded to requests for screening histories due to the transient nature of many of the Aboriginal community.

After providing permission women had an expectation of a follow-up call or letter informing them about their screening status.

In early June 2012 the eligible women's population had reached 220 Aboriginal women of whom 63.2% had a Pap test recorded and had been screened in the past two years. The no Pap test recorded numbers had dropped to 28.2%.

POSTER NO: 3

SPERMATOZOON AS A VEHICLE FOR HERPES SIMPLEX VIRUS TRANSMISSION

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Background: Herpes simplex virus (HSV) is one of the most common viral infection in the world. Concern about the viral contamination of semen and its impact on human reproduction became especially important when in-vitro fertilization was planned. It was already shown that HSV may penetrate into semen of patients with fertility problems. The question arises if HSV may be found only in semen fluid or it is possible that virus may infect also sperm cells, deteriorating male fertility.

Material and Methods: The quantitative transmission electron microscopy (TEM) was performed to examine spermatozoa from 748 patients with fertility problems without history of genital herpes, and in 22 sperm donors. TEM was used to detect intracellular HSV location in sperm. DNA–DNA *in situ* hybridization (ISH) was used to detect and localize HSV DNA, immunofluorescence analysis (IFA) was performed to identify virus proteins. ISH and IFA were performed in the semen of 21 patients with HSV capsids revealed by TEM

Results: Capsids of HSV were revealed in spermatozoa from 2 out of 22 (9%) sperm donors, but the number of infected sperm cells did not exceed 5% in these samples. In the semen of infertile patients HSV infected spermatozoa were detected in 411 out of 748 samples (55%), but only in 249 of these samples (33%) the number of infected spermatozoa exceed 5%. HSV capsids inside morphologically normal spermatozoon were found in 112 (21%) semen samples. Using ISH, HSV DNA were identified in spermatozoa from 15 semen samples, HSV proteins in 21 semen samples. HSV DNA and HSV proteins were also revealed in the purified fraction of motile sperm cells.

Conclusion: The presence of HSV in the fraction of morphologically normal motile sperm cells may explain the way of transmission of this virus during natural insemination or assisted reproductive techniques because spermatozoa may serve as a vehicle for HSV transmission. Further research are required to confirm this hypothesis.

POSTER NO: 4

PATTERN OF SEXUALLY TRANSMITTED INFECTIONS IN PATIENTS UNDERGOING HYSTEROSLPHINGOGRAM FOR INFERTILITY EVALUATION IN IBADAN NIGERIA.

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Introduction: The roles of gonorrhea and non-gonococcal urethritis due to *Chlamydia trachomatis* in the etiology of infertility causing tubal occlusion had been established by various studies. Hysterosalphingography (HSG) is usually carried out as an investigation of tubal patency when evaluating infertile women. This study was aimed at finding the prevalence of asymptomatic sexually transmitted infections in women being screened for infertility and referred for HSG.

Methods: It was a cross-sectional study in a population of asymptomatic infertile women who had been referred for pre-HSG screening in the department of Radiology, University College Hospital, Ibadan, Nigeria. Detailed medical history, Endocervical and high vaginal swabs were collected from the participants to establish diagnosis after clinical examination and informed consent. Data was analysed using SPSS version 15.

Results: There were 250 participants with a mean age of 34.6 years (SD = 5.4, range = 25 -49). The mean age of sexual debut of participants was 21.5 years (SD = 4.3). 56 (22.5%) of the women engaged in oral sex while 53 (21.2%) shared their spouses with other sexual partners. 17.7% of them had previous PID. The most common STI diagnosed was vulvo- vaginal candidiasis (18.8%) Other STIs diagnosed were, bacterial vaginosis (12.5%)., trichomoniasis (13.8%), Chlamydia cervicitis (17.5%), and gonorrhea (6.5%).

Conclusion: The procedure of HSG is invasive and asymptomatic infections in the cervix can be dislodged and propagated by injection of contrast to the fallopian tubes thus causing tubal blockage. Routine Pre-HSG must be carried out to avoid iatrogenic Pelvic Inflammatory Disease which could further jeopardize the course of infertility.

POSTER NO: 5

IMPROVING MALE PARTICIPANT RETENTION IN FUTURE HIV VACCINE AND BIOMEDICAL INTERVENTION TRIALS: CAN FOLLOW-UP MODALITY, BIOSPECIMEN COLLECTION METHOD, OR FORM OF PARTICIPANT REIMBURSEMENT MAKE A DIFFERENCE?

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Introduction: In a quasi-experimental follow-up study, we explored the effect of follow-up modality, biospecimen collection method, and form of non-monetary reimbursement on male participant retention and operational outcomes over 12 months.

Methods: Male participants (18-35 years old) were randomly assigned to either face-to-face or telephone follow-up interviews; venipuncture by a nurse at clinic or microcapillary collection by a fieldworker in the community, and cellphone airtime or shop vouchers as non-monetary participation reimbursement, using a factorial design. Participants were followed-up with fieldworker-administered questionnaires at 3 months, and questionnaires and biospecimen collection at 6 and 12 months. All participants

received a cellphone for appointment scheduling. Retention rates were calculated using *R*, for the effect of reimbursement type at 6 months, and for follow-up modality and biospecimen collection method at 12 months. Process data were collected throughout the entire study.

Results: Overall retention at 6 months was 89% (196/223), and 77% (171/223) at 12 months. At 6 months there was no difference according to whether participants received airtime vs shop vouchers vs mixed airtime&shop vouchers (89% vs 83% vs 91%; p= 0.47). We found no differences at 12 months in follow-up between face-to-face and telephone interview (84%vs71%; p= 0.50); or venipuncture and microcapillary collection (74% vs 81%; p= 0.75). However, the operational simplicity of community based microcapillary collection (no nurses required) resulted in more timely completion of follow-up procedures (all procedures completed within a 4-week window: microcapillary 78% vs 35% venipuncture).

Conclusion: In this study, modality of follow-up interview and method of biospecimen collection method had no impact on follow-up completions. However, microcapillary collection facilitated men being followed-up in their communities, which was operationally easier, reduced staff-costs and the time between questionnaire completion and specimen delivery. Where possible, investigators should consider varying, or allowing participants to choose the type of reimbursement they receive.

POSTER NO: 6

SENTINEL SITE SURVEILLANCE FOR ANTIBIOTIC RESISTANT NEISSERIA GONORRHOEAE: EVIDENCE SUGGESTING TWO PHARYNGEAL GONORRHOEA TREATMENT FAILURES WITH CEFTRIAXONE 500MG IMI IN SYDNEY.

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Introduction: Emergence and spread of antimicrobial resistance in Neisseria gonorrhoeae including extended spectrum cephalosporins (ESC) is a global public health issue. The progressive increase in ceftriaxone minimal inhibitory concentrations (MICs), the decreasing treatment options available and reported treatment failures following treatment with ESCs are of major concern. Through the application of World Health Organization (WHO) protocols, the rate of treatment failure in clients with extra-genital site gonorrhoea was determined.

Methods: A prospective clinical study of treatment outcomes was conducted on clients with pharyngeal and/or rectal gonorrhea who received ceftriaxone 500mg IM doses as primary therapy at the Sydney Sexual Health Centre. Test-of-cure (TOC), post treatment cultures, were taken from extra-genital sites on clients returning for follow up examination. Isolates were characterized by phenotyping (antibiogram including ceftriaxone MICs, auxo/serotyping), and as required by genotyping which included detection of alterations in PBP2 (the target site for ESC).

Results: 105 test-of-cure examinations were performed on extra genital site infections (56 pharyngeal and 49 rectal). Ceftriaxone MICs for all pre-treatment isolates ranged from <0.008 to 0.06 mg/l and a variety of subtypes and molecular changes were present in gonococci tested.

Two of the 105 TOC were positive for N. gonorrhoeae, with evidence suggesting pharyngeal treatment failure. In both cases, the pre and post TOC isolates showed decreased susceptibility to ceftriaxone in a similar antibiogram, auxo/serovar and MLST1901. NG MAST and further genotyping pending at time of submission. Both cases occurred in males who denied further sexual contact between initial presentation and TOC.

Conclusion: In the current global context the continuation of sentinel site surveillance using TOC for detection of treatment failures is indicated, in particular for the extra-genital site infections, which are at highest risk of treatment failure.

POSTER NO: 7

ANTIMICROBIAL RESISTANCE IN NEISSERIA GONORRHOEA IN THE WESTERN PACIFIC: STATE OF PLAY AND IMPLICATIONS OF THE WHO GLOBAL ACTION PLAN TO CONTROL THE SPREAD AND IMPACT OF ANTIMICROBIAL RESISTANCE

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Introduction: It is feared that we have reached what is conceivably the tipping point for the control of gonorrhoea. Globally there is increasing antimicrobial resistance and reports of treatment failures, predominantly from well resourced settings, in the context of limited treatment options. The Australian Gonococcal Surveillance Programme (AGSP) has run continuously for over 30 years and performs antimicrobial susceptibility testing on 35% of gonococcal infections in Australia. The World Health Organisation (WHO) Gonococcal Antimicrobial Resistance Programme (GASP) in the Western Pacific Region (WPR) commenced in 1992. The objective of the WHO Global Action Plan, is to facilitate the control of gonorrhoea and to minimize the impact of antimicrobial resistance in Neisseria gonorrhoeae.

Methods: Participating laboratories in Australia and the WPR perform antimicrobial susceptibility testing to the penicillins, quinolones, 3rd generation cephalosporins; spectinomycin and azithromycin, incorporating WHO quality control strains, and the WHO Quality Assurance Programme. Ceftriaxone is the first line treatment in most countries in the region. Data are collated and published for the AGSP quarterly and annually, and annually for the WHO GASP WPR.

Results: Resistance to the penicillins and quinolone antibiotics is widespread, however some Pacific Islands and remote Australia continue to report very low levels. There are few and sporadic reports of spectinomycin resistant isolates in the WPR. There are limited data for azithromycin and for most countries there is low level or no resistance excepting one country reporting 34%. High level resistance to tetracycline is widespread. In 2010 reported rates of decreased susceptibility to ceftriaxone ranged from 1.3% - 56%.

Conclusion: Increasing proportions of N gonorrhoeae with decreased susceptibility to the cephalosporins are being reported. The challenge is to control the burden and spread of this disease and minimize the impact of antimicrobial resistance in N. gonorrhoeae: recommendations from the WHO Global Action Plan will be discussed.

POSTER NO: 8 CHLAMYDIA - A DISCUSSION INTO THE ROLE PRACTICE NURSES CAN PLAY IN LIMITING THE IMPACT OF CHLAMYDIA IN NSW

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Introduction: Chlamydia is the most commonly notified sexually transmissible infection (and communicable disease) in NSW, with a notification rate in 2009 of 215.4 per 100,000. It is also estimated that 75% of chlamydia infections are undiagnosed. The burden of decreasing the impact of chlamydia should not only fall to general practitioners (GPs) in primary care, as they are increasingly time poor. The Australasian Society for HIV Medicine (ASHM) draws on its experience and expertise in acknowledging and supporting the nursing workforce, practice nurses in particular, in limiting the impact of chlamydia.

The NSW Sexually Transmissible Infection Strategy 2006-2009, identifies the need to enhance the support for nurses working in general practice as a means to improve access to sexual health service provision. In 2009 it was estimated that 56.9% of general practices employed a practice nurse. Since the beginning of 2012, all accredited general practices are eligible for Practice Nurse Incentive Payments (PNIP). This funding is no longer restricted to specific MBS items, enabling general practices to be more flexible in allocating service provision of the practice nurses to include treatment, contact tracing and counselling, in addition to testing.

Responding effectively to chlamydia requires scaling up screening, diagnosis, treatment, and contact tracing. Research has found that 90% of practice nurses would like to increase their involvement in reducing the burden of chlamydia, however a significant barrier is feeling unsupported to expand their role. Consequently, the ASHM Nursing Program, guided by the evidence and key stakeholders, continues to invest in the nursing workforce. ASHM provides targeted training, in areas of high need, to enhance the skills of practice nurses in sexual health and contact tracing and by promoting their capabilities within the primary health care setting. ASHM recognises nurses as a valuable resource in limiting the prevalence and impact of chlamydia.

POSTER NO: 9

HIV PREVENTION AMONGST MSM COMMUNITY IN LAGOS STATE NIGERIA

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Potter Cares Foundation (PCF)

Introduction: In Nigeria, Homosexuality is regarded as an illegal act punishable to Fourteen years imprisonment. The vulnerability of HIV infection among MSM is high and according to the Integrated Bio-Behavioral Surveillance Survey (IBBSS) carried out in 2007, about 13.5% of MSM who participated in this survey were diagnosed to HIV infection and Lagos state has the highest number (25.4%) of MSM infected.

Methods: These Project seeks to avert new HIV infections among high risk men engaging in multiple or serial relationships and those who engage in high risk sexual practices such as anal sex with male and female partners. This intervention is to improve knowledge of risky practices associated with high risk men, reduce barriers to HIV detection and treatment, modify care-seeking behaviors, and promote individual and group assistance through supportive social networks. These project is to identify, map and support various high risk MSM in Lagos state. The intervention will improve access to health care services and uptake on HIV related prevention and treatment services through the provision of specific HIV counseling and testing, and post-test counseling for those negative and positive. MSM who test positive to HIV and in need of care and support will be referred to these services through the existing providers.

Results: Awareness on HIV/AIDS increases among the community but behavioral changes are yet to occur.

Most positive MSM take to self medication to avoid been stigmatized and discriminated.

High rate increase of HIV/AIDS among the MSM community.

Conclusion: To amend the Nigerian constitution on anti-discriminatory clause to include the HIV status as a protected category against discrimination based on sexual orientation and gender identity.

Create more awareness and ensuring behavioral changes

POSTER NO: 10

MISSED OPPORTUNITIES IN TREATING HIGH-RISK WOMEN USING SYNDROMIC MANAGMENT: MU-JHU EXPERIENCE.

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Background: Chlamydia and gonorrhoea are the most common causes of asymptomatic sexually transmitted infections in women. Therefore, they are usually missed by syndromic management of STIs used in resource-limited settings. These infections cause complications in women, such as infertility, ectopic pregnancies, tubal ovarian masses and infections in newborn babies which cause blindness.

Methods: Documents were reviewed for the 172 women who screened out of the VOICE study at MU-JHU research collaboration site in Kampala between Nov 2009 and Sep 2010.

Stata 10.1 was used to compare Chlamydia and Gonococcal infection in high-risk women with 1) risk behaviors, collected by interviewer-administered questionnaires, 2) other sexually transmitted infections, such as HIV and hepatitis B, and 3) dipstick urinalysis leucocytes.

Results: Prevalence of Chlamydia was 12/170 (7.1%) and that of gonorrhea was16/170 (9.7%). None of the Chlamydia cases were associated with symptoms, and 15/16 (94%) of those with gonorrhea had no symptoms. There was a significant relationship between gonococci infection and HIV [OR=3.7 (1.2-11), p= 0.012]. Presence of leucocytes in urine was related to Gonococcal infection [OR=17.3(2-147); p=0.0003]. Condom use at the last sex act and age above 30 years was protective. Ten or less sex acts were associated with Chlamydia and gonorrhea (all Chlamydia cases reported no sex acts in the past week, and 14/16 Gonococcal cases reported no sex acts in the past week) when compared to those having 11 and above sex acts in the past week.

Conclusion: Syndromic management misses most of the gonorrhea and Chlamydia cases in women considered to be of high-risk for STDs. Urine dipstick for leucocytes can be used as a tool to increase the chance of accurately diagnosing gonorrhea. Condom use decreases STD infection in women. Programs for STD prevention should focus on women less than 30 years-old.

POSTER NO: 11

THE USE OF CONTINUOUS QUALITY IMPROVEMENT IN REMOTE PRIMARY CARE TO ADDRESS ENDEMIC STIS: A CASE STUDY FROM THIS STRIVE TRIAL

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Introduction: Continuous quality improvement (CQI) is an important tool for improving primary health care. The STRIVE trial underway in 67 remote communities aims to improve STI service delivery and has implemented a STI control CQI program. We present preliminary results from one remote community 12 months since the CQI program commenced, as a case study.

Methods: STRIVE coordinators work with primary health using a Plan-Do-Study-Act framework. The CQI consists of 6-monthtly STI data reports and a 12-monthly systems assessments and tailored sexual health action plans. The systems assessment covers six components; clinical services, health hardware (physical space, consumables and staffing), patient information systems, health promotion, organisational commitment, and surveillance and evaluation. Each component has between 2 and ten indicators. The clinic staff provide a score for each indicator from 1-11 with 11 being most effective, and the average calculated to prove an overall score for each of the six components .

Results: In one community participating in STRIVE, after the first 12 months of CQI, there have been reported improvements in five of the six areas of STI control compared to the baseline assessment; health promotion capacity (3.4 to 8.3), delivery of clinical services (8.2 to 8.8), patient information systems capability (6.5 to 10.1), organisational commitment (1.3 to 5.6), and 'Surveillance and Evaluation' (2.0 to 2.6). Health hardware remained high and unchanged (8.6 and 8.5). In each component there was diversity. For example in clinical services; improvements in most indicators (e.g. opportunistic testing, 4.0 to 9.0) no change in some (e.g. STI testing in antenatal checks, 11 to 11) and a few declines (dedicated staff for STI/BBV management, 5 to 0).

Conclusion: This case study highlights the importance of using CQI programs to understand all the factors which may influence the success of a STI control program and use these findings to guide action.

POSTER NO: 12

HIGHER RATES OF HIV AND STIS IN NON-AUSTRALIAN BORN MSM AT HIGH CASE LOAD CLINICS IN METROPOLITAN MELBOURNE

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Background: Victoria has seen recent increases in HIV notifications among non-Australian born men who have sex with men (MSM). We analysed HIV and other STI testing outcomes among MSM at high case load clinics in metropolitan Melbourne by region of birth.

Methods: Rates of HIV, chlamydia and syphilis testing and positivity among MSM attending the Victorian Primary Care Network for Sentinel Surveillance on BBV/STIs (VPCNSS) between 2007- 2011 was analysed by region of birth.

Results: There were 79,745 HIV, chlamydia and syphilis tests conducted between 2007-2011, of which approximately 30% (n=24,005) were among non-Australian born MSM; most commonly from South East Asia (SEA) (25%) and Europe (25%).

Among 25,915 HIV tests, 7,679 (30%) were among non-Australian born MSM. Among 446 HIV diagnoses, 128 (29%) were among non-Australian born MSM. HIV positivity of both Australian and non-Australian born MSM was 1.7%. HIV positivity was highest among SEA-born MSM (2.3%) (p=.0.07).

Among 26,492 chlamydia tests, 8,130 (31%) were among non-Australian born MSM. Among 1,736 chlamydia diagnoses, 545 (32%) were among non-Australian born MSM. Relative to Australian-born MSM, chlamydia positivity was comparable among non-Australian born MSM (6.7%), but significantly higher among SEA-born MSM (7.7%) (p=.03).

Among 27,338 syphilis tests, 8,196 (30%) were among non-Australian born MSM. Among 448 syphilis diagnoses, 185 (41%) were among non-Australian born MSM. Relative to Australian-born MSM (1.4%), syphilis positivity was significantly higher among non-Australian born MSM (2.3%) (p<.01), and highest among MSM born in Europe (4.4%) (p<.001).

Conclusion: SEA born MSM have higher HIV and chlamydia positivity than Australianborn MSM. MSM born in Europe also show significantly higher syphilis positivity compared to MSM born in Australia. To inform prevention services further investigation of STI testing and predictors of positivity among non-Australian born MSM is warranted, including consideration of recent arrivals and those from culturally and linguistically diverse backgrounds.

IUSTI - CLINICAL (NON HIV)

POSTER NO: 13

DECLINING NEISSERIA GONORRHOEAE AND CHLAMYDIA TRACHOMATIS INFECTIONS AMONG WOMEN IN KUMASI GHANA: IMPLICATION FOR SYNDROMIC MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS

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Introduction: Neisseria gonorrhoeae (NG) and Chlamydia trachomatis(CT) are known causes if cervicitis in women, upon which the current syndromic approach of managing cervicitis in Ghana is based. Declining prevalence for these two infections in most parts of the West Africa sub continent have been reported in recent years. This study sought to determine the prevalence NG and CT among women attending sexually transmitted infection (STI) clinic in Kumasi, Ghana to advise the cause of management.

Methods: Specimens for Gram's stains, culture and polymerase chain reaction (PCR) determination, were collected from the vagina and the cervix of 300 women-150 sex workers (SW) and 150 non-sex workers (NSW), attending Suntreso STI Clinic in Kumasi for the first time, with complaint of vaginal discharge. Socio demographic characteristics of the women, symptoms and signs were recorded. Associations of factors with NG and CT were recorded and adjusted for other risk factors.

Results: Six out of the 300 women were found to have NG (6/300: 2.0%, p=0.014, SW – 4/150,2.7%; NSW – 2/150,1.3%) while CT was detected in nine (9/300: 3.0%, p=0.001 SW – 6/150,4.0%; NSW-3/150,2.0%). Prevalence of NG and CT were higher among SW compare with NSW (27.3%, 41/150). Younger age (15-29 years) was found to be the strongest predictor of both NG and CT.
Conclusion: The prevalence of *NG* and *CT* were found to be low in both SW and NSW women. The finding conforms to the trend shown in other studies from West Africa. Does this cause for a review of the current syndromic management of sexually transmitted infections in West Africa? Further studies recommended.

POSTER NO: 14

VAGINAL DOUCHING PRACTICES AMONG WOMEN IN KUMASI GHANA

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Introduction: Vaginal douching is a practice where women use all kinds of chemicals substances to clean their vagina. It is often associated with intense vaginal itching and discharge from chemical corrosion and allergic reaction. It is a common practice among women in Ghana. This study determines reasons for douching, the association between vaginal douching, age and educational levels of women.

Methods: 380 women attending the STI Clinic at Suntreso Government Hospital in Kumasi, complaining of vaginal itching and discharge and consenting were interviewed for this cross sectional study using standard questionnaire. Socio demographic information was also recorded. Data was analysed using SPSS 16.0.

Results: 273 of the respondents (71.8%) admitted to currently practising vaginal douching. Douching was most practiced by women 40 years and above (43.5%, 119) followed by 30-39 age group (25.1%, 69), 20-29 (19.2%, 52) age group and 15-19 (12.2%, 33). Women with tertiary education were more likely (41.9%, 114) to practice vaginal douching, followed by secondary (26.3%, 72), primary (18.2%, 50) and no formal education (13.6%, 37). Salt & water (24. 2%), local herbal preparation (48.1%), chemicals from shop (21.0%) and others (6.7%) were substances employed. Increasing orgasm (32.1%), dryness of the vagina to ensure friction (19.6%), request by their sexual partners (13.2%), prevention of infections (10.1%), making them cleaner inside (16.4%) , advice from parents and peers (8.6%) were reasons giving for by the women for douching.

Conclusion: Vaginal douching is a common practice among the women in Kumasi as shown by this study and in line with other studies. More experience women (with longer- years of sexual activities-age) and educated are more likely to practice vaginal douching. Major reason for douching the vagina relates to enhancing their sexual performance. Local herbal preparation is the preferred substances for vaginal douching.

POSTER NO: 15 SEXUAL HEALTH CLINICS CAN LEND A HELPING HAND

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Introduction: Timely diagnosis and effective management of sexually transmissible infections (STI), particularly upper genital-tract infection (UGTI), can improve patient outcomes, reduce adverse sequelae, and prevent/shorten hospital admissions. The expertise available within specialist sexual health clinics (SHCs) can be effectively employed to assist other hospital services improve STI/UGTI diagnosis and management.

Methods: SHC instituted active follow-up of CCLHD patients with positive chlamydial, gonococcal, syphilis (RPR ≥8) and HIV results in March 2010. SHC receives results from relevant laboratories, reviews hospital medical records and contacts patients to provide results, give detailed information/advice, ensure/offer appropriate treatment and

follow-up, and advise/offer partner-management. SHC has collaborated with emergency departments (ED) to provide in-service training for ED staff, introduce ED-nurse-initiated STI-testing and promote clinical management/referral pathways.

Results: Compared to the first year of the project, the second year saw a 40% increase in ED chlamydial and gonococcal requests, 52% increase in positive STI results received by SHC, and increased ED referrals to SHC from very low levels to 32. A substantial improvement in compliance with antibiotic guidelines for ED-initiated treatment of UGTI was observed. High levels of patient contact and follow-up were achieved for patients with positive STI results of 66 patients with positive results, SHC successfully contacted 61 patients who had been discharged and provided management advice for 5 inpatients. Forty-seven patients were advised to have further assessment/treatment: the majority (44) attended SHC and three elected GP follow-up. Partner-management was addressed for all patients.

This project enjoys high acceptability. EDs welcome SHC support, laboratories value having a single contact-point to relay positive STI results, and patients universally appreciate being contacted.

Conclusion: A collaborative approach between STI-specialist and non-specialist services can increase awareness and improve diagnosis and management of STIs, particularly for patients presenting to ED with symptomatic UGTI.

POSTER NO: 16

A CASE OF CEFTRIAXONE RESISTANCE IN A PATIENT WITH GONOCOCCAL URETHRITIS AND GONOCOCCAL PHARYNGITIS

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Ceftriaxone is CDC's recommended therapy for the treatment of uncomplicated gonorrhea. However some patients were found to be resistant to ceftriaxone.

Case: We reported a case of ceftriaxone resistance in uncomplicated gonococcal urethritis and gonococcal pharyngitis in a 24 year old married man. There was history of genito-genital and oro-genital contact with his girlfriend. From physical examination pharynx was hyperemic with purulent secret. Venereological state of orifice of external urethra was oedem and erythematous, ectropion (+), mucopurulent discharge (+). There was no enlargement of medial inquinal, submandibular and submental lymph nodes. Resulted from Gram staining of the urethral discharge: intra and extracellular diplococcus Gram- Negative. Gram staining of the pharyngeal swab: no diplococcus Gram-Negative. Culture from urethral discharge and pharyngeal revealed Neisseria gonorrhoeae which was resistant to thiamphenicol, cefotaxime, ceftriaxone. He was treated with ofloxacin tablet 400 miligram single dose. The symptoms of gonococcal urethritis were persisted and pharyngitis was improved. Resulted from Gram staining of the urethral discharge: intra and extracellular diplococcus Gram-Negative. Then he was treated with cefixime 400 mg single dose and showed improvement. Resulted from Gram staining of the urethral discharge and pharyngeal: no diplococcus Gram-Negative. Culture from urethral discharge and pharyngeal revealed no growth of Neisseria gonorrhoeae.

Discussion: This patient resistant to ceftriaxone (recommended of CDC 2010 therapy). He was treated with ceftxime and showed improvement. Some strains of *N. gonorrhoeae* with ceftriaxone resistance have been reported.

THE IMPERATIVE FOR A SPECIALIST SEXUAL HEALTH SERVICE IN A TERTIARY WOMEN'S HOSPITAL: WHY AND HOW?

Bean-Hodges A1.2.3.4

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Introduction: When reviewing the service profiles of Australia's women's hospitals, specialized sexual health services are not apparent. Where optimal sexual health is fundamental for gynaecological wellbeing at all ages, the imperative to provide sexual health expertise when clinically managing unwell women, and undertaking invasive procedures, is fundamental. The Women's Hospital in Melbourne is addressing this need through recent implementation of a dedicated Sexual Health Service (SHS).

Methods: Developing the SHS has not been without it's obstacles including organizational culture and competing for scarce resources against vital, high acuity services for critically ill neonates and gynaecological cancers. Our model of care has therefore included professional development for multidisciplinary clinicians, an accessible clinical advisory service, a flexible appointment schedule, innovative stakeholder collaborations and collaborative research.

Results: Clinical Audit and Evaluation of the SHS demonstrates:

- Detection rate up to 15% for STI, 2% for BBV
- Attendance 20% above projected utilization
- 84% attendees experiencing social marginalization
- 8% of referrals from external infectious diseases clinics

Research and quality improvement activities by the SHS include:

Collaborative research regarding mycoplasma genitalium in homeless young people

- A collaborative pathway of care following sexual assault incorporating forensic examination, sexual health care, non- occupational post exposure prophylaxis and counseling
- A seamless referral system from generalist hospitals for HIV infected women
- A sexual health, clinical discussion group
- · Clinical placement for senior medical trainees
- An inter- hospital agreement for a visiting sexual health nurse practitioner Improved patient outcomes illustrating these results will be demonstrated through compelling case studies.

Conclusion: Findings of the SHS Audit, Evaluation and case studies illustrate the imperative for expert sexual health care in acute settings where interface with gynaecological and obstetric pathologies is highly relevant. Delivery of optimal sexual health care requires a clinical focus, nurtured community of learning and innovative collaborations. Importantly, this service model is readily applicable in other hospitals.

POSTER NO: 18

TEACHING ADULT SEXUAL ASSAULT MANAGEMENT ON-LINE

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Introduction: A Sexual Assault Education Consortium (SAEC) was formed to develop educational materials for doctors, nurses and health professionals across Australasia and internationally and to provide a unit of study within the University of Sydney

Masters program in HIV, STIs and Sexual Health. The aim was to develop a skilled workforce able to undertake clinical forensic examination appropriately and to deal with the court process in an informed and professional manner.

Methods: Modules included interpretation of injury, clinical forensic examination, a basic overview of forensic science and toxicology, follow-up procedures, elements of sexual assault counselling and a range of legal issues including consent and the court process. The assessment tasks included activities related to the specific location in which students are working as well as practice in the development of expert certificates and case reports. There was a reflective exercise for all students to examine their own approach to victims of sexual assault. Authors in the SAEC are senior medical officers working for health and police in sexual assault and one senior scientist. Pedagogic support was provided by the University.

Results: The first cohort of eleven students completed the course in June 2012. Students were enrolled from Australia as well as Africa, America and the Middle East. Students had varying professional backgrounds including medical, nursing and counselling. The results of the student survey and outcomes from the learning process will be presented. Assessment of short term outcomes will be evaluated using the unit of study questionnaire, which includes demographics and knowledge, skills and attitude questions as well as examining the student experience. Long term outcomes will not be presented.

Conclusion: This course meets an established need and has been satisfactorily completed by students from a range of backgrounds. The two-day intensive providing the capstone experience allows student interaction and consolidation of knowledge.

POSTER NO: 19 AUDIT OF THE MANAGEMENT OF CHLAMYDIA TRACHOMATIS IN GENERAL PRACTICE IN NORTH QUEENSLAND

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Introduction: In Australia, Chlamydia trachomatis (chlamydia) is the most frequently notified bacterial sexually transmissible infection. It is associated with severe reproductive morbidity. In Queensland, approximately 80% of cases are diagnosed in General Practice. The aim of this study was to describe the actual management of Chlamydia infection in General Practice in North Queensland.

Methods: A chart audit was conducted on all chlamydia cases diagnosed by participating General Practitioners (GPs) between May 2009 and April 2010 using a 13 item audit tool.

Results: The 54 GPs diagnosed 176 cases of chlamydia in the 12 month study period. Treatment prescribed for the infection was documented for 170 of the 176 cases (96.6%). Of the 176 cases 130 (73.8%; 95% confidence interval (Cl) = 62.0%; 85.6%) had adequate treatment prescribed. Partner notification was discussed with 92 (52.3%; 95%Cl = 29.3%; 75.3%) patients. A follow-up visit was documented as recommended for 124 (71.3%; 95%Cl = 43.0%; 99.6%) cases. Overall, 47 patients (26.7%) were re-tested.

Conclusion: This study on management of Chlamydia trachomatis in General Practice in North Queensland found comparatively high re-testing rates and frequently addressed contact tracing with the index case. In contrast, documented prescribed treatment was found to be adequate only for 73.8% of cases. This result indicates that professional development around treatment protocols is warranted in this regional location in North Queensland.

POSTER NO: 20 VULVAR LICHEN SCLEROSUS IN A GIRL: TREATMENT WITH TACROLIMUS 0,1% OINTMENT

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Introduction: Vulvar lichen sclerosus (VLS) is a chronic inflammatory and fibrosclerotic relapsing disease affecting anogenital area, preferentially affect woman in all age groups, including adolescents and prepubertal children. The treatment for this condition remains unsatisfactory, with potent corticosteroids being the most effective therapy. However, those topical drug induce skin atrophy after prolonged treatment and the condition frequently recurs.

Case: A 5-year-old girl had an itchy white spot on genital area with painful on urination since 6 months before presenting to the hospital. Dermatological examination revealed a well demarcated white patch, shiny and smooth porcelain-like appearence of vulvae. The labium minor disappeared and fused with labium major. The diagnosis was vulvar lichen sclerosus. She was treated with topical tacrolimus ointment 0,1% twice daily. Applications were continued until complete disappearance or stabilization of the cutaneous lesions.

Result: Topical tacrolimus 0,1 % ointment applied twice daily during four weeks showed complete response (>75% improvement) with no adverse effect.

Conclusion: Topical tacrolimus ointment was a safe and effective treatment for genital lichen sclerosus and should be used for long-term duration to prevent relapse.

POSTER NO: 21 GONOCOCCAL INFECTION IN A 3-YEAR-OLD GIRL

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Introduction: Gonorrhea is a common infectious disease transmitted by sexual contact and caused by *Neisseria gonorrhea*. Gonococcal infections in children are usually the consequence of sexual abuse and may produce a variety of syndromes that are age related. Gonococcal vaginitis is the most common form of gonorrhea in children. It is often a mild disease, probably because it is restricted to the superficial mucosa. In prepubertal girls, the nonestrogenized alkaline vaginal mucosa may be colonized and infected with N. gonorrhoeae. During the examination of patients, it should be kept in mind that gonococcal infections in sexually abused children can occur in other sites, including the pharynx and rectum.

Case: A 3-year-old girl came with major complaint of vaginal discharge. Since a week before presenting to the hospital, the patient's mother awared of vaginal discharge followed by worsening dysuria. There was a history of sexual abuse by her uncle. Physical examination revealed erythematous vulva with spontaneous yellowish purulent discharge. The Gram staining showed more than 30 polymorphonuclear leukocytes and positive diplococcus Gram negative intrasel. The diagnose was vaginitis gonorrhoe.

Result: The patient was treated with Cefixime tablet 125 mg single dose and Erythromycin syrup 4 x ¹/₂ teaspoon, There was good clinical and laboratory examination after 7 days of treatment.

Conclusion: The diagnose of gonorrhoeae in children can be determined by clinical examination, Gram staining and cultures for *N. gonorrhoeae*. A clinician who is examining a prepubertal child for a possible sexually transmitted disease (STD) should aware of the possibility of sexual abuse.

POSTER NO: 22

FOLLOW-UP OF EARLY SYPHILIS AFTER TREATMENT: LESSONS LEARNT AND CLINIC PROCEDURES CHANGED

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Introduction: MSHC has a recall system for follow-up of cases of early infectious syphilis at 3, 6 and 12 months after treatment. This is a complex and time-consuming process, so we set out to review how useful it was in detecting treatment failures and reinfections.

Methods: From MSHC's Computerised Patient Management System, we identified cases of primary, secondary and early latent syphilis diagnosed and treated between January 2007- and March 2011. This cut-off period was chosen to allow 12 months' follow-up for those cases treated at the end of March 2011.

Results: During this period, 441 cases of early infectious syphilis were treated and 329 entered into the follow-up system. Three were treated with doxycycline, the remainder with a single dose of Benzathine penicillin.

Of those in the follow-up system, 261 (79.3%) re-attended within 6 months of treatment and 306 (93%) within 12 months.

One treatment failure was identified, in a man assessed as having early latent infection, when he in fact had early neurosyphilis.

Three asymptomatic reinfections were detected in men who re-attended because they had been recalled for follow-up testing.

Conclusion: An intensive system of recall at 3, 6 and 12-month follow-up after treatment of early syphilis is inefficient. MSHC has discontinued this follow-up system to concentrate resources on increasing syphilis testing rates in all high risk people, not only the few who have been treated for syphilis.

POSTER NO: 23

QUICK IN AND OUT - LET'S NETS IT - AN EVALUATION OF A NURSE-LED EXPRESS STI SCREENING SERVICE

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Background: The Nurse-Express-STI-Testing Service (NETS) was introduced in May 2010 for heterosexual clients who are low risk for HIV but higher risk for Chlamydia. NETS is not available for men-who-have-sex-with men [MSM]. NETS aim to increase service efficiency for asymptomatic heterosexuals and therefore increase access for higher risk clients (e.g. MSM) while maintaining client satisfaction.

Methods: We conducted a three tiered evaluation. Quantitative service data was used to compare clients screened through NETS to those screened via the usual asymptomatic pathway. Post introduction nursing staff and client satisfaction surveys were also done.

Results: NETS have reduced both the consultation time and total time spent in the clinic.

The mean total time spent in the clinic was 39 minutes by NETS clients compared to 96 minutes for asymptomatic non-NETS clients (p<0.0005).

In relation to the service providing increased access for higher risk clients, there has been a 27% increase in MSM consultations from 8000 (in 2009) to 11000 (in 2011). Of the 26 nurses who answered the staff satisfaction survey, 91% were satisfied or very satisfied with the service. Of the 71 clients who answered the satisfaction survey, 96% were satisfied or very satisfied with the service.

Conclusion: This evaluation has determined that NETS has increased service efficiency and reduced waiting and consultation times for these asymptomatic heterosexual clients.

POSTER NO: 24

ARE APPROPRIATE SAMPLES BEING COLLECTED FOR CHLAMYDIA TESTING IN AUSTRALIA?

Dimech W¹, <u>Lim MSC²</u>, Van Gemert C², Boyle D³, Donovan B⁴, Hellard ME² ¹ NRL, ² Burnet Institute, ³ University of Melbourne Rural Health Academic Centre, ⁴Kirby Institute

Introduction: Chlamydia trachomatis is a pathogen infecting squamo-columnar cells, particularly of the cervix and urethra, but also of eyes, throat and rectum. Urine has been a preferred sample type for both men and women since the introduction of nucleic acid testing (NAT). However, commercial chlamydia NAT is validated for only a small number of sample types.

Methods: Chlamydia testing data were collected from 15 public and private laboratories between 2008 and 2010. Laboratories extracted demographic and chlamydia testing data from their information systems which were de-identified with a non-reversible unique code using GRHANITE[®] software. The site(s) of collection and the number of samples taken were reviewed.

Results: A total of 697,483 chlamydia specimens were analysed. In 3.2% of testing episodes multiple sites were sampled (median=1 site, range 1–10 sites). The most common sample types were urine (56.2%), cervical (24.8%), vaginal (5.9%), rectal (3.1%), throat (2.2%), urethra (1.6%), thin prep (1.6%), and conjunctiva (0.6%). The sites with the highest rates of positive results were urethra (12.4%), urine (8.5%), and conjunctiva (8.3%). There were also 6,194 specimens collected from sites classified as 'other' which included fluid (site not specified), serum, abscess, wound, and skin swabs from sites such as knees, nipples, and arms.

Conclusion: Individuals most commonly had a single urine sample referred for chlamydia testing. Multiple sites were sampled in a small percentage of individuals. Samples from many anatomical sites were referred for testing, despite commercial chlamydia test kits only being validated for testing urine or genital swabs.

POSTER NO: 25

CHLAMYDIA TRACHOMATIS REPEAT TESTING IN AUSTRALIA

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Introduction: The Australian Collaboration for Chlamydia Enhanced Sentinel Surveillance (ACCESS) Laboratory Network has collected chlamydia testing data from 15 Australian public and private laboratories since 2008. This study reviews the frequency of repeat testing for chlamydia.

Methods: Chlamydia test results and associated demographic data were extracted from participating laboratories' information systems, de-identified with a non-reversible unique code and sent to a central database using GRHANITE® software. Using the unique

identifier, cases of multiple testing episodes from individuals were reviewed to determine the frequency of repeat testing.

Results: A total of 641,302 chlamydia test results were collected from 547,761 individuals during the calendar years 2008-2010; 49,655 (7.7%) were positive. 9.6% individuals had multiple testing episodes, increasing to 23.4% among those with an initially positive result. The mean number of testing episodes per individual was 1.11 (range 1-29) and time between repeat tests was 201 days following negative samples but 95 days after a positive sample. Among individuals who had a repeat test, for those with a negative result 19.6% of repeat tests were performed within 42 days, 42.8% within 120 days and 86.0% within 13 months. This is compared with 41.9% (<43 days), 76.6% (<120 days) and 96.6% (<13 months) for repeat tests following an initially positive result.

Conclusion: The ACCESS Laboratory Network has collected chlamydia test results on over half a million individuals. These data indicate that less than one quarter of individuals who tested positive for chlamydia were re-tested and that over 40% of these were re-tested too soon after initial diagnosis (<6 weeks), risking a false positive test result due to the detection of residual non-viable bacteria. Individuals with positive test results were found to be re-tested more frequently and earlier than those with negative test results.

POSTER NO: 26 MYCOPLASMA GENITALIUM IN A PUBLIC HOSPITAL PREGNANCY TERMINATION SERVICE

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Background: The Royal Women's Hospital is the largest public provider of therapeutic abortions in Victoria, Australia. Given the role of *M. genitalium* in cervicitis, and the increasing evidence for its role in upper genital tract disease, screening for this bacterium was introduced in 2009.

Methods: From August 2009 to March 2011, prior to their medical or surgical termination, all women presenting to the Pregnancy Advisory Service (PAS) have been screened for *Mycoplasma genitalium*, *Chlamydia trachomatis* by PCR and bacterial vaginosis (BV) by Gram stained smear. Women positive for *M genitalium* were treated with 1g azithromycin and re-tested 4 weeks subsequently as test of cure.

Results: Overall the prevalence for *M. genitalium* was 4.4% (95%CI 3.5, 5.3), *C. trachomatis* 5.7% (CI 4.6, 6.9) and BV 16.2% (CI 14.5, 17.9). Most women had a normal lower genital tract on clinical examination. Discharge or contact bleeding were more frequently associated with BV than infection with *C trachomatis* or *M genitalium* (p=0.005). The average age for women with *M. genitalium* was 24.6 years, whilst for those with *C. trachomatis* it was 21.8 years (p=0.02). The test of cures completed after treatment did not show any treatment failures.

Conclusion: The first 20 months of screening for *M genitalium* in the PAS clinic has demonstrated a 4.4% prevalence in this patient population, highlighting the importance of continued screening of women presenting for termination of pregnancy. The treatment with 1g azithromycin has shown to be very effective which is in contrast to 28% treatment failure seen in the local sexual health clinic.

DO CULTURALLY AND LINGUISTICALLY DIVERSE CLIENTS PREFER AN FAST TRACK DELIVERY MODEL

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Introduction: Sydney Sexual Health Centre (SSHC) began a fast track STI screening clinic - Xpress clinic - in December 2010. Xpress utilises a computer assisted self interview (CASI), self-collection of STI specimens and limited clinician time.

Evaluation of Xpress has shown reduced waiting times and a high rate of client satisfaction. Currently, Xpress is only available to clients who can read and understand English which reduces access for culturally and linguistically diverse (CALD) clients.

SSHC provides dedicated clinics to Chinese, Korean and Thai sex workers. We aim to determine acceptability of using the CASI to obtain sexual history, self-collection of specimens, not having a physical examination and consultation with non-medical staff member, in this case a Multicultural Health Promotion Officer (HPO). Differences in preferences will be compared based on language spoken, new or return client status, sex worker status, language or general clinic visit, and age.

Methods: Cross sectional survey using an anonymous questionnaire. 360 participants are required to provide power to the study. All female Chinese, Thai and Korean clients attending SSHC language and general clinics from May 2012 are offered a questionnaire. Recruitment will cease when the participant number is reached.

Results: Preliminary findings from the 63 clients who have returned surveys to date indicate that, even if it means waiting longer, most clients would prefer *not* to use a CASI (39%), would prefer a clinician to do the swabs (39%), would prefer having a genital examination (87%) and would *not* wish to consult with an HPO (40%).

Conclusion: This study will provide evidence of client preference and will guide SSHC service orientation to the most appropriate model of CALD Xpress clinic. The study will add to the literature on service reorientation to suit priority populations, who may or may not accept the service proposed.

POSTER NO: 28

MICROINVASIVE ANAL CANCER- A CLINICAL DILEMMA

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Introduction: Anal cancer is a rare malignancy but its incidence is rising in men and women and particularly in HIV- positive men, and men who have sex with men (MSM). High resolution anoscopy services (HRA) have been recommended in the hope that screening will result in early detection of anal cancer or its precursors and consequently a better outcome. The management of microinvasive anal disease remains a clinical dilemma.

Methods: A search of our SHIP database resulted in 3 cases of microinvasive cancer detected in out clinic in the last 18 months

Results: The three cases each with a different presentation and risk factors will be discussed. The first case is a 70 yr old HIV–negative MSM who was referred for HRA from the surgeons having had an incidental finding of anal intraepithelial neoplasia grade 3 (AIN 3). The second case is a 56 yr old HIV-negative MSM referred for further management of recurrent perianal warts and associated high-grade AIN. The third case was a 63-yr old HIV negative heterosexual female who as referred by a gastroenterologist because of irregularity at the anorectal junction. The histopathological findings and management of each case will be presented.

Conclusion: All three cases were in older patients and all were HIV-negative, however two of the cases were MSM. Two of the cases of microinvasion were in patients with genital warts and the disease would have remained undiagnosed if electrocautery was performed. All had a different surgical approach to management indicating there is currently no consensus on management. It is anticipated more cases will be detected as HRA units are established and clinical management guidelines need to be established.

POSTER NO: 29

A META ANALYSIS STUDY TO COMPARE A SINGLE APPLICATION OF FAMCICLOVIR WITH OTHER TOPICAL ANTIVIRAL TREATMENTS FOR RECURRENT HERPES LABIALIS BY META-ANALYSIS

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Objective: The purpose of this meta-analysis was to conduct an indirect efficacy comparison between oral famciclovir (1500 mg a day) and other antiviral drugs in the treatment of recurrent herpes labialis.

Methods: We searched MEDLINE and Cochrane Central from1980 through May 2012 for randomised, double blind, placebo-controlled trials in patients with recurrent herpes labialis. Quality assessment methods followed those described in the Cochrane guidelines. Outcomes were time to healing of classic lesions, time to healing of all lesions (aborted or vesicular) and time to resolution of pain. They were initially pooled using random effects models yielding hazard ratios and median time ratios (with 95% confidence intervals). Adjusted indirect comparisons using these pooled estimates were then performed. Publication bias was investigated using funnel plots and sensitivity analyses were performed to assess result robustness.

Results: Of 143 trials reviewed, 13 met the inclusion criteria and a total of 5661 patients were analyzed. Famciclovir significantly improved the chance of healing of classic lesions compared to other antiviral drugs. The indirect hazard ratio (95% CI) was 1.63 (1.31; 2.03) compared with valaciclovir, 1.61 (1.17; 2.20) compared with acyclovir 5% cream, 1.55 (1.28; 1.88) compared with penciclovir 1% cream and 1.77 (1.37; 2.28) compared with docosanol 10% cream. Famciclovir effect was not significantly better than comparators with regard to time to healing of all lesions or time to cessation of pain, which could be explained by the potential lack of sensitivity of these criteria. Median time ratios, which are known to be valuable indicators to summarise time curves, are currently being investigated and will be presented and discussed. In summary, these data suggest that famciclovir may be a more potent treatment for herpes labialis.

POSTER NO: 30 DIFFERENT PHASES OF CHRONIC HEPATITIS B SEEN IN CLINIC AND MANAGEMENT

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Background: Hepatitis B virus (HBV) infection occurs worldwide and is an important cause of acute and chronic viral hepatitis in the world. Although 95% of adult patients recover completely from HBV infection, 90% of children ≤4 years of age develop chronic infection. In this poster I have shown three phases of Chronic Hepatitis B infection that I saw in the clinic and their further management.

Discussion: Chronic hepatitis B virus (HBV) infection can be classified into three phases (or types of immune responses): immune tolerant, immune active, and inactive chronic carrier state. These distinct phases of chronic infection correspond with characteristic serologic patterns and correlate with the patient's immune response to HBV. Three asymptomatic known Hepatitis B carrier patients were referred from polyclinic for different reasons and they were found to be in different phases of chronic infection. The patient in immune active phase of Chronic Hepatitis B infection was started on treatment for Hepatitis B to prevent progressive liver fibrosis and asked for regular follow up every 6 months to look for HBeAg seroconversion. Patients in Immune tolerant and inactive carrier phases were given regular appointment for follow up in the clinic without starting treatment.

Conclusion: All persons chronically infected with HBV should be followed every 6 to 12 months with aminotransferase levels. Those with elevated levels should be tested for HBeAg and its antibody (anti-HBe) as well as HBV DNA levels to determine if they are in need of further evaluation with a liver biopsy and are candidates for antiviral therapy

POSTER NO: 31 WHEN IS PREGNANCY AN OCCUPATIONAL RISK? A 10 YEAR STUDY OF CONTRACEPTION AMONGST SEX WORKERS

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Introduction: Unplanned pregnancy has a major effect on sex workers' careers and personal lives. The aim of this study was to describe contraceptive methods used by sex workers and identify risk factors for potentially inadequate contraception and unplanned pregnancy.

Methods: Retrospective study of all female sex workers attending Sydney Sexual Health Centre at first visit: January 2001-December 2011. Demographic, behavioural, contraceptive and pregnancy details were extracted from the clinic database. Inadequate contraception was defined as relying on condoms as the sole means of contraception, yet reporting inconsistent (<100%) condom use for vaginal sex at work or in personal situations within the previous 3 months. Odds ratios were calculated for potential associations.

Results: 4192 sex workers were seen during the study period. The median age was 29 (IQR 25-35years). 3072/4192 (73%) were born in Asia. 44 of all women (1%) had unplanned pregnancy at first presentation.

2754 women reported adequate contraception: oral contraception 1289/2754 (47%), injectables/implant 158/2754 (6%), IUD/IUS 329/2754 (12%), diaphragms 8/2754 (0.3%) and consistent condom use 970/2754 (35%). Data was missing in 62 episodes.

1376/4192 (33%) women met the criteria for inadequate contraception. Inadequate contraception was associated with previous termination of pregnancy (p=0.003 OR 1.23 95%Cl 1.07-1.41), never being pregnant (p=0.02 OR 0.80 95%Cl 0.70-0.92) and being in a relationship (p<0.0001 OR 2.44 95%Cl 2.13-2.80). Inadequate contraception was associated with unplanned pregnancy (p<0.0001 OR 3.22 95%Cl 1.75-5.93).

In those with unplanned pregnancy (n=44), inadequate contraception was noted in 27/44 (61%), previous termination of pregnancy occurred in 22/44 (50%) cases, 15/44 (34%) had never been pregnant and 29/44 (66%) women reported being in a relationship at presentation.

Conclusion: Sex workers presenting with inadequate contraception are more likely to be in a relationship, have previous termination of pregnancy and present with unplanned pregnancy. Contraceptive advice must be promoted in these women.

POSTER NO: 32

PREVALENCE & PREDICTORS OF LYMPHOGRANULOMA VENEREUM AMONG MEN WHO HAVE SEX WITH MEN AT A SYDNEY METROPOLITAN SEXUAL HEALTH CLINIC

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Introduction: Lymphogranuloma venereum (LGV) has been identified among Australian men who have sex with men (MSM) in clinic and community-based settings, and requires a longer course of antibiotic treatment than non-LGV *Chlamydia trachomatis* (CT). We aimed to determine whether routine LGV testing should be performed at our service among all, or a specific subgroup, of MSM with anal CT.

Methods: Between December 2010 and May 2012, MSM diagnosed with anal CT at RPA Sexual Health in Sydney's inner west, were subsequently tested for LGV by PCR. All LGV PCR positives were confirmed by sequence analysis. Anal symptoms were systematically assessed. Demographic and behavioural risk factors were collected.

Results: A total of 1732 anal chlamydia tests were performed among 968 MSM during the study period. 96 episodes of anal CT were diagnosed among 84 MSM giving an anal chlamydia positivity rate of 5.5%. The median age of MSM with anal CT was 31 years (range 19-55) and the majority (95.2%) were exclusively homosexual. Anal symptoms were reported at 16/96 (17.7%) episodes of anal CT. Three cases of LGV were indentified giving an overall LGV positivity rate among men tested for anal CT of 0.17%. All three were serovar L2b. Compared with non-LGV CT, LGV CT was associated with the presence of anal symptoms (p=0.008) and unprotected receptive anal sex with casual partners (p=0.065). Of men diagnosed with LGV, two were HIV positive and one subsequently seroconverted to HIV within a year of the LGV diagnosis.

Conclusion: Only 3 cases of LGV were diagnosed among MSM with anal CT at our clinic and all reported severe proctitis symptoms. LGV was indentified in almost 20% of all symptomatic anal CT episodes. Our findings suggest that routine LGV testing among homosexually active men is not warranted except among those with symptoms suggestive of proctitis.

WHAT, WHERE, WHO AND HOW - USING THE SEXUAL AND REPRODUCTIVE HEALTH AND HIV NURSING COMPETENCIES IN PRACTICE

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Introduction: In 2011, following a comprehensive consultation and review, the Australasian Sexual Health and HIV Nurses Association Inc. (ASHHNA) Competency Standards for Sexual and Reproductive Health and HIV Nurses 2nd edition were launched. The revision utilised Australian and international nursing competency standards to develop seven domains designed to guide best practice in the provision of specialist clinical nursing, research, education and management.

Methods: An online survey was developed to determine whether nurses in the relevant specialties have used or are planning to use the ASHHNA Competency Standards 2nd edition. The survey was disseminated via professional networks and email lists. The survey was open for 14 days and received a total of 76 responses.

Results: Responses were received from across the Australasian region with the majority of responses from ASHHNA members who were previously aware of the Competency Standards.

Overall the domains reflect the specialty areas of sexual health, sexual and reproductive health and HIV nurses. The layout, readability and relevance rated highly. The main use was for personal professional development. The majority of nurses are planning to use the Competency Standards in the next twelve months for reflecting on practice, clinical training, documentation of professional development and staff orientation. The most common reason for not using the Competency Standards was not having an opportunity.

Conclusion: Reflection on practice is an essential component of developing and continuing competence. The ASHHNA Competency Standards for Sexual and Reproductive Health and HIV Nurses provide a relevant framework to reflect on practice and identify areas for improvement.

Development of resources to support the implementation and use of the ASHHNA Competency Standards for achieving professional and organisational goals is required. Further dissemination of the ASHHNA Competency Standards is required.

POSTER NO: 34

IMPACT OF PRIOR REPRODUCTIVE HEALTH HISTORY AND HOSPITALIZATION ON SUBSEQUENT ADOLESCENT REPRODUCTIVE HEALTH OUTCOMES AFTER PELVIC INFLAMMATORY DISEASE (PID)

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Introduction: Adolescents with PID are at significant risk for subsequent sexually transmitted infections (STIs) or PID, but limited research has explored the role of hospitalization as prevention for future PID sequelae amongst adolescents for whom the act of being hospitalized may influence behavior. The objective of this study is to examine adverse outcomes among adolescents with PID based on treatment strategy and sociodemographic characteristics.

Methods: We conducted secondary analysis of longitudinal data from the 386 of 831 young women ≤ 21 years of age enrolled in the Pelvic Inflammatory Disease Clinical Evaluation and Health (PEACH) Trial. PEACH is a large, multi-center randomized controlled trial designed to evaluate the effectiveness of inpatient versus outpatient treatment for mild to moderate PID. Evidence-based behavioral intervention was not provided in either treatment arm. Detailed histories and samples for STI testing were provided. Using hospitalization status and baseline characteristics as primary predictors; 84-month reproductive health outcomes were examined using logistic regression analyses.

Results: Adolescents in the hospitalization arm were no less likely to develop recurrent PID (OR 0.7; 95% CI 0.4; 1.1), STI (OR 1.1 (95% CI: 0.7; 1.6), or both (1.0 (95% CI: 0.6; 1.5). Adolescents with a history of PID at baseline, were more likely to develop recurrent PID/STI (OR: 1.6, 95% CI: 1, 2.5) and chronic pelvic pain (1.7; 95% CI: 1.0; 2.7). Those with a usual source of healthcare were more likely to have recurrent STI/PID and those who had inconsistent condom use during the 4 weeks prior to diagnosis were more likely to develop chronic pelvic pain (OR 2.2, 95% CI: 1.1; 4.3).

Conclusion: Medical hospitalization without behavioral intervention does not result in a reduction in subsequent STI /PID and prior history of PID and inconsistent condom use appear to predict adverse outcomes among adolescents \leq 21 years of age.

POSTER NO: 35 TELEHEALTH: IS IT FOR EVERYONE? - A CASE STUDY.

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Introduction: TESTme is a free service of Melbourne Sexual Health Centre (MSHC) that offers telephone consultations with a nurse for sexually transmitted infection (STI) testing and contraceptive advice for country Victorians. The service was established to increase the sexual health testing and treatment options for rural Victorians. It is phone and internet based. MSHC has been operating for more than 90 years as a specialised unit for the diagnosis and treatment of STIs and has established a national and international reputation for clinical excellence and innovation, constantly striving for the highest standards of sexual health care, research and education.

In this case study a young, rural woman with technical and social phobias, including a fear of telephones, contacted the service seeking assistance. Using a shared model of care, it was possible to support her to an optimal sexual health care outcome.

Methods: A Hub and Spoke Model of shared care was utilised to create access to rural sexual health service provision for this isolated young woman. Communication between MSHC, the Rural Sexual Health Nurse Practitioner candidate at Goulburn Valley Health and the client was via the agency of email, with time and patience required to engage with her and create a plan for service provision and care.

Results: Effective communication strategies, patience and listening to the client's needs in a supportive manner lead to a face-to-face consultation and appropriate history directed STI testing and follow-up.

Conclusion: Telehealth may be a suitable modality to provide health care to many rural and isolated persons. This case study demonstrates that an effective model of shared care can provide best practice outcomes for the more isolated and vulnerable rural person. It also demonstrates the value of clinical networks and the benefit of having sexual health expertise available in rural locations.

POSTER NO: 36 GARLIC TO PREVENT CANDIDIASIS: A PHASE 11 RCT

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Introduction: Recurrent vulvovaginal candidiasis (RVVC) is notoriously difficult to manage. Complementary therapies, including garlic, are popular with women with RVVC. In-vitro studies demonstrate fungicidal properties of garlic. In colonised women, candida levels rise during the luteal phase of the menstrual cycle. The objective of this study was to ascertain whether oral garlic reduced numbers of colony forming units (CFU) during the luteal phase by analysing daily quantitative colony counts.

Methods: A simple randomised double-blinded controlled trial was undertaken in Melbourne, Australia during 2010 / 2011. Sixty healthy asymptomatic women with a self-reported history of VVC, who were culture positive for *Candida* species on screening, were randomised to take three garlic tablets (Garlicin,[™] each releasing 3200mcg allicin in total) or placebo orally morning and night for 14 days. The primary outcome was daily colony counts of candida from self collected vaginal samples during the intervention period. Data was also collected about lived experience of vulvovaginal candidiasis.

Results: A history of RVVC was self-reported by 75% of participants. There was high impact of RVVC on women's lives. Considerable daily variability in CFU was evident, but there was no significant difference between the two groups in mean candidal CFU over the two weeks (P= 0.52), perception of any symptoms of vaginitis during the menstrual cycle being better/worse/same as usual (P=0.30), or difference in symptoms of itch and abnormal discharge (P=0.10). The garlic group reported more adverse effects than placebo group (P=0.001).

Conclusion: In this study, daily candidal CFU for two weeks before menstruation were documented for the first time. This study provides no evidence for the use of twice daily oral garlic therapy in the luteal phase of the menstrual cycle for reducing colonisation. Further studies should investigate longer courses or topical garlic formulations.

IUSTI - EPIDEMIOLOGY (NON HIV)

POSTER NO: 37

HIV/HEPATITIS C CO-INFECTION: A BRAZILIAN COHORT

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Introduction: Viral hepatitis, specially, hepatitis C, are important causes of death among people living with HIV/AIDS. The objective of this study was to investigate factors related to death in these patients.

Methods: Retrospective data from the epidemiological surveillance system of SP-STD-AIDS of a cohort of patients over 12 years old of age were used. Information on Hepatitis C (HCV), Hepatitis B (HBV), age, sex, race/color, T CD4+ cell and schooling was collected at AIDS diagnosis, during the years 1986 - 2010. Only deaths after 2 years of aids diagnosis were included. A descriptive, Pearson association test and analysis by Cox model (hazard ratio=HR and confidence interval=CI 95%) were used.

Results: Of a total of 13,213 individuals, 2,864 were included: 2,186 (76.3%) men; 2,017 (70.8%) white; 1,983 (69.2%) 30-49 years old; 1,633 (58.2%) 4-11 years of schooling; 1,525

(54.1%) men who have sex with men (MSM); 2,513 (93.7%) < 350 cell/mm³; 1,265 (44.2%) aids diagnosis 1997-2002; 216 (7.5%) HIV/HBV co-infected and 358 (12.5%) HIV/HEV co-infected (statistical difference=45.1% injecting drug users and non co-infected= 58.6 % MSM, 10.1% < 3 years of schooling and non co-infected =40.1% up to 12 years of schooling, p < 0,001). Were associated with death, in the multivariate Cox model: having HCV (HR = 2.9; Cl 2.1 - 3.9), having HBV (HR = 2.5; Cl 1.7 - 3.6), being 50 years old or over (HR = 2.1; Cl 1.3 - 3.2) and having < 3 years of schooling (HR = 2.3; Cl 1.5 - 3.6).

Conclusion: In our cohort addressing concern about prevention of complications related to hepatitis C like treatment of hepatitis C and hepatitis B vaccination should be primary and vital to our HIV/HCV co-infected patients (with CD4 < 350 cell/mm^3).

"No disclosure of interest".

POSTER NO: 38

GENITAL WARTS IN YOUNG AUSTRALIAN WOMEN: GOING, GOING......

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Introduction: The Australian human papillomavirus vaccine program for young women aged 12-26 years commenced in 2007. We assessed the population effect of the vaccine program on genital warts diagnosed in sexual health clinics.

Methods: We calculated the proportion of patients diagnosed with genital warts using data collated from eight large sexual health clinics across Australia, from 2004 to 2011. The analysis was restricted to Australian-born patients. Trends were assessed with Poisson and chi-square tests.

Results: After 2007, there was a significant decline in the proportion of <21 year old women (92.6%, p<0.01) and 21-30 year old women (72.5%, p<0.01) diagnosed with genital warts at sexual health services. Only 13 women aged <21 years were diagnosed with genital warts in 2011 and no cases of genital warts were seen in women who reported being vaccinated. There was no significant decline in the proportion of >31 year old women diagnosed with warts after 2007 (21.1%, p=0.99). Similarly, there was a significant decline in the proportion of <21 year old (82.0%, p<0.01) and 21-30 year old (51.4%, p<0.01) heterosexual men after 2007, and in >30 year old men there was no significant decline after 2007 (15%, p=0.47). There was also a significant decline in men who have sex with men (MSM) after 2007 (33%, p=0.01).

Conclusion: Since the vaccine program was rolled out, there has been a marked decline in proportion of young women diagnosed with genital warts, reflecting impact of the program. The decline in heterosexual men probably reflects herd immunity. The decline in MSM is probably due to successful triaging of MSM into clinics for screening, bloating the denominator. Approval of male vaccination in Australia could lead to near disappearance of genital warts in young people in the country.

Disclosure: The study was funded by CSL Biotherapies. CKF owns shares in CSL Biotherapies. CKF, AEG, DGR, RJG, and BD have received honoraria from CSL Biotherapies. BD and RJG have received honoraria from Sanofi Pasteur MSD. CFK, DGR, AEG and BD receive research funding from CSL Biotherapies. CFK and AEG have received honoraria from Merck. AEG has received travel funding from Merck, and sits on the Australian advisory board for the Gardasil vaccine.

DECLINING INPATIENT TREATMENTS FOR GENITAL WARTS AMONG YOUNG AUSTRALIANS AFTER A NATIONAL HPV VACCINATION PROGRAM

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Introduction: Australia introduced a national human papillomavirus (HPV) quadrivalent vaccine program for 12–13-year-old girls in mid 2007, with a catch-up program for 14–26-year-old women until 2009. Large decreases in proportion of vaccine-eligible women diagnosed with genital warts have been shown at outpatient sexual health services. This analysis assessed trends in inpatient treatments for genital warts.

Methods: Data on inpatient treatments of warts in men and women were extracted from the Medicare website, from 2000 to 2011. We used chi-squared statistics to determine trends in inpatient treatments before and after 2007, stratified by age and anatomical site.

Results: In women aged 15-24 years (eligible for vaccination in 2007), there was no trend in the number of treatments before 2007 (p=0.73); however, there was an 85% decline after 2007 (p<0.01). In women aged 25-34 years, there was 24.2% decline before 2007 (p<0.01) and 33.3% decline after 2007 (p<0.01); and in 35–44-year-old women there was no decline (p=0.07). There was a 200% increase in penile wart treatments in men aged 15-24 years before 2007 (p<0.01) and a 70.6% decline after 2007 (p<0.01). In 25–34-year-old men there was no decline before 2007 (p=0.27) and a 59% decline after 2007 (p<0.01). There was no decline in men aged 35-44 years after 2007 (p=0.11). There was no decline in anal warts treatments in men after 2007 (p=0.07).

Conclusion: This is the first study to look at the impact of the HPV vaccine program on treatment of severe cases of genital warts. The marked decrease in numbers of vulval/ vaginal wart treatments in the youngest women appears like attributable to the vaccine program; substantial decreases in inpatient treatments for penile warts in younger men probably reflect herd immunity.

Disclosure: The study was funded by CSL Biotherapies. CKF owns shares in CSL Biotherapies. CKF, AEG, DGR, RJG, and BD have received honoraria from CSL Biotherapies. BD and RJG have received honoraria from Sanofi Pasteur MSD. CFK, DGR, AEG and BD receive research funding from CSL Biotherapies. CFK and AEG have received honoraria from Merck. AEG has received travel funding from Merck, and sits on the Australian advisory board for the Gardasil vaccine.

POSTER NO: 40

BEHAVIOURAL FACTORS ASSOCIATED WITH PREVALENT BV IN WOMEN WHO HAVE SEX WITH WOMEN - THE AUSTRALIAN WOW HEALTH STUDY

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Background: The WOW Health study is a national two-year cohort study of Australian women who have sex with women (WSW) examining behavioural and microbiological factors associated with prevalent BV in WSW and their partners.

Methods: WSW were recruited using internet, festival and media promotion. Women were ineligible if they were postmenopausal, pregnant or had not had a female sex partner (FSP) for ≥18 months. Women self-collected 3 vaginal smears weekly, completed a questionnaire and returned samples by post. BV was defined as a Nugent score of 7-10. BV prevalence, stability of vaginal flora, and concordance of vaginal flora within couples was determined. The association between behavioural practices and BV, and vaginal flora concordance within co-enrolled couples, was examined by univariate and multivariate analyses using STATA.

Results: 458(75%) of 608 eligible women returned swabs and questionnaires; 192 women were co-enrolled with their current FSP, and 266 women were not co-enrolled with a FSP. Median age was 30 years, BV prevalence was 27.5% (95%CI:23.6-31.8) and 88% had a stable Nugent state across ≥ 2 slides (median 16 days). Prevalent BV was associated with >4 lifetime FSPs [AOR=2.0(95%CI:1.3-3.3)], smoking, [AOR=2.0(95%CI:1.2-3.2)] and past pregnancy [AOR=1.7(95%CI:1.0-2.9)]. Within co-enrolled couples BV was associated with smoking [AOR=2.3 (95%CI:1.0-5.3)] and having a FSP with symptoms of BV [AOR=5.6(95%CI:1.5-20.7)]. 70% of co-enrolled couples were concordant for Nugent category, kappa=0.47. Concordance for vaginal flora was associated with a relationship of >6 months [AOR=5.5(95%CI:1.6-19.1)] with a trend towards an increased frequency of sexual contact [AOR=2.4(95%CI:0.9-6.2)].

Conclusion: BV is common in Australian WSW and associated with increased numbers of FSP and smoking. Concordance of vaginal flora is high amongst WSW and their FSPs, and was associated with longer relationship duration and more frequent sexual contact. These findings indicate sexual practices contribute to the exchange of vaginal flora between women.

POSTER NO: 41

PREVALENCE AND RISK FACTORS OF HERPES SIMPLEX VIRUS TYPE 2 INFECTIONS AMONG FEMALE SEX WORKERS IN GUANGXI PROVINCE, CHINA

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Introduction: Herpes simplex virus type 2 (HSV-2) is one of the most prevalent sexually transmitted infections in the world and is a major cause of genital ulcers. There's a strong synergetic interaction between HSV-2 and human immunodeficiency virus (HIV) based on *in vivo* and *in vitro* studies. HSV-2 was also identified as risk factors for HIV infections in some epidemiological study and Meta-analysis. Female sex workers (FSW) have been one of the highest priority populations contributing to the HIV and STDs epidemic in China. However, the information on the prevalence and risk factors of HSV-2 among the FSW population in China is limited. This study is to investigate the latest prevalence of HSV-2 infection and provide baseline data for developing an intervention program targeting this high risk population.

Methods: A total of 2453 FSW from different FSW venues in two cities in Guangxi Province participated in the survey by convenience sampling. Blood specimens were collected for testing for antibodies to HSV-2 to examine the seroprevalence of HSV-2 infection. Information on socio-demographic and behavioral characteristics was collected to determine the risk factors associated with the infections.

Results: The prevalence of HSV-2 infection in 2453 MSM was 54.9% (95% confidence interval [CI], 52.9-56.9%). Multivariate logistic regression analysis showed that risk factors

for HSV-2 infection included being age older than 26 years, being minor ethic group, being migrants from other cities, classified in lower tier. Educations level higher than junior high school, not living alone were protective factors for HSV-2 infection.

Conclusion: The high prevalence of HSV-2 infection among FSW in China suggests that an increased focus on HSV-2 control is warranted within China's prevention and intervention programs targeted towards FSW.

POSTER NO: 42

INTERNAL AND EXTERNAL FACTORS AND PREFALENCES OF SYPHILIS ON MALE SEX WITH MALE (MSM): STUDY ON MSM COMMUNITY IN YOGYAKARTA, INDONESIA

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Introduction: The community of men who have sex with men (MSM) is a high-risk group due to their sexual and non-sexual behavior, resulting in the increase of syphilis. Risk factor for syphilis in MSM relates to internal and external factors. The increasing prevalence and morbidity of syphilis in MSM may have a risk also to the occurrence of HIV infection. The aim of the research is to find the prevalence of syphilis and to examine relationship between internal and external factors among MSM community in Yogyakarta, Indonesia.

Method: Using a cross-sectional method among 97 subjects of MSM community, samples of blood were collected to find out syphilis infection by doing the serologic tests of VDRL and TPHA. Questionnaires were distributed to determine related internal and external factors. The sample was gathered by a consecutive sampling technique. Data analysis was done using the chi-square test for odds ratio and 95% confidence interval, and multivariate analysis using a multiple logistic regression.

Result: The prevalence of syphilis among MSM community was 16.5%. There were significant factors that correlate with prevalence of the occurrence of syphilis among MSM community in Yogyakarta: the age of first time anal sex with p=0.049 and OR=6.260 (95% CI: 1.009-38.836) meaning the younger the more prone to syphilis; the number of sexual partner with p=0.000 and OR=20.949 (95%CI: 4.784-91.744) meaning the more partners the more prone to syphilis, and the use of condom with p= 0.012 and OR=18.432 (95%CI: 1.885-180.196) meaning the more reluctance to use condom the more occurrence of syphilis.

Conclusion: The prevalence of syphilis in community MSM Yogyakarta is 16,5%. There were significant risk factors to the occurrence of syphilis namely the age of the first anal sexual intercourse, the number of sexual partners, and the reluctance to use condoms in sexual activity.

POSTER NO: 43

CHLAMYDIA TEST REULTS FROM A MELBOURNE BASED HOMELESS YOUTH SERVICE

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Background: Previous research suggests that Melbourne's homeless youth are sexually active at a younger age, have more sexual partners and more teen pregnancies than their homed peers. As such, this group is likely to be more vulnerable to sexually transmitted infections. Chlamydia is the most commonly notified sexually transmitted infection in

Victoria, with over 19,000 diagnoses notified in 2011; the majority in people aged <25 years. We describe chlamydia testing in a homeless population seeking health services in a metropolitan drop-in centre.

Methods: We analysed chlamydia test and positivity data collected at Young People's Health Service via the Victorian Primary Care Network for Sentinel Surveillance on BBV/ STIs over a five-year period (January 2007 to December 2011). As part of the surveillance program, survey data are also collected at theh time of test and linked to the test result.

Results: Between 2007 and 2011, 537 chlamydia tests were conducted among females and 266 among males. Survey data showed that 89% of tests among females and 70% among males were asymptomatic screens. 66% of tests were in people aged 16-19 years and 15% of individuals tested had one or more subsequent test. Proportion positive was 11.2% among females and 12.4% among males.

Conclusion: The proportion positive in the homeless youth testing at YPHS is higher than that reported among young people testing at family planning and sexual health clinics, suggesting this is a high risk group. YPHS opportunistically test young homeless clients for chlamydia which is reflected in their high rate of asymptomatic screening. Youth are screened, educated, treated and have access to the services of partner notification officers. YPHS offers a very important service for improving the sexual health of homeless youth.

POSTER NO: 44 CHLAMYDIA POSITIVITY AND TESTING RATES IN WESTERN AUSTRALIA: IS CHLAMYDIA REALLY INCREASING?

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Introduction: In Western Australia (WA), chlamydia notification rates tripled between 2002 and 2011; rates were highest among people aged 15-24 years, particularly those from the remote regions. In response to this, sexual health teams were established in WA's remote regions in 2004 to increase testing and improve clinical and public health management of STIs. Additionally, Australian clinical guidelines have recommended that all sexually active young people be tested for chlamydia annually. We aimed to assess whether chlamydia testing and positivity rates have increased among the target groups.

Methods: Analysis of chlamydia testing data from five of seven WA pathology providers and chlamydia notification data [representing positive test results] from the WA Department of Health for the 3-year period 2009-2011 to estimate rates of testing, notification and positivity.

Results: Between 2009-2011, the WA chlamydia testing rate increased 6% (53 to 56/1000 population); the test positivity rate increased 22% (5.4 to 6.6%) and the notification rate increased 26%. Among the 15-24 year group, male and female testing rates increased by 8% (71 to 77/1,000) and 4% (223 to 231/1,000), respectively, while male and female notification rates increased by 23% and 31%, respectively. Chlamydia test positivity increased from 12.8% to 15.3% in males, and from 7.9% to 10.1% in females.

Although testing rates among 15-24 year olds from remote regions were double the statewide rates, they decreased by 5% (335 to 319/1,000) between 2009-2011. Notification rates still increased 11% and test positivity increased from 11.0% to 12.7%.

Conclusion: Increasing chlamydia test positivity rates indicate that increased notification rates are at least partly due to increased transmission. Despite annual

chlamydia testing being recommended for all 15-24 year olds, testing rates in this group were lower than expected, even in the remote regions serviced by dedicated STI teams. Improved strategies are needed to encourage chlamydia testing among young people.

Disclosure of Interest Statement: No disclosure of interest

POSTER NO: 45

CHLAMYDIA TRACHOMATIS INFECTION AMONG ADOLESCENTS IN A HIGH-INCIDENCE AREA IN NORTHERN NORWAY - WHO IS BEING TESTED?

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Introduction: Chlamydia testing in Norway is free of charge and recommended after partner change in individuals <25 years. The chlamydia incidence rate in Finnmark, the most northern and sparsely populated county in Norway, has been twice the national average. Objectives to examine demographic and behaviour characteristics associated with previous chlamydia testing among adolescents in a high-incidence area, and if previous testing or treatment were associated with provision of a urine sample in our study.

Methods: A population based cross-sectional study was conducted among all high-school students in five Finnmark towns in 2009, using a web-based questionnaire and first-void urine samples (participation rate 85%, girls 800/boys 818, age range 15-20 years, mean age 17.2 years). Questions included: age, ethnicity, church affiliation, residence, parents education, alcohol/drug use, sexual behaviour characteristics, condom use, and previous infection. Crude and multivariable logistic regression models were applied with previous chlamydia test as dependent variable using SPSS version 19 with two-sided 5% significance level.

Results: 56% of girls and 21% of boys had been tested previously (*p*<0.001). In the multivariable model including all participants, following factors were associated with previous testing: female gender (odds ratio (OR) 6.02), older age (OR increase per year 1.53), Sami ethnicity (OR 1.72), first sexual intercourse \leq 14 years (OR 2.15), first intercourse without condom (OR 1.47), and number of lifetime sexual partners: 1-2 (reference), 3-5 (OR 2.89) or \geq 6 (OR 6.81). Church affiliation (OR 1.64), older last partner (OR 1.55) and last intercourse without condom (OR 1.93) were only significant in girls. Provision of a urine sample was not associated with previous testing/treatment.

Conclusion: Previously tested participants reported more sexual risk behaviours than those not tested.

Testing venues have been preferentially accessed by adolescent girls with sexual risk behaviours and less frequently by same-aged boys. School-based testing reaches a different cohort than testing according to national guidelines.

POSTER NO: 46

PREVALENCE OF STIS AMONG WOMEN WHO CONSULT IN THE MATERNAL AND INFANT HEALTH UNITS AND IN THE FAMILY PLANNING UNITS

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Background: In 2011, the Ministry of Health in Morocco conducted a study on the prevalence of STIs among women for studied the aetiology and for follow the trends of genital tract infections among pregnant women and among the consultants in family

planning units (FPU). This study has also permit to develop recommendations that will strengthen the strategy of prevention and control of STIs, particularly among these studied populations.

Methods: A sample of 256 women who consult in the maternal and infant health units (MIHU) and in the FPU was recruited in the city of Rabat and it's region. From all the women, a request form was filled, a clinical examination was performed and genital and blood samples were collected. Culture was performed for identification of *Neisseiria gonorrhoeae* (GC) and *Trichomonas vaginalis* (TV) and samples were analysed by PCR to detect *Neisseiria gonorrhoeae* and *Chlamydia trachomatis* (CT). The HIV status was determined for all the patients.

Results: The findings shows that 2,34% of women have a vaginal infection due to TV. Cervical infection was found in 5,85% of women with 0,78% due to GC and 5,07 % due to CT. The serology of HIV was negative for all the women.

Conclusion: The prevalence of STIs among women who consult in the MIHU and in the FPU has not much changed compared to the Results obtained in 2001 which were 3% of vaginal infections due to TV, 0,9% of cervical infections were caused by GC and 4,02 % by CT. An increase of cervical infections with CT was observed compared to those with CG. These Results showed that the asymptomatic infections to CT remain still a problem for women. Therefore, it is necessary to strengthen primary prevention of STIs and regularly monitor trends in prevalence of cervical infections among women in general and vulnerable groups in particular.

POSTER NO: 47

ASKING YOUNG PEOPLE ABOUT SEXUAL DEBUT: RELIABILITY AND VALIDITY OF A SINGLE, SELF-REPORTED MEASURE

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Introduction: Delayed sexual debut is a common outcome of sexual health interventions for young people, but measuring sexual debut using self-reports can be challenging. Validity of biomedical proxies may be compromised by variable false negative rates (e.g., due to low STI prevalence in closed sexual networks); frequently, by default, a single binary item is used. We analysed sex-specific outcomes for such a single binary item – "Have you ever had sex?" – against 15 items related to sexual debut and 3 STI.

Methods: A cross-sectional survey of 6813 (F: 3806) young people (aged 13-17) from 48 secondary schools in northern KwaZulu-Natal, South Africa. An 80-item questionnaire was delivered using a cellphone-based research platform (*Mobenzi*). Anonymous-linked blood samples were collected and tested for HIV, HSV2 and HPV. The binary item's sensitivity, specificity and different error-measures were calculated using SPSS 19.

Results: Fewer young women (15%) than men (24%) reported ever having had sex. After excluding 3 items with poor item-total correlations nearly all young people (99% of women, 89% of men) who reported 'ever having had sex' on the single binary item also indicated sexual experience on > 6 other items (*specificity proxy*). However, 322 women (45%) who reported being sexually naive also indicated being sexual experienced on > 6 other items (*sensitivity proxy*), compared to only 3% of young men. A relatively large proportion of the young people (14.7% women, 9.7% men) reported 'never having had sex', but tested positive for an STI. **Conclusion:** In this study the binary item, '*Have you ever had sex*?' disproportionately underestimated the number of sexually experienced young women and was unable to account for the high number of young people with an STI. Researchers should consider the potential value of using gender-specific multi-item algorithms to establish sexual debut, and skip-logic with digital data collection platforms.

POSTER NO: 48 PUBLIC HEALTH RESPONSE TO ANTIMICROBIAL RESISTANT GONORRHOEA IN EUROPE

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Background: The public health control of gonorrhoea is dependent of antimicrobial treatment and the choice of agent(s) is informed by surveillance programmes. Emerging resistance to therapeutic agents for gonorrhoea has compromised the control of gonorrhoea for decades, and is currently causing major concern as treatment failure and decreased susceptibility emerges to the extended spectrum cephalosporins (ESCs), the current recommended agents and the last remaining options. The European Gonococcal Antimicrobial Surveillance Programme (Euro-GASP) has been set up to inform public health and treatment guidelines in Europe and has informed the response plan to address the threat of multi-drug resistant *Neisseria gonorrhoeae* (MDR-NG).

Methods: Euro-GASP collects isolates from 21 of 30 EU/EEA countries in two time periods each year. Susceptibility testing is performed to therapeutically relevant antimicrobial agents and profiles linked to demographic data, where possible.

Results: Decreased susceptibility (DS, MIC >0.125 mg/L) to cefixime has increased from 4% in 2009 to 9% in 2010 (p<0.01) and these isolates were additionally resistant to ciprofloxacin. Although interim data for 2011 shows a small decrease in DS to cefixime at 8%, higher levels of resistance to cefixime and decreased susceptibility to ceftriaxone was detected for the first time. DS to cefixime was associated with age >25 years (RR=1.6, p=0.01). Ciprofloxacin resistance remained high despite a decrease from 63% in 2009 to 53% in 2010, along with a decrease from 13% to 7% for azithromycin (p<0.002).

Conclusion: MDR-NG is widely disseminated in European Union and ECDC has created a response to control and manage this threat. The plan aims to; i) strengthen the surveillance of gonococcal antimicrobial susceptibility; ii) maintain and develop capacity for culture and susceptibility testing; iii) establish a strategy to detect treatment failure; iv) outline recommended public health actions, and v) increase awareness.

POSTER NO: 49

PREVALENCE AND PREDICTORS OF GONORRHOEA AND CHLAMYDIA AMONG NON-OCCUPATIONAL POSTEXPOSURE PROPHYLAXIS RECIPIENTS AT A SYDNEY METROPOLITAN SEXUAL HEALTH CLINIC

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Introduction: Australian non-occupational post-exposure prophylaxis (NPEP) guidelines recommend *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) testing at both baseline and 2-week visits. We aimed to investigate the utility of this repeat testing approach and predictors of CT/NG among NPEP recipients.

Methods: A retrospective case note review of all patients who were prescribed NPEP at RPA Sexual Health between January 2008 and December 2011 was performed and predictors of CT/NG assessed using logistic regression.

Results: 319 NPEP presentations occurred among 282 individuals (94.3% male) during the study period. Over 90% of NPEP presentations followed unprotected anal intercourse. Baseline CT/NG screening occurred at 174 (54.5%) presentations and 215 (67.4%) were screened at 2-week follow up. 130 (40.7%) were screened at both visits. Of those screened at baseline and 2-weeks, CT/NG was newly diagnosed at 8 (4.6%, 95% CI 2.0-8.9%) and 18 (8.4%, 95% CI 5.1-13.0%) of NPEP presentations, respectively. A baseline CT/NG diagnosis was independently associated with recent sex work (p<0.001) and being prescribed NPEP at RPA Sexual Health rather than other clinics (p=0.038). The only factor independently associated with a 2-week CT/NG diagnosis was an NPEP sexual exposure involving a known HIV positive (vs negative or unknown) source (p=0.023). 7/18 (38.9%) CT/NG infections at 2-weeks occurred among individuals who had not been screened at baseline while the remaining 11 (61.1%) occurred among individuals who had tested negative at baseline. 25.8% of NPEP recipients reported sexual contact between baseline and 2-week visits and 6 of these individuals had CT/NG diagnosed at 2 weeks, but no baseline testing.

Conclusion: The high prevalence of baseline and newly diagnosed CT/NG at 2 weeks combined with ongoing sexual activity in over one-quarter of individuals suggests CT/NG screening of NPEP recipients at both baseline and 2 weeks is warranted.

POSTER NO: 50

CAN HUMAN PAPILLOMAVIRUS (HPV) TESTING IMPROVE THE PERFORMANCE OF ANAL CYTOLOGY?

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Background: Anal cytology has been proposed as a screening tool for anal cancer prevention in high-risk populations, an approach similar to that of cervical screening. We explored whether the addition of HPV DNA detection and genotyping improved the performance of anal cytology in predicting histologically diagnosed high-grade anal intraepithelial neoplasia (HGAIN) in a community-recruited cohort study of homosexual men.

Methods: At baseline, participants in the Study of the Prevention of Anal Cancer (SPANC) underwent liquid-based anal cytology (ThinPrep®) followed by high-resolution anoscopy-guided biopsy and histological examination. The Thinprep medium was also HPV genotyped using Roche Linear Array.

Results: A total of 218 men were recruited by April 2012. Median age was 49 years (range: 18-79) and 31.1% were HIV-positive. HGAIN was diagnosed in nearly a third (32.6%). Using the conventional threshold of possible low-grade squamous intraepithelial lesion (PLSIL, 53.2% of cohort) as a means of identifying potential HPV-associated disease, the sensitivity and specificity of anal cytology in predicting HGAIN were 73.5% and 57.1% respectively. The **Introduction:** of high-risk (Hr)-HPV detection as triage (PLSIL and Hr-HPV, 42.3% of cohort) improved specificity (68.4%) but decreased sensitivity (63.2%). Alternatively, using Hr-HPV as co-testing (PLSIL or Hr-HPV, 74.1% of cohort) increased sensitivity (86.8%). Sensitivity increased also (76.5%) when high-grade SIL (HSIL) was used as the threshold (HSIL or Hr-HPV, 63.2% of cohort). However, in both scenarios,

specificity was lowered (43.6% and 32.3%, respectively). A similar pattern was observed with triage and co-testing approaches of HPV16 testing with anal cytology.

Conclusion: Detection of Hr-HPV in addition to cytological abnormalities led to higher sensitivity whereas an Hr-HPV triage approach led to higher specificity. No test combination resulted in both improved sensitivity and specificity. Anal HPV detection alone may not enhance anal cancer screening. Thus alternatives such as HPV biomarkers for HGAIN prediction should also be investigated.

POSTER NO: 51 SEXUAL BEHAVIOUR, KNOWLEDGE, AND STI TESTING TRENDS IN YOUNG PEOPLE; 2006 TO 2012

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Introduction: To explain rising rates of sexually transmitted infections (STI) in Australia, it is necessary to monitor behaviour trends among high risk groups, such as young people. We report trends in reported sexual risk behaviour, knowledge, and STI testing from community-based surveillance of young people.

Methods: Cross-sectional surveys of convenience samples recruited at a music festival were conducted annually from 2006 to 2012. Trends in reported behaviours were assessed by including 'year of survey' as a continuous variable in multivariable logistic regression models. Those who had never had sex were excluded from risk behaviour and STI testing analysis.

Results: 9440 people aged 16-29 completed questionnaires; 61% were female, the median age was 19 years, and 82% reported ever having sex. The proportion reporting regular sexual partners in the past year (86% overall) decreased over time (AOR 0.94, 95%CI 0.90-0.97), while reporting casual partners (53% overall) increased (AOR 1.05, 95%CI 1.03-1.08). Consistent condom use with casual partners (60% overall) decreased (AOR 0.95, 95%CI 0.92-0.99). There were no significant changes over time in the proportion reporting homosexual behaviours (8%), new partners in the past three months (34%), or multiple partners in the past year (40%). The proportion who knew that chlamydia can cause infertility increased over time, but knowledge related to diagnosis and treatment of STIs remained poor or worsened. The proportion reporting an STI test in the past two years increased from 24% in 2006 to 33% in 2012 (AOR 1.10, 95%CI 1.05-1.15).

Conclusion: This festival is a useful setting for monitoring trends within an at-risk population of young people. Although STI testing rates increased over time, there was a concerning increase in the prevalence of several sexual risk behaviours and little improvement in STI knowledge between 2006 and 2012, suggesting the need for novel health promotion strategies.

POSTER NO: 52

TRENDS IN CHLAMYDIA POSITIVITY FROM A SENTINEL SURVEILLANCE NETWORK, 2007-2011

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Introduction: The number of chlamydia infections diagnosed annually in Victoria has increased steadily, from 11149 in 2007 to 19184 in 2011. This may be due to increased frequency of chlamydia testing or an increase in population prevalence. This analysis describes trends in chlamydia positivity, 2007 to 2011, among heterosexuals tested for chlamydia at selected high risk clinics in Victoria, Australia.

Methods: The Victorian Primary Care Network for Sentinel Surveillance of BBV/STI collects data on all clients testing for chlamydia at eight sexual health and young peoples' clinics. Pathology results were obtained from laboratories and demographic and behavioural data from a questionnaire administered at the time of testing. Trends were assessed by including 'year of survey' as a continuous variable in logistic regression models. Those aged less than 16 years, sex workers, and men who reported sex with men in the past 12 months were excluded from analysis.

Results: 36174 chlamydia tests were conducted among females and 23883 among males. Between 2007 and 2011, positivity among females increased from 4.7% to 5.8% (OR 1.06; 95%CI 1.03-1.10) and among males positivity increased from 7.4% to 8.2% (OR 1.02; 95%CI 0.99-1.06). Adjusting for age, country of birth, number of sex partners, condom use, and presence of symptoms, chlamydia positivity increased on average 7% per year (OR 1.07; 95%CI: 1.03–1.11) among females and 2% per year (OR 1.02; 95%CI: 0.99–1.06) among males. There were also changes over time in the prevalence of certain risk behaviours reported.

Conclusion: We identified a concerning increase in chlamydia positivity over time, particularly among females. Explanations for this trend may include changes in risk behaviours leading to increased transmission, an increase in the number of high risk women presenting for testing, increasing reinfections due to decreased chlamydia immunity, or declining rates of general antibiotic use.

POSTER NO: 53

IS THERE AN ASSOCIATION BETWEEN UREAPLASMA UREALYTICUM AND NON-GONOCOCCAL URETHRITIS AMONG MALE STI ATTENDEES IN JOHANNESBURG, SOUTH AFRICA?

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Introduction: Recent studies have investigated a possible role for *Ureaplasma urealyticum* in non-gonococcal urethritis. We determined the prevalence of Ureaplasma infections among men, with three clinical categories of presentation, attending a clinic for sexually transmitted infections (STI) in Johannesburg, South Africa and determined their association with patients' characteristics, symptoms and clinical signs.

Methods: Forty nine symptomatic male urethritis syndrome (MUS) cases negative for *Neisseria gonorrhoeae* (NG), *Chlamydia trachomatis* (CT), *Trichomonas vaginalis* (TV) and *Mycoplasma genitalium* (MG) were retrospectively selected and matched with 49 cases of confirmed genital ulcer diseases (non-MUS category) and 49 cases of patients without STIs (non-STI category). The non-MUS and non-STI cases were all matched as closely as possible against the MUS cases for age, number of sex partners and condom use within the last 3 months. Stored samples were tested using two specific urease gene assays for *U. urealyticum* and *U. parvum* and a multiple-banded antigen gene assay that is able to detect both organisms. The study received local ethics approval.

Results: Overall, *U. urealyticum* and *U. parvum* were detected in 2.0% (3) and 8.8% (13) of the total number of samples tested. Amongst the MUS samples, *U. urealyticum* was detected in 2.0% (1) whilst *U. parvum* was detected in 4.1% (2) of the samples tested. *U. urealyticum* was not detected in the non-MUS samples; however, *U. parvum* was

detected in 16.3% (8) of the non-MUS samples. In the non-STI samples, *U. urealyticum* was detected in 4.1% (2), whilst 6.1% (3) tested positive for *U. parvum*. There were no significant associations of *U. urealyticum* and *U. parvum* with non-NG/CT/TV/MG MUS infections (p-values, 1.000 and 0.221, respectively).

Conclusion: Using a case-control study design for patients negative for four important urethral pathogens, no significant relationship between *U. urealyticum* and non-gonococcal urethritis was found.

POSTER NO: 54 PREVALENCE OF SYPHILIS IS STUDENTS ENROLLING IN AN INSTITUTION OF TERTIARY LEARNING IN ZAMBIA

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Introduction/Background: The high burden of infectious diseases in Zambia is well known and well documented. Malaria, Tuberculosis and AIDS pose a great challenge to the country's health system. Over the last decade, programmes have been implemented that target the three diseases. In the face of high burden from these diseases, efforts for other infectious diseases seem to be waning and yet some like STIs have an impact on the control of HIV.

Methods: We conducted medical examinations on 2,000 people (1,084 males, 916 females) from all Zambia enrolling into an institution of higher learning for the first time (expected total 5,000). Screening for Syphilis using qualitative Rapid Plasma Reagin was part of the examination because of the opportunity/benefit of treatment. 52% (1,054) were in the age group 15-19, while 27.85% (557) were in the age of 20-24. 3.9% (78) were in the age group 25-29. The age groups of 30-34 and 35-39 both had 115 subjects (5.75%).Those in the 40-44 were 59(2.95%) while those 45 and above were 22(1.10%).

Results: The overall prevalence of Syphilis was 0.9% (N=18); 1.1% in males and 0.65% in females. In the 15-19 age group, no male tested positive and prevalence was 0.47% .In the 20-24 age group, only 1 (male)out of 557(0.18%) was positive. In the age groups 25-29 and 30-34, there was no positive result recorded.

In the age group 35-39, there were 5 subjects (prevalence 4.3%) who were positive (all males), accounting for 27.8% of the total subjects who were positive. In the age group 40-44, there were 6 positive or 10.2% (5 males and 1 female), accounting for 33.3% of the total subjects who were positive. Above 45, there was one male subject who was positive (5.56%).

Conclusion: The results seem consistent with national findings which suggest that younger females and older males are at higher risk for Syphilis (ZDHS, 2007). Syphilis should still be considered as an STI of significance in Sub-Saharan Africa

No disclosure of interest

PREVALENCE AND RISK FACTORS FOR HIGH-GRADE ANAL INTRAEPITHELIAL NEOPLASIA IN A COMMUNITY BASED COHORT OF HOMOSEXUAL MEN

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Introduction: The incidence of human papillomavirus (HPV)-associated anal cancer is increasing in homosexual men. Screening for the presumed cancer precursor, high-grade anal intraepithelial neoplasia (HGAIN) in a manner analogous to cervical cancer screening has been proposed. This has been challenged because the natural history of HGAIN is not well understood.

Methods: The Study for the Prevention of Anal Cancer (SPANC) is a community-recruited prospective study investigating the natural history of anal HPV infection and associated lesions in homosexual men aged ≥35 years. Data from the baseline visit was analyzed to assess the prevalence of histologically confirmed HGAIN, associated biological and behavioural risk factors.

Results: By April 2012, 218 participants (median age of 49 years; 31% HIV-positive) had enrolled. Overall 58% of men had HPV-related lesions. One-third (33%) of men (28% of the HIV-negative and 43% of the HIV-positive) had HGAIN. AIN2 and AIN3 were diagnosed in 12% and 20% of men respectively. HIV-positive men were more likely to have AIN3 (p=0.026) than HIV-negative men. Detection of HPV16 was associated with AIN3 (p=0.008) but not AIN2 (p=0.838). HPV18 detection was associated with AIN2 (p=0.001) but not AIN3 (p=0.432). These associations were observed regardless of HIV status. No other HR-HPV types were associated with AIN3 or AIN3. Presence of any abnormalities was associated with a lifetime preference for the receptive (vs insertive) role in anal sex (p=0.037) and a history of genital and anal warts (p=0.025 and p<0.001, respectively). There were no associations with age, past/current smoking status or recent penile-anal sexual partners or condom use.

Conclusion: The prevalence of HGAIN in homosexual men was high, particularly in the HIV-positive. The strong relationship of AIN3 with HPV16, and of AIN2 with HPV18, raises the possibility that HPV type may be associated with histological grade and possible risk of progression to anal cancer.

Disclosure of Interest Statement: AEG has received honoraria and research funding from CSL Biotherapies, honoraria and travel funding from Merck, and sits on the Australian advisory board for the Gardasil HPV vaccine. CKF has received honoraria, travel funding and research funding from CSL and Merck, sits on the Australian advisory board for the Gardasil HPV vaccine, and owns shares in CSL Biotherapies. SMG have received advisory board fees and grant support from CSL and GlaxoSmithKline, and lecture fees from Merck, GlaxoSmithKline and Sanofi Pasteur; in addition, has received funding through her institution to conduct HPV vaccine studies for MSD and GlaxoSmithKline and is a member of the Merck Global Advisory Board as well as the Merck Scientific Advisory Committee for HPV. RJH has received support from CSL Biotherapies and MSD. All other authors declare that they have no conflicts of interest.

SEXUAL RISK PRACTICES AMONG MALES AND FEMALES ASSOCIATED WITH ASYMPTOMATIC CHLAMYDIA DIAGNOSIS: IMPLICATIONS FOR TESTING GUIDELINES

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Introduction: In Australia, chlamydia is most commonly notified in women, which could be an artefact of disproportionate testing. A variety of testing guidelines exist, each with gender-specific recommendations for asymptomatic chlamydia screening. It is argued that guidelines should advocate for non-gender specific screening of adults aged <25 years. We analysed factors associated with chlamydia infection among asymptomatic heterosexuals presenting to high-risk clinics in Victoria to assess the appropriateness of current guidelines.

Methods: Using chlamydia testing data collected from eight clinics participating in the Victorian Primary Care Network for Sentinel Surveillance on BBV/STIs between 2007 and 2011, univariable logistic regression examined factors associated with chlamydia infection separately among asymptomatic males and females.

Results: Over the five year period, 11876 males and 13891 females had an asymptomatic chlamydia test; of these tests 6.6% were positive among males and 5.9% among females. Asymptomatic males were more likely to be positive if they were aged <25 years (OR=2.2, 95% Cl 1.9-2.6), reported two or more recent female sex partners (OR=4.4, 95% Cl 1.4-14.0) and recent inconsistent condom use (OR=3.3, 95% Cl 2.4-4.5). Asymptomatic females were more likely to be positive if they were aged <25 years (OR=2.4, 95% Cl 2.1-2.9), reported one or more recent male sex partner/s (OR=5.3, Cl 2.0-14.3), recent inconsistent condom use (OR=5.3, Cl 2.0-14.3), recent inconsistent condom use (OR=2.3, 95% Cl 1.8-3.0) and a recent new partner (OR=2.0, 95% Cl 1.5-2.6).

Conclusion: We acknowledge the limitations to these data having been collected from high-risk clinics, however the results show that chlamydia positivity and risk factors are comparable between asymptomatic males and females. We suggest that current testing guidelines used by general practitioners which currently exclude males should be revised.

POSTER NO: 57

ASSESSING THE EFFECTIVENESS OF THE HUMAN PAPILLOMAVIRUS VACCINATION PROGRAM IN VICTORIA, AUSTRALIA

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Introduction: The human papillomavirus (HPV) vaccination has been available through the National HPV Vaccination Program since 2007, and the VACCINE study aims to assess the effectiveness of the program in reducing the prevalence of the HPV genotypes targeted by the vaccine (HPV 6, 11, 16 and 18). We aimed to detect any decrease in the prevalence of vaccine-targeted HPV genotypes amongst young women in vaccine eligible cohorts and to independently measure vaccine coverage in young Victorian women.

Methods: Young Victorian women aged 18-25 are being recruited using the social networking site Facebook. Participants are asked to complete an online questionnaire and those who are sexually active are asked to provide a self-collected vaginal swab. The swabs are genotyped using a Linear Array HPV genotyping test (Roche Diagnostics).

Results: To date, 350 females have been recruited into the study and 235 participants have completed the study. Eighty percent of women were sexually active and provided a self-collected swab, of which 78% were negative for HPV. Of the 41 cases positive for HPV, only 4 cases of HPV 16 have been recorded, and no cases of HPV 6, 11 or 18 have been identified. The prevalence of HPV16 in the sample population from Victoria (2%) is significantly lower than that demonstrated in age matched Victorian women from cervical specimens (9.4%)¹ prior to the introduction of the HPV vaccine ($\chi^{2}_{(1)}$ =9.69, p=0.002). Based on self-reported vaccination status, 89% of women aged 18-21 years old in our sample have received at least one dose of the HPV vaccine, compared with 83% for women aged 22-25.

Conclusion: Preliminary data from the VACCINE study suggest a significant decline in the prevalence of vaccine-targeted HPV genotypes. These results support the hypothesis that the HPV vaccine program is effective in reducing HPV genotypes 6, 11, 16 and 18 amongst populations offered the vaccine.

Disclosure of Interest Statement: All authors were chief investigators on the WHINURS study, a study of HPV prevalence in Australian women, which was funded by a grant from the Cooperative Research Centre for Aboriginal Health, as well as education grants in aid from GlaxoSmithKline and CSL Limited. SM Garland has received advisory board fees and grant support from CSL and GSK, and lecture fees from Merck and GSK. SM Garland has received funding through her institution to conduct Phase III clinical trials of HPV vaccine studies for MSD and GSK. SM Garland is a member of the Merck Global Advisory Board, the Merck Scientific Advisory Committee for HPV prophylactic vaccines, as well as being on the Australian Advisory Boards on cervical cancer for GSK and CSL. JML Brotherton and SM Garland are investigators on an Australian Research Council Linkage Grant, for which CSL Biotherapies is a partner organisation. The authors have no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed. No writing assistance was utilized in the production of this manuscript.

POSTER NO: 58

PREVALENCE AND PREDICTORS OF HIGH-RISK ANAL HUMAN PAPILLOMAVIRUS (HPV) TYPES IN AUSTRALIAN HOMOSEXUAL MEN

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Introduction: HPV causes around 90% of anal cancer, and a single type, HPV16, causes 90% of HPV-positive cases. Homosexual men are at greatly increased risk of anal cancer. We describe prevalence and predictors of anal canal detection of any HPV, high-risk (Hr) HPV and HPV16 in a cohort of Australian homosexual men.

Methods: The Study for the Prevention of Anal Cancer is a 3-year community-recruited prospective study of homosexual men aged \geq 35 years. At each visit, participants complete behavioural and demographic questionnaires, undergo anal canal examination and high resolution anoscopy. An anal swab is obtained for cytology and HPV genotyping using Roche Linear Array.

Results: By April 2012, 218 participants (median age 49 years; 31.1% HIV positive) had attended a baseline visit. The vast majority of men (85.2%) had one or more HPV genotypes detected. HPV16 was detected in 26.3% of participants. The detection of any HPV was

significantly associated with younger age (p=0.041), more lifetime insertive anal intercourse with male partners (p=0.036) and a history of ever smoking (p=0.032). Hr-HPV detection was significantly associated with younger age (p=0.008), more lifetime male sexual partners (p=0.025), more receptive anal behaviours in the last 6 months, including intercourse (p=0.007); rimming (p=0.001); fingering (p=0.022) and use of sex toys (p=0.029). HPV16 detection was associated only with a history of anal warts (p=0.014) and anal gonorrhoea (p=0.024). There was no significant difference in prevalence of any HPV, Hr-HPV or HPV16 detection by HIV status, age of first anal intercourse, preference for the receptive position in anal intercourse or history of other STIs.

Conclusion: HPV was extremely common in this cohort of homosexual men, regardless of HIV status and anal sex position preference. However, as receptive anal sexual practices were important predictors of Hr-HPV detection, recent sexual activity appeared to be linked to infection with Hr-HPV types.

Disclosure of Interest Statement: AEG has received honoraria and research funding from CSL Biotherapies, honoraria and travel funding from Merck, and sits on the Australian advisory board for the Gardasil HPV vaccine. CKF has received honoraria, travel funding and research funding from CSL and Merck, sits on the Australian advisory board for the Gardasil HPV vaccine, and owns shares in CSL Biotherapies. SMG have received advisory board fees and grant support from CSL and GlaxoSmithKline, and lecture fees from Merck, GlaxoSmithKline and Sanofi Pasteur; in addition, has received funding through her institution to conduct HPV vaccine studies for MSD and GlaxoSmithKline and is a member of the Merck Global Advisory Board as well as the Merck Scientific Advisory Committee for HPV. RJH has received support from CSL Biotherapies and MSD. All other authors declare that they have no conflicts of interest.

POSTER NO: 59

THE FIRST YEAR OF ENHANCED SURVEILLANCE FOR INFECTIOUS SYPHILIS AT PUBLIC SEXUAL HEALTH CLINICS IN NEW ZEALAND

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Introduction: There was a dramatic rise in cases of infectious syphilis in New Zealand over the 2000s. However, important information on issues surrounding syphilis, such as sexual behavior and place of infection, are not captured in routine surveillance. New Zealand sexual health physicians have advocated for the establishment of enhanced surveillance of infectious syphilis to increase the amount and quality of data available and to help inform preventive efforts.

Methods: Enhanced surveillance of infectious syphilis began in January 2011. Each month clinicians at all NZ sexual health clinics were asked to report each new case and complete a questionnaire. Information requested included sexual behavior, place of infection, reason and location of testing, symptoms, diagnostic tests, concurrent STI diagnoses, the context leading to infection including whether oral sex, sex work, and attendance at sex-on-site venues were implicated

Results: In 2011, the majority (80%) of the 75 cases of infectious syphilis were in men who have sex with men (MSM), with a median age 40. MSM and heterosexuals with infectious syphilis differed in ethnicity (p=0.0001) and country of infection (p=0.0001) with MSM more likely to be of European descent (60%) and infected in NZ (83%). About half had symptoms on testing, leaving contact tracing and aspects of the patient history

leading to most of the other diagnoses. Overall 11/60 (18%) of MSM were also HIV positive, and these men implicated sex-on-site venues, the internet and sero-sorting groups. Clinicians identified oral sex as responsible for 32% of infections among MSM.

Conclusion: Most infectious syphilis in New Zealand occurs among MSM and is transmitted locally. MSM including those with HIV need to be made aware of the risk of syphilis transmission even where practices aimed to reduce the risk of HIV transmission such as oral sex and HIV sero-sorting are practiced.

Disclosure of Interest Statement This study was funded by the Department of Preventive and Social Medicine, University of Otago, New Zealand.

POSTER NO: 60

SEXUAL HEALTH AND THE RUGBY WORLD CUP 2011: A CROSS-SECTIONAL STUDY OF SEXUAL HEALTH CLINICS IN NEW ZEALAND

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Introduction: This study describes characteristics of sexual health clinic attendances and sexually transmitted infection (STI) diagnoses at the time of the Rugby World Cup (RWC) in New Zealand in 2011.

Methods: The study compared sexual health clinic attendances and STI diagnoses around the time of the RWC with five preceding years. A cross-sectional survey conducted at sexual health clinics in four New Zealand cities included attendees presenting to clinics for a new concern between 12 September and 15 November 2011. This survey collected behavioural information from attendees and determined which had RWC-related sex.

Results: Although there was no statistically significant increase in clinic attendances or STI diagnoses during the RWC compared with previous years, 151 individuals of 2079 attending sexual health clinics for a new concern reported RWC-related sexual experiences. The most frequently diagnosed STIs of all clinic attendees were chlamydial infection, genital warts, and genital herpes. Most attendees (75%) who had RWC-related sex had consumed three or more alcoholic drinks, and 23% had used a condom. Fifteen percent of women having RWC-related sex reported it was non-consensual. RWC-related sex was associated with an increased risk of STI diagnoses in men: gonorrhoea relative risk (RR)=4.9 (95%CI: 2.1-11.4); non-specific urethritis RR=2.8 (95%CI: 1.3-5.9); chlamydial infection RR=1.8 (95%CI: 1.1-2.9). A reduced risk (RR=0.3, 95%CI: 0.1-0.9) of diagnosis with any STI was associated with using a condom among those who had RWC-related sex.

Conclusion: That men having RWC-related sex had a higher risk of bacterial STIs than other men attending sexual health clinics for a new concern indicates that RWC-related sex may have been more risky. These findings highlight issues amenable to prevention. In particular, reduction in promotion and availability of alcohol at such events may reduce sexual health risks as well as a range of other harms.

Disclosure of Interest Statement: This study was funded by the Department of Preventive and Social Medicine, University of Otago, New Zealand. No other disclosure of interest

THE PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS, INCLUDING HUMAN PAPILLOMAVIRUS, AMONG ANTENATAL CLINIC ATTENDEES IN ASARO, PAPUA NEW GUINEA

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Background: Papua New Guinea (PNG) has one of the highest rates of cervical cancer in the world with an estimated age-standardized incidence of 40/100,000 compared to 6/100,000 in Australia. Despite this disease burden, no large-scale surveys have been conducted to establish the prevalence of human papillomavirus (HPV) among general or at-risk populations. Routine antenatal surveillance provides robust national prevalence estimates of HIV and syphilis however surveys of other sexually transmitted infections (STIs) in pregnancy have not been conducted to date.

Methods: A cross-sectional bio-behavioural survey is underway to investigate the epidemiology of HPV and other STIs among 1000 women attending antenatal clinics (ANCs) in four provinces in PNG. DNA extracted from self-collected vaginal swabs is tested for *C. trachomatis, N. gonorrhoeaea* and *T. vaginalis* by real-time PCR, and HPV genotyping is conducted using the Roche Linear Array kit. Participants provide venepuncture specimens for syphilis and *Herpes simplex* Type-2 (HSV-2) serology.

Results: A total of 104 women aged 18-49 years attending antenatal clinics (ANCs) in Central and Eastern Highlands Provinces have been recruited to date (May 2012). High prevalences of STIs have been detected; chlamydia, 27%; gonorrhoea, 11%; trichomoniasis, 23%; HSV-2, 51%; and syphilis, 9%. Initial HPV genotyping data (n = 20) indicate over 90% of participants were infected with at least one HPV type, of whom 55% had a mixed infection and 50% of women were infected with at least one high risk (HR) HPV type.

Conclusion: Preliminary data from an on-going survey among ANC attendees in PNG suggests women in this population have high prevalences of STIs, including HPV. This study will provide valuable evidence for public health policy formulation in PNG, particularly the introduction of HPV vaccine for cervical cancer prevention.

POSTER NO: 62

PREVALENCE OF AND RISK FACTORS FOR HSV2 IN BAGALKOT DISTRICT KARNATAKA STATE, INDIA

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Introduction: HSV-2 and HIV are infections with a very high level of interaction. As a part of monitoring & evaluation of Avahan, the India AIDS initiative of the Bill & Melinda Gates Foundation, a cross-sectional survey was undertaken in the general population of Bagalkot district, Karnataka, in 2009, to measure HIV and STI prevalence and assess related risk factors. In this study, we examined the HSV-2 antibody prevalence and associated risk factors.

Methods: A target sample of 6600 adult men and women was selected systematically from a sample of 10 rural villages and 20 urban areas in three of the six talukas (sub-district units) in the district. Venous blood samples were collected from all consenting participants for HIV and HSV-2 testing. HSV2 testing was carried out on a 1:8 random sub-sample of

those who provided venous blood samples. HSV-2 testing was conducted using the ELISA based Kalon Biological Kit. HSV2 prevalence was estimated for various socioeconomic and behavioural factors and significance testing was conducted. Logistic regression that considers sample design was used to assess the independent predictors of HSV2 infection separately for men and women.

Results: In total, HSV2 prevalence was 14.7% and 24.7% among men and women, respectively. For men, independent risk factors were: ever had sex with more than one partner [odds ratio (OR)=3.17, p=0.030] and increasing age (p=0.016, test for trend). HSV2 was more likely to be higher among females in Mudhol taluka (OR=3.16, p=0.013), in rural areas (OR=2.84, p=0.062), those who engaged in non-agricultural work (OR=3.64, p=0.024) and increasing age (p=0.097, test for trend).

Conclusion: This study highlights the vulnerability of men who have sex with more than one partner for HSV2 infection. Females in rural areas and those engaged in non-agricultural work were more vulnerable for HSV2 infection.

POSTER NO: 63

IS TRICHOMONAS VAGINALIS (TV) BEING UNDER-DIAGNOSED IN URBAN AUSTRALIA?

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Introduction: TV has a low profile in urban Australia, yet local data estimating prevalence in women have varied 10-fold when using polymerase-chain reaction (PCR) vs. wet mount microscopy (4.8% vs. 0.4%). Our aim was to clarify the prevalence in our population using wet mount and PCR in order to detect possible under-diagnosis. This is an interim report of an ongoing study with a target sample size of 800.

Methods: Women requiring sexually transmitted infection (STI) screening were eligible. Asymptomatic women were excluded if they had already screened for STIs in the last year. Vaginal swabs were examined using PCR and wet mount. Data were extracted on demographics, symptoms and possible risk factors for TV.

Results: During the preliminary study period 60% of eligible women were tested. Data currently available for 260 tested and 175 untested women indicates these groups were broadly similar, but untested women were older (mean age 29, p=0.012) and less likely to be symptomatic 119/175 (68%) vs. 200/260, (77%). The mean age of the 260 women was 27 (IQR 23-31), 162 (62%) were new patients, 4 (2%) were Aboriginal or Torres Strait Islander, 200 (77%) had genital symptoms, 202 (78%) were born outside of Australia, 106/248 (43%) had never had a pap smear, 68 (26%) had been diagnosed with a past STI, 59 (23%) had had sex overseas and 63 (24%) were sex workers. A wet mount was performed on 210/260 (81%).

0/260 women were positive on PCR and 0/210 on wet mount. This gives a prevalence of 0% (95% Cl 0-1.4% using binomial distribution.)

Conclusion: The **Results:** of this interim analysis indicate that in our female, urban population, TV is still very rare and routine screening by PCR is not indicated. If pockets of TV do exist in urban Australia, they are not widespread.

GONORRHEA: A FIVE YEAR REVIEW OF CLINICAL EPIDEMIOLOGY

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Introduction: Neisseria gonorrhea, Gram negative diplococci which can lead to a variety of clinical presentation such as urethritis, conjunctivitis, dermatitis, tenosynovitis, arthritis and pelvic inflammatory disease (PID). Most of the abovementioned presentations occur when bacteria has disseminated via bacteraemic spread. Disseminated Gonococcal infection (DIC) is a common cause of acute poly arthralgias, polyarthritis, or oligoarthritis in young, healthy patients

Methods: A total number of 21(n=21) patients with diagnosed Gonorrhoea infection over five years (2007 to 2011) were studied for their clinical epidemiology including sex predilection (male > females), co-infection with sexually transmitted diseases such as Syphilis (n=2), Hepatitis B (n=2), Hepatitis C(n=0), HIV(n=0), route of transmission (oral, vaginal, rectal), clinical presentation [DIC, urethritis, arthritis, conjunctivitis, PID] and response to treatment with resistance pattern to Penicillin and Fluoroquinolones

Results: Results showed that men were affected more than women. Clinical presentation such as purulent arthritis (n=6) mainly affected large joints such as knee, ankles, elbows and wrist and most of patients had positive fluid culture(n=5). Neisseria gonorrhoea was isolated from either urethral, pharyngeal or rectal swab in most of other presentations.

Positive Cultures showed resistance to Penicillin (n=21) and Ciprofloxacin. Most of the bacteria were sensitive to Cephalosporin.

Conclusion: Gonorrhea is one the common sexually transmitted disease. It affects more men than women. It had varied clinical presentations. Penicillin should no longer be used as first line treatment. Current CDC recommendations are for dual therapy including Azithromycin and Ceftriaxone.

POSTER NO: 65

ASSOCIATION OF MYCOPLASMA GENITALIUM WITH INFERTILITY IN NORTH INDIAN WOMEN ATTENDING INFERTILITY CLINIC IN TERTIARY CARE HOSPITAL

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Background: Infertility is a growing problem and in many instances the etiological factor, particularly of infectious origin cannot be determined. Mycoplasmas are such organisms which can be easily overlooked as they cause low grade asymptomatic infections and there is a lack of sufficient laboratory infrastructure for diagnosing mycoplasmas in most of the hospitals in developing countries. There is scarce literature showing the association of *M. genitalium* with infertility with no reports from India.The purpose of this study was hence to determine the frequency of detection of *M. genitalium* and to investigate causal relationship between *M. genitalium* and infertility.

Methods: A total of 100 women with infertility who had normal montoux test, normal chest X-ray, normal hormonal level attending the Infertility Clinic of Gynaecology out patient's department were enrolled in the study.First void urine (FVU), three endocervical swabs (ECS) and endometrial biopsy samples were collected from the study group whereas only FVU and endocervical swabs were taken from the control group under strict aseptic precautions.All the samples were tested by PCR amplification for presence of *M. genitalium* by targeting *MgPa* gene as described previously by Jensen *et al*.

Results: *Mycoplasma genitalium* was found in 15% of women with infertility from either of the samples i.e. urine and/or ECS and/or endometrium biopsy, and none from controls. ECS and biopsy could detect highest number of cases (27%). Asymptomatic cases predominated in the study and *M. genitalium* positivity (73%) was seen more in primary infertility. Tubal occlusion was demonstrated in 33% of *M. genitalium* positive cases and none from *M. genitalium* negative patients. Disordered proliferative endometrium was observed in 4 of the *M. genitalium* positive cases.

Conclusion: The study suggests association of *M. genitalium* infection and infertility and this microorganism should be routinely screened in patients of infertility.

POSTER NO: 66

SEXUALLY TRANSMITTED INFECTIONS AMONG SEXUAL HEALTH CLINIC ATTENDEES IN TWO PROVINCES OF PAPUA NEW GUINEA: A LONGITUDINAL CLINICAL COHORT STUDY

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Background: At 0.9%, Papua New Guinea (PNG) has the highest adult HIV prevalence in the Pacific. Reported HIV cases are largely concentrated in National Capital District (NCD) and Western Highlands Province (WHP). High rates of other sexually transmitted infections (STIs) have been described in both general and at-risk populations. Syndromic STI management is routine, so there is limited aetiological data to inform evidencebased intervention programmes.

Methods: A longitudinal clinical cohort was established at sexual health clinics in WHP and NCD. Serum was collected for HIV, syphilis, and herpes simplex virus type 2 (HSV-2) testing, and genital specimens for *Chlamydia trachomatis, Neisseria gonorrhoea* and *Trichomonas vaginalis* testing.

Results: A total of 153 participants (men=72, mean age 25.5 years, range 18-53; women=81, mean age 26 years, range 18-43) were recruited at baseline, 69 from WHP and 84 from NCD. The overall prevalence of the following STIs was observed in men and women respectively at baseline: HSV-2, 28% and 69%; syphilis, 14% and 15%; *C. trachomatis*, 19% and 39%; *N. gonorrhoea*, 14% and 33%; and *T. vaginalis*, 11% and 25%. Based on voluntary confidential counseling and testing uptake in WHP (35%) and NCD (100%) at baseline, HIV prevalence was 0% and 5% respectively at each site. Overall, 64% of men and 91% of women were infected with at least one STI at baseline. At 6-months follow-up, for men and women respectively: cleared infections, 19% and 42%; persistent infections, 14% each; new infections, 15% and 11%; and re-infections, 4% and 5% were observed for at least one STI.

Conclusion: This data represents the first sexual health cohort findings in PNG. High rates of STIs were found in both men and women. Although there was evidence of cleared infections, a significant proportion of men and women had evidence of persistent, new, and re-infections.

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HUMAN PAPILLOMAVIRUS (HPV) DETECTION IN ANAL SAMPLES IN RUSSAIN MEN WHO HAVE SEX WITH WOMEN (MSW) AND MEN WHO HAVE SEX WITH MEN (MSM)

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Introduction: Knowledge on HPV epidemiology is limited. HPV is common in anal canal of MSMs but has also beenfound in anal canal of MSWs. Epidemiology may vary by population and no data exists from Russia.

Material & Methods: Anal samples from 448 heterosexual (417 HIV- and 31 HIV+ MSW) and 35 homosexual (27 HIV- and 8 HIV+ MSM) Russian male attendees of a STD clinic and HIV+ patients from an infection hospital were collected in St. Petersburg and tested for HPV DNA by Luminex.

Results: HPV prevalences for all (oncogenic) HPV types were: 48.1% (25.9%) vs 16.1% (11.0%) in HIV- and 50.0% (50.0%) vs 38.7% (19.4%) in HIV+ Russian MSM and MSW, respectively (p=0.002).

Conclusion: HPV infection is common in anal samples of Russian males, also among MSW. Practicing sex with men and hosting HIV infection increase the HPV prevalences.

POSTER NO: 68

INTERNATIONAL SURVEY OF DETECTION OF HUMAN PAPILLOMAVIRUS (HPV) ON ENVIRONMENTAL SURFACES: ARE HPV DNA PREVALENCES PROVIDING HIGH-FLYING ESTIMATES OF INFECTION?

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Objectives: Human papillomavirus (HPV) infection is reported to be one of the most common sexually transmitted viral infections. However, most epidemiological studies rely on HPV DNA detection. This is not a proof of infection as it could represent a mere environmental contamination. Studies of prevalence of HPV DNA on environmental surface could provide insights of the possible magnitude of this problem.

Methods: Visibly clean areas of toilet seats at the departure zones of 17 airports located in Russia, Sweden, Finland, Denmark, France, Germany, Switzerland, the Netherlands, Belgium, Italy, Spain, Jordan and UK were sampled with the same cytobrush procedure as commonly used in HPV epidemiological studies and tested for HPV DNA presence by a proficient Luminex assay.

Results: Out of 62 samples, 53 contained human DNA (B-globin positive). HPV DNA was found in 30.2% and oncogenic HPV types in 26.4% of the B-globin positive samples, respectively. The oncogenic type HPV-16 was the most common (17.0%). Multiple HPV types were found in 5.7% of samples.

Conclusion: Detection of HPV DNA does not necessarily indicate the presence of viable virus. And any implications for HPV transmission of the present study can therefore not be interfered. However, the fact that an environmental surface survey found HPV DNA prevalences comparable to those reported from high sexually risk taking groups in humans does imply that the needs to be caution in interpreting reports of a single time presence of HPV DNA as an "infection".

FALL IN HUMAN PAPILLOMAVIRUS PREVALENCE FOLLOWING A NATIONAL VACCINATION PROGRAM

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Introduction: From April 2007- December 2009, Australia became the first country to introduce a national government-funded human papillomavirus (HPV) vaccination program, using the quadrivalent vaccine. The school-based component of the program achieved coverage of 83% and 70% for one and three doses respectively in adolescent girls aged 12-17, while the campaign in women aged 18-26, delivered by community practitioners, and achieved coverage recorded at 55% and 32% for one and three doses respectively. We evaluated the program's impact on genotype-specific HPV prevalence in young women in the targeted age range through a repeat survey of women attending family planning clinics.

Methods: HPV genoprevalence in women aged 18-24 years attending family planning clinics in the pre-vaccine period (2005-2007) was compared with prevalence among women of the same age group in the post-vaccine period (2010-2011). The same recruitment and testing strategies were utilized for both sets of samples and comparisons were adjusted for potentially confounding variables.

Results: The prevalence of vaccine HPV genotypes (6,11,16,18) was significantly lower in the post-vaccine sample than in the pre-vaccine sample (6-7% versus 28-7%, p<0.001), with lower prevalence observed in both vaccinated and unvaccinated women compared with the pre-vaccine population (5-0%, adjusted odds ratio=0.11, 95%CI 0.06-0.21 and 15-8%, adjusted odds ratio=0.42, 95%CI 0.19-0.93 respectively). A slightly lower prevalence of non-vaccine oncogenic HPV genotypes was also found in vaccinated women (30-8% versus 37-6%, adjusted odds ratio=0.68, 95%CI 0.46-0.99).

Conclusion: Four years after the commencement of the Australian HPV vaccination program, a substantial fall in vaccine-targeted genotypes is evident and should, in time, translate into significant reductions in cervical and other HPV related anogenital lesions and cancers for Australian women.

Disclosure of Interest Statement: SNT, JMLB, SMG were investigators on a national HPV prevalence study that received partial, equal, and unrestricted funding from CSL Biotherapies and GlaxoSmithKline. JMLB is an investigator on an Australian Research Council Linkage Grant, for which CSL Biotherapies is a partner organisation. BL owns shares in Commonwealth Serum Laboratories, supplier of HPV vaccine in Australia. SMG has received advisory board fees and grant support from CSL and GlaxoSmithKline, and lecture and consultancy fees from Merck and Co. SMG reports having previously owned stock in CSL. SG has received grant support through her institution from Merck and Co and GlaxoSmithKline (GSK) to carry out clinical trials for HPV/cervical cancer vaccines, and she is a member of the Merck global advisory and scientific advisory boards. SRS is/ has been an investigator on several clinical trials evaluating GSK's HPV vaccine and her institution has received funding to collect data for these studies; her institution has received honoraria for Advisory Board membership, and reimbursement for attendance at conferences to present clinical trials data from GSK Biologicals; her institution has also received funding to conduct investigator initiated research from GSK Australia and CSL Ltd.

PAIN AND BLEEDING ASSOCIATED WITH ANAL CANCER SCREENING STRATEGIES IN HOMOSEXUAL MEN

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Introduction: Digital anal examination (DAE), anal swab for cytology and high resolution anoscopy (HRA) have been proposed as potential screening tools for anal cancer.

Methods: The Study for the Prevention of Anal Cancer (SPANC) is a 3-year communityrecruited prospective study. Participants' experiences of the swab, DAE and HRA are routinely collected within one month of their study visit.

Results: By April 2012, 218 participants (median age 49 years; 31% HIV positive) had enrolled, and 130 had attended their 6-month visit. At baseline DAE, swab and HRA were reported to be "fairly" or "very" uncomfortable by 9, 35 & 47% of men, respectively. Discomfort was greater at the 6-month visit for HRA (p=0.036) but not for DAE or swab. Similarly, moderate or severe pain associated with DAE, swab and HRA at baseline was reported by 6, 25 & 34%, respectively. Pain was greater at 6-months for swab (p=0.017) but not DAE or HRA. Pain lasted a few days or longer in 36%, and 19% required analgesia. Having a biopsy (p=0.023) but not increasing number of biopsies (p=0.433) was significantly associated with pain. After controlling for having a biopsy, more severe pain was experienced by men who predominantly practise the insertive position in anal sex (p=0.039). After baseline visit, 67% reported bleeding which lasted a few days for most men. Increasing severity and duration of bleeding were both associated with having a biopsy (p=0.0006 & p=0.030). Cf 7 participants who have withdrawn from the study, 3 cited excessive pain and/or bleeding post-procedure as the reason.

Conclusion: Overall, less than half the men screened reported that they found anal Pap swab and HRA to be "acceptable" procedures. Such common procedure-related adverse effects may affect the potential utility of these tests as screening tools.

POSTER NO: 71

INCIDENCE OF SEXUALLY TRANSMITTED INFECTIONS AMONG MALE SEX WORKERS AND OTHER MEN WHO HAVE SEX WITH MEN IN VICTORIA

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Introduction: The overwhelming majority of HIV diagnoses in Australia are among men who have sex with men (MSM), a group also disproportionately affected by other sexually transmitted infections (STIs). MSM identifying as sex workers (MSW) may be at greater risk. We compared the STI incidence among MSW and other MSM attending high caseload sexual health clinics in Victoria.

Methods: Testing data for self-reported MSW and other MSM from the Victorian Primary Care Network for Sentinel Surveillance of BBVs/STIs (VPCNSS) were used to determine chlamydia incidence among those with more than one chlamydia test at a VPCNSS site between January 2007-December 2011; incidence per 100 person-years (PY) was calculated. Due to insufficient outcomes affecting incident precision estimates, syphilis and HIV testing outcomes are reported as proportion positives. **Results:** 57 positive chlamydia tests were detected among 256 MSW across 458 personyears of follow-up. Incidence for MSW was 12.4/100 PY (95%CI=9.6-16.1). 757 positive tests for chlamydia were detected among 4790 other MSM across 8626 person-years (PY) of follow-up. Chlamydia incidence for all other MSM was 8.8/100 PY (95%CI=8.2-9.4). Overall positivity rates for syphilis among MSW (n=2075) and other MSM (n=51613) were 1.7% (n=35) and 1.5% (n=772), respectively. HIV positivity among MSW (n=1626) and other MSM (n=28296) was 0.9% (n=14) and 1.6% (n=448), respectively. Differences in positivity between MSM and MSW were only significant for HIV (p<0.05).

Conclusion: Higher chlamydia incidence among MSW is inconsistent with local findings of low chlamydia incidence in female sex workers; this may reflect MSW being more likely to work outside the regulated industry. Lower HIV positivity, may reflect more assiduous use of sero-sorting among MSW. Specific research is needed to better understand risk practices and the dynamics of STI transmission in MSW to inform targeted sexual health promotion initiatives.

POSTER NO: 72 GENITAL ULCER SURVEILLANCE AMONG STI PATIENTS IN JOHANNESBURG, SOUTH AFRICA, 2007-2012

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Introduction: Genital ulcer disease (GUD) is an important risk factor for HIV transmission. GUD aetiological studies have been conducted in Johannesburg since 2007 as part of South Africa's sexually transmitted infections (STI) surveillance programme. We report on GUD pathogen prevalence, sero-prevalence of STI co-infections and key laboratory-based GUD-associated trends over a 6 year period.

Methods: GUD surveys were conducted from January to April each year. Consecutive genital ulcers were sampled from consenting males and females. Swab-extracted DNA was tested by real-time PCR assays for herpes simplex virus (HSV), *Treponema pallidum* (TP), *Haemophilus ducreyi* (HD) and *Chlamydia trachomatis* L1-L3 (CTL1-3). Sera were tested for HIV, HSV-2 and syphilis (RPR and TPPA) co-infections. Giemsa-stained ulcer smears were screened for Donovan bodies by microscopy. Data were analysed with STATA[™] version 10.

Results: A total of 619 GUD specimens were collected and tested. The relative prevalence of GUD pathogens was as follows: HSV 60.9% (377), TP 3.9% (24), CTL1-3 1.0% (6) and HD 0.7% (4). No cases of donovanosis were detected. Only 4 ulcers (0.7%) had mixed aetiologies. No aetiological agents were detected in 212 (34.3%) ulcer specimens. Sera were positive for HIV, HSV-2, TPPA and RPR in 63.7%, 82.5%, 19.1% and 5.4% cases, respectively. There was a strong association between GUD pathogen detection and HIV sero-positivity (p < 0.001). The relative prevalence of ulcer-derived HSV increased over time (p = 0.023) whilst the prevalence of both HIV and TPPA sero-positivity decreased over time (p = 0.011 and p=0.018, respectively).

Conclusion: HSV accounts for the majority of those GUD cases in which pathogens are identified whilst bacterial aetiologies now account for less than 6% of cases. The trend data suggest that HSV is increasing in importance as a cause of GUD. The prevalence of HIV co-infection among GUD patients remains high.

METHODS FOR MAXIMIZING RETENTION IN A LONGITUDINAL STUDY-THE AUSTRALIAN WOW HEALTH STUDY (WOW)-WHAT WORKS?

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Background: Cohort studies are important in epidemiological research however the validity of these studies can be compromised if the recruitment and retention rate is low. The aim of this study was to explore women's attitudes to the WOW Health study and factors associated with retention.

Methods: WOW is a 2-year cohort study measuring the incidence and prevalence of bacterial vaginosis (BV) among 17-55 year old women who have sex with women (completion date 2013). Women recruited through various venues/organisations, were asked to self-collect vaginal swabs and complete a sexual behavior questionnaire 3-monthly. Women were ineligible if: postmenopausal, pregnant or had no female partners for ≥18 months. Methods to maximize retention included: regular reminders by SMS, phonecall or email; a comprehensive study website, Facebook page, freecall number to research staff and voucher incentives.

Results: 458(75%) of the 608 women who were eligible, enrolled and fulfilled minimum study requirements. At 12 months 178(74%) women returning packs completed a study evaluation. Women heard about the study through: gay/lesbian festivals(45%) and organisations/press(20%); friends/ partners(23%); medical clinics(5%) and posters in universities, cafes and bookshops(7%). A high proportion of participants found the study pack(96%) and self-collected swabs(99%) easy to use and 67% took less than one week to return packs.

46% of women preferred reminders by email only, 20% by SMS or phone and only 5% by post. The majority(74%) of women preferred hard-copy questionnaires to online, 58% did not use the study website and most(84%) informed friends/partners about the study. Women reported a significant gain in BV knowledge from baseline to 12 months (33% to 80%,p<0.01).

Conclusion: Recruitment through internet sites, festivals and word of mouth allowed large sample recruitment. Retention was enhanced by regular reminders, incentives, dedicated research staff and a comprehensible study kit. Women improved sexual health awareness relating to BV.

POSTER NO: 74

INCREASE IN CHLAMYDIA POSITIVITY AMONG YOUNG FEMALE ATTENDEES OF FAMILY PLANNING CLINICS, 2008-2010

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Background: Young people are disproportionately represented in national chlamydia notifications. We assess chlamydia testing and positivity trends among young attendees of family planning clinics (FPCs) participating in the Australian Collaboration for Chlamydia Enhanced Sentinel Surveillance (ACCESS) in 2008-2010.

Methods: Using routine clinical data among 16-29 year olds, we calculated the proportion tested at least once for chlamydia in a 12 month period and chlamydia positivity (proportion of individuals tested returning a positive result at any test) among four FPCs, by year, sex, and age group using non-parametric test for trends.

Results: Between 2008-2010, 12,612 individuals attended four FPCs (93% female). Among females, proportion tested was consistently higher in 16-19 and 20-24 year olds compared to 25-29 year olds (e.g. 44%, 44% and 24% in 2010, respectively). Overall testing rates in females increased between 2008 and 2010 (from 38% to 41%; p<0.01); similar trends were seen in 16-19 and 20-24 year olds (p<0.01). Chlamydia positivity was consistently higher in 16-19 year old females compared to 20-24 and 25-29 year olds (e.g. 15%, 9% and 4% in 2010, respectively). Among 16-19 year olds, but not other age groups, positivity increased significantly between 2008 and 2010 (from 9% to 15%; p<0.01). Of interest, this increase was largely attributed to an increase in positivity at one clinic.

The proportion of males tested was consistent between 2008-2010 (47%), while positivity rates showed an overall increase from 20% to 28% (p=0.11).

Conclusion: We identified a considerable increase in chlamydia positivity over time among young females, which may be due to higher risk females presenting for testing, more targeted testing or increased Background: prevalence in the population attending. A similar rise has been observed in young females attending sexual health clinics. These results highlight the importance of ongoing surveillance to monitor chlamydia testing and positivity trends.

POSTER NO: 75

SEXUAL RISK PRACTICES FOLLOWING CHLAMYDIA DIAGNOSIS AMONG MEN WHO HAVE SEX WITH MEN IN VICTORIA, AUSTRALIA

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Background: Chlamydia is the most commonly notified infection in Australia. Previous research reported adolescent heterosexuals testing positive for a sexually transmitted infection (STI) reduced partner numbers but continued to engage in unprotected sex. Despite representing a key risk population, no comparable data for men who have sex with men (MSM) exists. We describe self-reported sexual practices of MSM following a positive chlamydia test.

Methods: The Victorian Primary Care Network for Sentinel Surveillance on BBV/ STIs (VPCNSS) links test, demographic and behavioural data from individuals testing at high caseload clinics. Data from MSM with more than one chlamydia test at a sexual health clinic between January 2008 and December 2010 were included. We compared self-reported number of male partners in the 12 months prior to an individual's first positive chlamydia test in 2008, 2009 and 2010 with the number reported at the next chlamydia test conducted 12 to 18 months after the positive test.

Results: 822 MSM tested positive for chlamydia between 2008 and 2010; 357 MSM (43%) returned for a chlamydia test in the 12-18 month follow up period. The majority (59%) reported an increase in the number of male partners in the follow up period; of those 153 (73%) reported an increase of more than 10 male partners. Inconsistent condom use was reported by 56% MSM on their first positive chlamydia test, with limited change (48%) in inconsistent condom use reported at their follow up test.

Conclusion: These findings indicate that mitigation of sexual risk practices did not occur following a chlamydia diagnosis in the population of MSM. While the drivers of

these findings are not clear, these data suggest that MSM diagnosed with an STI may benefit from enhanced risk reduction counselling to modify sexual risk practices. Future analysis is planned to include other non HIV STIs.

POSTER NO: 76

FEASIBILITY OF INTRODUCING PHARYNGEAL AND RECTAL STI SCREENING TO MEN WHO HAVE SEX WITH MEN ON A COMMUNITY LEVEL IN HONG KONG

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Introduction: Currently, there is no designed government-run sexual health service for MSM in Hong Kong. To promote early diagnosis of STI, we piloted a pharyngeal and rectal STI screening programme for MSM in the community setting. In the programme, MSM were screened for C.Trachomatis (CT) and gonorrhoeae (NG) infections.

Methods: A pilot screening session was set up at a local gay-friendly NGO. MSM attending the NGO for HIV/Syphilis rapid test were invited to participate in the screening. Eligible participants were MSM who had practiced receptive oral and/or anal sex within the preceding 6 months; and had not received antibiotic treatment in the past 3 weeks. Pharyngeal and rectal swabs were taken by a nurse for STI screening. The participants were then interviewed for knowledge on pharyngeal/rectal infections, testing history and risk behaviours. The nurse provided participants with appropriate sexual health education after the interview. All swabs were tested for CT/NG by nucleic acid amplification test. Positive cases were referred to a doctor for further management.

Results: Between October 2011 and May 2012, 114 MSM participated in the screening. All of them had a pharyngeal swab taken and 68 underwent rectal screening. Nearly all MSM self-identified as Chinese and 79% were aged 35 or below. Despite some reporting throat (31%) or anal (27%) discomfort within 6 months preceding the screening, about 90% had never had a pharyngeal and/or rectal STI test. Nearly half of the participants had never heard about CT/NG infections in pharynx or rectum. Prevalence of infections among this group of MSM was CT: 4% (pharyngeal)/ 13% (rectal) and NG: 4% (pharyngeal)/ 3% (rectal).

Conclusion: MSM in Hong Kong generally lack knowledge in pharyngeal and rectal STI. A nurse-assisted screening programme at a local NGO can improve awareness and promote sexual health in the community

POSTER NO: 77

HPV IN YOUNG MEN WHO HAVE SEX WITH MEN: PRELIMINARY FINDINGS FROM THE HYPER STUDY

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Background: Homosexually active men are at increased risk for human papillomavirus (HPV) infection and HPV associated anal cancer. There are no previous studies that have focused on the prevalence of HPV in samples of young men who have sex with men (MSM) and used longitudinal detection of HPV over time to define the presence of infection. The HYPER study aims to determine the prevalence and risk factors for HPV infection among young MSM.

Methods: Young same sex attracted males aged 16 to 20 were recruited in Melbourne via clinics, universities, community events, gay media, social networking websites and peer recruitment. Participants were seen at baseline, 3, 6 and 12 months. At each visit anal and penile swabs and an oral rinse were obtained. Serum was collected for HPV serology.

Results: One hundred and sixty nine participants were enrolled between September 2010 and May 2012. The median age of first oral sex and first anal intercourse were 16 and 17 respectively and the median number of lifetime male sex partners was 11 (range 1- 200). Sixty two percent reported condom use at last receptive anal intercourse.

Over half of men indicated they would not pay A\$400 for the HPV vaccine. However, 86% indicated they would be willing to disclose their sex with men to a primary care physician if HPV vaccination was free of charge for homosexually active young men. Of the 39 participants for whom HPV results are available, 46% had any HPV type detected at the anus while 15% had anal HPV 16.

Conclusion: Enrolment is expected to be completed by around September 2012. With subsequent HPV testing and serological results we expect to provide data on early acquisition of HPV infection in young MSM, which should help to determine if targeted HPV vaccination of this group is likely to be effective.

POSTER NO: 78

CONDOM USE AMONG AT-RISK POPULATIONS IN CHINA: PREVALENCE, POLICIES, ISSUES AND BARRIERS

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Background: Condom use among populations at high risk for HIV/STI infection, condom use related policies and challenges in China have not been well documented.

Methods: We reviewed condom use among female sex workers (FSWs) and men who have sex with men (MSM), condom-related policies, and challenges and recommendations for condom promotion in China.

Results: Consistent condom use was as low as 15% among FSWs and 30% among MSM. There are a number of challenges facing condom use among at-risk populations in China. First, there is a gap between existing policies and implementation. For example, the goals set in the "Action Plan for Reducing and Preventing the Spread of HIV/AIDS 2006–2010" were unrealistically high (85% of condom use for all at-risk populations by 2010), but the implementation was too weak. Second, in the absence of structural guidance and quality control, it is not surprising that these action plans so far have had only a limited impact. Third, existing condom promotion strategies lack granularity and flexibility. Plans are not conceived based on thorough contextual studies of different populations. Most of the HIV education effort is too narrowly defined and ignores the psychological and cultural aspects of the person being educated. Fourth, messages of safer sex and condom use in mass media are nearly non-existent; counterfeit condoms are rampant and appropriate, inexpensive lubricant is lacking.

Conclusion: Condom use rate is low among FSWs and MSM in China. Long-term, routine and population-specific condom promotion strategies should be in place to ensure better awareness of condom use, high availability of condoms and high rates of condom use among at-risk populations. Realistic and vigorous condom related policies and action plans should be developed and implemented to address the issues and barriers facing condom promotion in China.

IUSTI – HIV

POSTER NO: 79

FACTORS INFLUENCING ADHERENCE TO ANTIRETROVIRAL THERAPY AT A DISTRICT HOSPITAL IN GHANA.

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Introduction: Adherence to antiretroviral therapy (ART) is an important predictor of progression of HIV infection to AIDS. Adherence to ART is therefore critical for optimal outcomes in HIV/AIDS management. The aim of this study was to identify some of the factors that influenced adherence/non-adherence to Anti-retroviral therapy among HIV/AIDS patients at Suntreso Government Hospital, in Kumasi, Ghana, between 1st March 2012 to 30th April 2012.

Methods: This was a cross sectional study. Data was obtained using structured questionnaire, comprising of open and closed ended questions on adherence to ART and factors that influenced adherence/non adherence to interventions for HIV/AIDS management and care. One hundred and fifty participants who consented to participate in the study were interviewed. The data obtained was coded, stored and analyzed using SPSS software version 16.0.

Results: Prevalence of non-adherence to ART was 17%. The factors that influenced adherence/non-adherence to ART included; stigma, lack of family and community support, and side effects from Anti-retrovirals (ARV) being taken. About 40% of the respondents also missed their doses due to stock outs of their ARV's at the hospital. Generally the patients appreciated the care they received and felt better on therapy.

Conclusion: ARV adherence is low and education campaigns against stigma for HIV/ AIDS patients must be intensified. Family and community support for people living with HIV and AIDS must also be highly promoted. In addition, the Government, pharmacy and other managers in the health system must ensure that the facilities have adequate stock of ARV drugs.

POSTER NO: 80

LIVING LONGER, LIVING WELL: REGISTERED NURSES IMPROVING SCREENING RATES FOR NON-AIDS-RELATED MORBIDITY IN HIV-POSITIVE CLIENTS

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Background: In Australia, people living with HIV (PLHIV) can expect a similar lifespan to their HIV-negative counterparts. As a result, HIV management is shifting towards a model of chronic disease management. To facilitate this, co-morbidity screening guidelines, focusing on prevention of cardiovascular, renal and bone disease have been developed. Parramatta Sexual Health Clinic (PSHC) provides HIV management to ~200 clients in Western Sydney. Sexual health Registered Nurses (SHRNs) at PSHC are well-placed to utilise guidelines to improve screening rates of non-AIDS-related morbidity, thereby promoting better health outcomes for PLHIV.

Methods: A pre-intervention medical record audit of 100 HIV-positive clients was performed to determine rates of screening for chronic non-AIDS co-morbidities in the previous year. Audited items included lifestyle history (smoking, alcohol & other drugs (AOD), nutrition, physical activity, sexual history); mood assessment; blood pressure

(BP) measurement; Body Mass Index (BMI); laboratory tests (including fasting lipids, blood sugar, urine protein creatinine ratio); and use of electronic assessment tools for cardiovascular and fracture risks. The audit was repeated 12 months later, following an intervention with the SHRNs that included education sessions on HIV and chronic non-AIDS-related morbidities, and use of an evidence-based framework for structuring lifestyle changes. A standardised nurse-led screening checklist was developed, and access to online tools for assessing cardiovascular and fracture risk was provided.

Results: Pre-intervention audit Results indicated inconsistent comprehensive co-morbidity screening of clients. BP measurement occurred for 94% of PLHIV, however smoking assessment was attended for only 30%; AOD 38%; nutrition 15%; BMI calculation 21%; mental health assessment 57%; fasting lipids 19% and cardiovascular and fracture risk only 1%. Post-intervention audit results were analysed and compared using SPSS. These Results will be presented.

Conclusion: Utilising SHRNs to screen PLHIV for co-morbidities, such as cardiovascular, renal and bone disease can improve rates of screening. This will occur annually for all HIV positive clients at PSHC.

POSTER NO: 81

MSMS VIEWS ON RAPID ORAL HIV TESTS FOR HOME USE IN AUSTRALIA

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Background: 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.

CASE SERIES: SECONDARY SYPHILIS IN HIV-INFECTED PATIENT

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Introduction: Concurrent infection of syphilis and human immunodeficiency virus (HIV) is common and may alter the manifestation of primary and secondary syphilis. Each year, rates of HIV and infectious syphilis are increasing.

Methods: Monitoring patients with secondary syphilis and HIV infection who were confirmed by syphilis serologic dan HIV test. The data collected from deep interview, full body examination, laboratory examination, and medical record.

Results: Three patients with secondary syphilis and HIV infection were seen from Januay to June 2012. The skin lesions were characteristic and confirmed by the serologic examination. The HIV tests showed positive results and CD4 count were 30, 95, and 158 cell/µL. Two patients responded well with two doses of each 2.4 milions units of benzathine penicilline at a week interval. One patient, who is allergic to penicillin, responded well with doxycyline 100 mg twice a day for one month, but he showed neurologic abnormalities months later.

Conclusion: The number of secondary syphilis in Dermato-venereology Department, Cipto Mangunkusumo General Hospital, has increased yearly. In the period of six months three cases of secondary syphilis in patients with HIV infection were observed. Unlike the unusual appearance of syphilis in HIV patients, these patients showed full-blown manifestation.

POSTER NO: 83

CASE SERIES: BUSCHKE-LOWENSTEIN TUMOR IN HIV PATIENT

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Introduction: Giant condylomata acuminata or Buschke-LÖwenstein tumor (BLT) is a rare sexualtransmitted disease characterized by large wart-like tumor arising slowly and locally destructive on anogenital region. This tumor usually starts as multiple condylomaacuminata which become confluent and shaped into cauliflower-like mass. The number of human immunodeficiency virus (HIV) infection is increasing globally and concurrent infection with condyloma acuminata may result in aggravation of the lesion to BLT

Methods: Medical records of patients with BLT and HIV infection who came to our department in 2003 – 2011 were collected. Diagnosis was confirmed by acetowhite and HIV test. The data collected was taken from history, physical examination, and photographs.

Results: From 2003-2011, fourteen patients with BLT and HIV infection were found. The lesionpresented characteristically as a slow growing, cauliflower-like mass, located ongenital and perianal area. Variety treatments were done with different results and recurrences.

Conclusion: In a 8-year period (2003 – 2011) there were 14 cases of BLT in HIV patients found inDermato-venereology Department, Cipto Mangunkusumo General Hospital, Jakarta, Indonesia. Seven out of thirteen cases were discovered in 2007.

HIV infection may aggravate the appearance of condylomata acuminata.

COUNSELLING IMPROVES FOLLOW UP: AN AUDIT OF HIV POST-EXPOSURE PROPHYLAXIS USING NATIONAL GUIDELINES TO ASSESS PATTERNS OF USAGE AND COST

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Introduction: The National Guidelines for Post Exposure Prophylaxis after Non Occupational Exposure to HIV (nPEP) provide evidence-based recommendations for prescription of nPEP in Australia. Demographic and clinical variables of clients attending Parramatta (PSHC) and Mount Druitt (MDSHC) Sexual Health Clinics from 1 July 2009 to 30 June 2011 were examined to determine if nPEP was being dispensed according to National Guidelines, to assess patterns of usage and cost, including potential cost-saving measures, and to identify factors associated with completion of follow up.

Methods: Details of individuals who received nPEP were collected from the electronic patient database at PSHC and MDSHC. Patients' files were cross referenced for information that was not available on the database. Statistical analysis was carried out using SPSS.

Results: All clients had baseline HIV testing performed, 90.6% were screened for sexually transmitted infections, 96.9% of clients had risks that warranted nPEP, and 91.6% were prescribed drug regimens appropriate to their level of risk. Whilst rates of completion of all post-nPEP serology were poor, there was an association between seeing a social worker and attending for six week follow up serology (p=0.027). 23.5% of nPEP recipients resided outside the geographic boundaries of the Western Sydney Local Health District (WSLHD). The total cost of prescribing nPEP was almost \$90,000 during the study period.

Conclusion: The vast majority of nPEP being dispensed at PSHC and MDSHC is in accordance with the National Guidelines. Costs of providing nPEP could be reduced by referring nPEP recipients back to the LHD of their residence. Interventions to improve attendance for follow up serology are needed, and this study provides evidence that counselling by a social worker should be promoted.

POSTER NO: 85

TRICHOMONIASIS AND HIV INFECTIONS AMONG CONTRACEPTIVE USERS IN A TERTIARY INSTITUTION IN SOUTH WESTERN, NIGERIA

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Introduction: The spread of STDs is favored by numerous factors including the liberalization of sexual behavior made possible by reliable contraception. Women using different forms of contraceptives are also at risk of sexually transmitted HIV infection. Trichomoniasis is linked to pelvic inflammatory disease and can increase one's susceptibility to viruses such as herpes and HIV. This study was undertaken to provide information on the association between these contraceptive methods, trichomoniasis and HIV infection among women attending Family Planning clinics at University College Hospital, Ibadan

Methods: This is a cross-sectional study in a population of women using Intra-Uterine Contraceptive Devices (IUCD) and hormonal contraceptive methods attending Family Planning clinics at University College Hospital, Ibadan. Detailed medical history, Endocervical and high vaginal swabs were collected from the participants to establish diagnosis after clinical examination and informed consent. **Results:** There were 200 participants with a mean age of 31.92 years (SD = 8.33, range = 16 -55). The mean age of sexual debut of participants was 19.5 years. Condom use at the most recent intercourse was found to be 53.5 %. 102 (51.0%) of the women were using different methods of hormonal contraceptives while 84 (42.0%) had intrauterine contraceptives devices inserted. The prevalence of trichomoniasis and HIV were 7.5% and 8.5% respectively. There was significant association between hormonal contraceptive use and acquisition of trichomoniasis (P = 0.019; 95% CI 4.2(1.0-13.2) as well as HIV infection (P= 0.041; 95%CI 3.6 (1.0-13.2). Younger age and multiple sexual partners were associated with increased prevalence of all the sexually transmitted infections than IUCD.

Conclusion: This study demonstrated that younger age, numbers of sexual partners and the use of hormonal contraceptives could increase the risk of acquiring trichomoniasis and HIV infection.

POSTER NO: 86 MOLLUSCUM CONTAGIOSUM VIRUS INFECTION AMONG PLWHA IN IBADAN, NIGERIA

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Introduction: Molluscum contagiosum (MC) infection is caused by a pox virus and is probably passed on by direct skin-to-skin contact which may affect any part of the body. There is anecdotal evidence associating facial lesions with HIV-related immunodeficiency. This study was aimed to determine the prevalence and associated risk factors of the infection among PLWHAs attending ART clinic, University College Hospital, Ibadan, Nigeria.

Methods: This is a descriptive cross-sectional survey of 5,207 patients (3519 female and 1688 males) attending ART clinic between January 2008 and December 2009. Physicians performed complete physical and pelvic examinations. Diagnosis of *Molluscum Contagiosum* infection was based on the clinical findings of typical lesions on the external genitalia, perianal, trunk, abdominal and facial regions. Data analysis was done using SPSS version 15.

Results: The mean age of the patients was 34.67 yrs \pm 9.16). About 10% (542) had various STIs. The male to female ratio was 1: 4.2. 127 (23.4%) had no formal or primary education. 247 of them (45.6%) were treatment naïve while 295 (54.4%) were treatment experienced. Of the 542 PLWHAs with STIs, 3.3% had undetectable viral load (< 200 copies/ ml) while 272 (50.1%) had low CD4 count (< 200 cells / mm3.) and The Mean log viral load was 5.02 + 0.94. *Molluscum Contagiosum* infection was diagnosed in 13 patients (0.024%; F: M =1.6:1.0). Vaginal Candidiasis was the commonest STI diagnosed in 223 (41.1%) of the patients. The prevalence of *Molluscum Contagiosum* was 2.0 times higher in patients with higher Viral Load (Mean Log - 1.97), lower CD4 Count (Mean-85 Cells/ mm3) and treatment experienced compared to treatment naïve patients.

Conclusion: *Molluscum Contagiosum* infection is not uncommon among the HIV-infected patients, but underreported. Awareness of this cutaneous manifestation should be known to healthcare workers in AIDS care.

HIV-1 PROTEASE AND REVERSE TRANSCRIPTASE MUTATIONS IN ANTIRETROVIRAL-NAIVE PEOPLE WITH B & NON-B SUBTYPES

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Introduction: HIV-1 transmitted mutations conferring drug resistance (TDRMs) can reduce the efficacy of antiretroviral therapy. While subtypes display similar sensitivity to drugs, some may have greater propensity to develop certain mutations. The aim of this study was to evaluate the prevalence and epidemiology of transmitted resistance.

Methods: The study population comprised newly diagnosed, antiretroviral-naïve HIV patients in South Australia between 2000-2010. Genotyping and mutation detection used the reverse transcriptase (RT) and protease (PR) regions of the Pol gene.

Results: There were 513 new HIV diagnoses; 76% (392) treatment naïve. The predominant subtype was B (76%, Table 1). TDRM prevalence was 23% (92/392); the proportion which were non-B patients increasing from 9% (2000-05) to 32% (2006-10) p=0.007. The proportion of TDRM females increased from 4% (2000-05, 50% non-B) to 21% (2006-10, 75% non-B) P=0.01. Frequency of TDRM detection was 21% (81/392) for RT inhibitors and 4% (16/392) for PR inhibitors; two isolates carried the newly classified mutation M46M/L. Over a third of patients harbouring resistance (32/92) carried the K103N mutation; 49% were diagnosed in a cluster between 2003-2004, and another phylogenetically related cluster of 27% in 2008. All but one of these patients had subtype B and 78% were MSM. The one non-B was a mother to child transmission, of overseas origin.

Conclusion: Prevalence of TDRMs in subtype B (including K103N) has declined over time, although it is still high due to a cluster of patients with locally-acquired K103N mutation; 27 times higher than that published on the Stanford database. TDRMs in non-B's are on the rise, notably in females, corresponding with increased non-B importation. This study emphasizes the need for global resistance surveillance to assess future treatment issues for those already infected and those at risk of infection.

POSTER NO: 88

SEXUAL BEHAVIOUR AND CONDOM USE AMONG HIV SERO-POSITIVE COMMERCIAL LONG-DISTANCE TRUCK DRIVERS AND RIDERS IN KAMPALA, UGANDA.

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Introduction: Commercial driving and riding is one of the key forces driving HIWAIDS pandemic across the African continent rooted in the lifestyle that comes with the profession. We studied sexual practices among HIV positive commercial drivers that attend our Infectious Diseases Institute, Kampala.

Methods: We identified commercial drivers and motor bicycle riders who tested HIV positive and who were attending our clinic. Following the introduction of a designated program to provide care for them – Most at Risk Populations (MARPs) program, we assessed their sexual behavior and practices.

Results: During the period from December 2010 to December 2011 we identified 148 commercial drivers and riders. All these were male with median age of 39 years (IQR 35 - 44).

46.6% of subjects reported having two or more sexual partners in the past 12 months. Married respondents were three times more likely than their single peers to have multiple sexual partners (PR = 3.35, 95% Cl: 1.45 - 7.74). 139(93.9%) were aware about symptoms of sexually transmitted infections while 9 (6%) had not heard of any sexually transmitted infection, other than HIV/AIDS. 18.9% were in discordant relationships. Only 55% of subjects used condoms consistently.

Conclusion: Despite good overall knowledge on sexually transmitted infections, a number of the drivers/riders are living in discordant relationships and only half are using condoms consistently. Sexual and reproductive health education of these critical populations- commercial long distance truck drivers/riders to the consistent use of condoms should be enhanced.

POSTER NO: 89

CAUSES OF ABNORMAL GENITAL DISCHARGES IN SYMPTOMATIC HIV-POSITIVE YOUNG ADULTS IN AN URBAN CLINIC IN UGANDA

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Introduction: There is very little published work on the causes abnormal genital discharge in HIV-positive young women in sub-Saharan Africa. The presence of abnormal genital discharge is suggestive of underlying vaginal/cervical/penile infections. These can lead to increased transmission of HIV to partners. We performed a study to determine the etiology of abnormal genital discharge among HIV positive young people attending an urban clinic in Kampala, Uganda.

Methods: Young people aged 16-24 years attending the HIV clinic at IDI from April 2011 to May 2012 who reported abnormal genital discharge were included. High vaginal and cervical or urethral swabs were taken on all participants. These were sent for microscopy and culture.

Results: A total of 195 HIV positive young people accessed the STI program during this period. Of these, 112 reported an abnormal genital discharge. The median age and CD4+ counts of those with an abnormal discharge was 22 years (IQR: 20–23) and 397 cells/ul (IQR: 197–572). Thirty two (28.6%) had WHO HIV stage III and IV and 54.1%, had CD4+ counts < 350 cells/ul. Thirty eight participants (33.9%) had non-gonococcal cervicitis-vaginitis on microscopy. Of those with a positive culture, 59 (52.7%) had *Candida albicans*, 3 (2.7%) had *Streptococcus pyogenes*, 3 (2.7%) had Neisseria *gonorrhoeae* and 3 (2.7%) had *staphylococcus aureus*. Two participants (1.8%) had positive isolates of *Trichomonas vaginalis*.

Conclusion: The predominant isolate in HIV positive young adults with symptomatic genital discharge was *Candida albicans*. Unfortunately, chlamydia nucleic acid amplification testing was not available due to resource constraints in our setting. Further investigation into causes of abnormal vaginal discharge in this population is important, as often the condition is treated by syndromic management in resource limited settings, yet the causes are still not well defined and untreated STIs in HIV positive individuals may increase HIV transmission rates.

HEPATITIS B CO-INFECTION IN MOST-AT-RISK-POPULATIONS WITH HUMAN IMMUNODEFICIENCY VIRUS INFECTION

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Introduction: Persons with HBV/HIV co-infection are at an increased risk of chronic hepatitis and liver cirrhosis. There is limited data on HBV/HIV co-infection among HIV sero-positive most-at-risk-populations (MARPs) in developing countries. The objective of the study was to estimate the prevalence of hepatitis B virus co-infection among HIV positive MARPs attending an urban clinic in Kampala, Uganda.

Methods: Prospective cohort study was conducted among HIV infected MARPs. These include HIV sero-positive fishermen, prisoners, commercial sex workers (CSWs), barmaids, long-distance truck drivers, motorbike "boda boda" riders, taxi drivers and uniformed persons (soldiers, security guards, policemen, security guards).

Results: We screened 364 HIV sero-positive MARPs for hepatitis B between July 2011 and May 2012. Twenty five participants (6.9%) were HBsAg-positive and were diagnosed with hepatitis B. Hepatitis B was predominant amongst the male participants compared to the female participants: 88% vs 12%. The median age of the participants diagnosed with hepatitis B was 39 years (IQR: 32–44). Of the 25 HBV/HIV co-infected participants, 16 (64%) had CD4+ counts of > 250cells/ul while 9 (36%) had CD4+ counts <250cells/ul ul. The median CD4+ counts of rot the HBV/HIV co-infected participants whose CD4+ counts <250cells/ul was 405cells/ul (IQR: 307–489.25). On the other hand, the participants whose CD4+ counts <250cells/ul had a median CD4+ count of 193cells/ul. Majority of HBV/HIV co-infected participants were in stage III and IV disease 17 (68%) as compared to 8 (32%) HBV/HIV co-infected patients who were in WHO stage I and II disease. HBV co-infection was more predominant among CSWs (33.3%) and least among the prisoners (0%).

Conclusion: Seven in every 100 HIV positive MARPs were co-infected with HBV. HIV/ HBV co-infection was more predominant among male patients and among persons with WHO stage III and IV disease.

POSTER NO: 91

SYPHILIS IN YOUNG PEOPLE WITH HIV IN AN URBAN CLINIC IN UGANDA Katusiime C¹-Parkes-Ratanshi R¹, Kambugu A²

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Introduction: Syphilis in HIV positive people may increase HIV transmissibility. There is limited data on syphilis/HIV co-infection in adolescents and young adults in developing countries. Our adolescent/young adult STI program introduced regular serological screening for syphilis early last year to detect and treat infected patients

Methods: All HIV adolescents and young adults aged from 15–24 years with positive syphilis serology between April 2011 and April 2012 were identified using a prospective database.

Results: A total of 173 HIV positive adolescents and young adults were diagnosed and treated with STIs between April 2011 and April 2012 and were all serologically screened for syphilis. Twenty three participants (13.3%) were diagnosed with syphilis.

Syphilis was significantly more predominant among female participants as compared to the male participants: 22 (95.7%) vs 1 (4.3%) (p<0.001). The median age and CD4+ counts of the participants diagnosed with syphilis were 21 years (IQR: 20–22) and 355 cells/mm3 (IQR: 193–645) respectively. The majority of syphilis/HIV co-infected participants were in WHO stage I / II disease (69.6%). Of the 9 participants (39.1%) who had CD4+ counts < 250 cells/ul, only 3 had WHO stage III/IV disease. Of the 23 syphilis/HIV co-infected participants, 5 participants (21.7%) were diagnosed with condylomata acuminata and an additional 4 participants (17.4%) were diagnosed with genital herpes. Only 1 participant (4.3%) was syphilis/HIV/hepatitis B co-infected.

Conclusion: Only 13.3% of the HIV positive adolescents/young adults had syphilis co-infection. HIV/syphilis co-infection was predominant among female adolescents and young adults. Regular routine syphilis screening for HIV positive adolescents and young adults is an effective initiative for detecting and controlling infection in this cohort.

POSTER NO: 92

ONE BODY, ONE TEST, TWO LIVES: PATIENT CENTERED STRATEGY TO INCREASE HIV TESTING IN PREGNANT WOMEN AND THEIR PARTNERS

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Introduction: Neighborhood Health Services Corporation (NHSC), an urban communitybased health center in New Jersey, USA, provides prenatal services, labor and delivery services to 750 uninsured, impoverished and minority women annually. Given that New Jersey has the third highest number of HIV women in USA and the highest number of HIV children, early HIV detection and intervention in pregnant women become paramount. NHSC historically struggled with sub-optimal HIV testing rates in pregnant women (60%) and needed to make radical program changes to comply with Centers for Disease Control (CDC) recommendations to ensure HIV testing is offered to 100% of pregnant patients.

Methods: PDSA (Plan-Do-Study-Act) cycle was conducted to test a new HIV testing approach: HIV Counselors are located in the OB department; HIV counseling and Rapid testing is done at the OB registration; daily patient registration schedules are available to HIV Counselors; HIV results become part of OB records immediately upon results availability; educational DVDs are utilized in patient areas to increase awareness/ interest.

Results: Per the new, PDSA-improved strategy, NHSC was able to sustain a 100% compliance with CDC HIV testing recommendations over the 2010-2012 period. Rapid HIV testing and Rapid-on-Rapid positive HIV result confirmation allow for smooth and timely transition from the HIV testing to Infectious Disease care and treatment services for newly diagnosed HIV pregnant patients and their partners.

Conclusion: The collected and analyzed data suggests that coordinated, patient-centered approach helps to: identify HIV positive pregnant patients in the first/second trimesters; immediately connect them to prenatal and HIV care to minimize vertical HIV transmission; provide prevention/treatment for partners including prevention for positives.

ADHERENCE MATTERS: A PATIENT-CENTERED ADHERENCE STRATEGY TO ACHIEVE MAXIMUM HEALTH AND QUALITY OF LIFE OUTCOMES FOR PERSONS LIVING WITH HIV/AIDS IN PLAINFIELD, NEW JERSEY

Kudryashova Hernandez L¹

¹ Neighborhood Health Services Corporation

Introduction: Neighborhood Health Services Corporation (NHSC), an urban communitybased health center in Plainfield, New Jersey, USA, provides Infectious Disease care and treatment services to over 350 uninsured, impoverished and minority persons with HIV/AIDS. To achieve long-term positive health and quality of life outcomes, patients must adhere to HIV care and treatment, as well as to prescribed medication regimens.

Methods: Comprehensive, patient-centered adherence efforts begin with a *personalized interview*. An assessment of patient's clinical/lifestyle indicators is conducted followed by *adherence education video presentations*. Other key components of the adherence strategy include *detailed discussions* of available antiretroviral therapies and potential side effects. Patients are provided with *culturally and linguistically sensitive printed materials* regarding their medications and ways to minimize side effects. Staff distributes free *medication boxes* and makes weekly confidential *monitoring phone calls* to help patients with any medication-associated concerns. If patients miss appointments, *confidential phone calls* are made to reschedule. *Treatment Education and Adherence Record* is administered annually to assess adherence/compliance. A multi-disciplinary clinical team observes the entire process, collects/analyses data and applies best practices to further promote patients' participation, improved understanding and engagement to ensure sustainable long-term health benefits.

Results: Resulting from the patient-centered adherence strategy, NHSC observed: 24% improvement in no-show rates; 11% decrease in hospitalizations; 62% of patients maintain CD4 above 200; 52% of patients have undetectable viral load.

Conclusion: The collected and analyzed data suggests that patient-centered adherence efforts help: reduce no-show rates; minimize side effects/hospitalizations related to missed doses and "drug holidays"; improve and sustain optimal clinical indicators; improve health and quality of life.

POSTER NO: 94

ONE-STOP SHOP SERVICE DELIVERY MODEL: INTEGRATING PREVENTION INTERVENTIONS WITH HIV CARE/TREATMENT SERVICES IN A COMMUNITY-BASED MEDICAL HOME SETTING

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Introduction: Neighborhood Health Services Corporation (NHSC), an urban communitybased health center in Plainfield, New Jersey, USA, provides services to over 350 persons with HIV/AIDS. 75% of patients have history of substance abuse, 62% have mental health issues and/or depression, and 30% are at risk for homelessness. Long-term health and quality of life outcomes can not be achieved and sustained without aggressive intervention around substance use, mental health and other health and lifestyle impacting factors. Methods: NHSC incorporates a coordinated, patient-centered approach to integrating prevention with primary care and treatment services in a welcoming and non-threatening medical home environment. Substance abuse and mental health screenings are done by clinicians annually. Referrals for in-depth substance abuse and mental health assessments are generated per established clinical protocols. Patients receive on-going substance abuse and mental health counseling as needed. Necessary referrals are made to off-site facilities for inpatient services and crisis intervention. Psychosocial, financial and lifestyle assessments are conducted regularly to assess patients' risk for homelessness, substance use, and unsafe lifestyle practices.

Results: Resulting from an integrated approach to providing HIV services in 2011: 95% of patients received substance abuse and mental health screening; 100% received medical case management assessments; 57 patients received substance abuse counseling; 36 patients received mental health counseling; 16 persons are in shelter/transitional housing; and 2 persons were hospitalized for suicide prevention.

Conclusion: Integration of prevention intervention with care/treatment under the umbrella of Early Intervention Services allowed to: achieve improved understanding of the reality of substance abuse/mental health; allow for a seamless one-stop shop service delivery model; improve patient access to community prevention/treatment resources.

POSTER NO: 95

USE OF HEALTH SERVICES BY PEOPLE LIVING WITH HIV/AIDS IN A LARGE CITY OF BRAZIL, 2012

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Introduction: The development of HIV/aids chronic degenerative profile imposes the need for organization of the health care, promoting access and appropriate management of this disease, maintaining consistency between the complexity of the technology and the density required.

Objective: To analyze the use of health services for people living with HIV/aids (PLWA) in Ribeirao Preto, Sao Paulo State, Brazil.

Methods: Descriptive study conducted in 2011-2012 through interviews with PLWA on HAART for more than 6 months and followed-up by the 5 HIV/aids ambulatories of Ribeirao Preto. The variables *"type, frequency and nature of health services sought"* were analyzed using descriptive statistics.

Results: 263 individuals were interviewed, of which 29% frequently use Primary Health Care (PHC) services, 43% reported the habit of seeking Emergency Care (EC) and 27% for other services, including facilities belonging to private network. There were weakness in linking PLWA and PHC, the latter representing the preferred first contact care. The identified pattern of demand for EC indicates an indicator of care quality, reflecting the user's satisfaction and/or the resolution of care; and the concomitant use of public and private services, while extending the scope of an access activities and services, may weaken the coordination of care through the gaps in the flow of information between systems.

Conclusion: Despite the advance of the Brazilian program for HIW/aids within the policies of universal and free access to clinical management and HAART, structural and organizational weaknesses hinder the integration of the services used and the effectiveness of care provided, which approach requires the development, incorporation and coordination between care management technologies, services and health systems.

RANGE OF HEALTH SERVICES FOR HIV/AIDS MANAGEMENT IN A LARGE CITY OF BRAZIL 2012.

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Introduction: The HIV/aids trends result in the development of a chronic degenerative disease profile that imposes the need for patient centered care strategies and guided by multidisciplinary teams.

Objective: To analyze the offer of health services to people living with aids (PLWA) in Ribeirao Preto, Sao Paulo State, Brazil.

Methods: Descriptive study conducted in 2011-2012 through interviews with PLWA on HAART for more than 6 months and followed-up by the 5 HIV/aids ambulatories of Ribeirao Preto. The variables *"range of services", "use of health services"* were analyzed using descriptive statistics.

Results: 263 individuals were interviewed of which 99% and 95%, respectively, reported satisfaction and ease of access to consultation for the control - mainly clinical - provided by medical and nursing staff. The service schedules are flexible, however, there are high rates of absenteeism. Considering the behavior in seeking emergency units as an indicator of quality of care, we that 43% of users reported using such services frequently and may reflect both user satisfaction and the resolution of the ambulatories. There are weaknesses in the system for monitoring and managing the care provided, with a predominance of biological focus, doctor-centered model, clinical management and access to HAART as the focus of care.

Conclusion: Challenges are thrown to the health services and their professionals to address HIV/aids, not only to ensure free and universal access to diagnosis and therapy, but also to advance the construction of a comprehensive care, given the complexity of the disease. In this sense, there is an urgent need for development and incorporation of technologies to manage care.

POSTER NO: 97

A PILOT STUDY TO IMPROVE SURVEY RESPONSE RATE AMONG HIV POSITIVE MSM IN A CLINIC SETTING

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Introduction: The Victorian Primary Care Network for Sentinel Surveillance on BBV/ STIs (VPCNSS) collects test and survey data from high-risk populations testing for HIV, syphilis and chlamydia. HIV positive men who have sex with men (MSM) have low survey response rates (2.7%, compared to 84% in HIV negative MSM). Clinicians suggest many reasons for this, including the sensitivity of the sexual behaviour questions, the repetitive process and the already lengthy consultation with HIV positive patients. We piloted a periodic survey to improve acceptability of the survey and enhance response rates in this group.

Methods: Previously, all HIV positive MSM were invited to self-complete a survey each time they were screened for STIs. In this pilot, clinicians at one VPCNSS site offered a survey to HIV positive MSM who tested for syphilis and/or chlamydia for an eight week period between October and December 2011. Patient unique identifier, birth date and test date were available for linkage to test records. Clinician feedback was sought post pilot.

Results: 436 HIV positive MSM tested for syphilis and/or chlamydia in the pilot period and 52 surveys were completed giving a response rate of 12%. Completion for each question was at least 92%. Clinicians' opinions varied regarding acceptability of the periodic survey. Suggestions for improving future uptake included placing posters in the waiting room to inform patients of the study before their consultation and meeting with all clinicians to re-confirm survey dates just before commencement.

Conclusion: The pilot showed an increased response rate in HIV positive MSM using a periodic survey although it remains considerably lower than HIV negative MSM and too low to make reliable inferences on characteristics associated with STIs in this group. Clinicians agreed that capturing this information is important and were keen to implement the survey following further improvements in 2012.

POSTER NO: 98

CLINICAL AND SEROLOGICAL FEATURES OF SYPHILIS IN PATIENTS WITH HIV

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¹St.Petersburg State University, Medical faculty, ³St.Petersburg Dermatovenerologic Dispensary **Background:** In recent years the quantity of the incidences of syphilis increased significantly as a part of mixed infection, particularly with HIV.

Methods: 433 patients with syphilis treated in hospital in St.Petersburg in 2006-2010. Clinical and serological features of syphilis in patients with HIV infection were estimated in 211 patients with syphilis + HIV (study group), 223 patients with syphilis (control group). Both groups did not differ statistically. The structure of syphilis data were compared with those of the forms of the annual statistical reports (general population).

Results: Patients of both groups dominated by early manifest forms of syphilis (84.3% - study group, 75.8% - control group). No differences in the structure of the incidence of syphilis among the groups were found accept neurosyphilis. Involvement of the central nervous system in patients with syphilis and HIV infection observed in 7 times more likely than the general population. Asymptomatic forms of neurosyphilis dominated. In the study group, complications (phimosis and paraphimosis) occurred 1.5 times more frequent than in control. Polymorphism of the rash in secondary syphilis detected in both groups (68.96% and 56.37%). Poliadenit diagnosed more frequently in the study group patients (74.4% (96) and 55.7% (64)). Pustular syphilides, indirectly indicating the malignant course of syphilis, were not detected in any patient. Alopecia was observed in 21 patients of the study group (diffuse - 15 (11.6%), focal - 6 (4.7%)). Negative results of RPR, TPHA and ELISA in patients with primary and secondary syphilis were determined - in 10 (7.2%) and 3 (2.2%), 52 (37.4%). 65 patients (50%) with secondary syphilis and HIV were detected RPR titer 1/32, 2 (1.5%) patients - 1/2048. In the control group was dominated RPR titer 1/32, 53 (45.3%) patients.

Conclusion: The manifest contagious forms prevail in the structure of syphilis incidence among HIV infected patients.

POSTER NO: 99

STUDY OF THYROID DYSFUNCTION IN HIV PATIENTS RECEIVING HAART Pai A¹

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Introduction: HAART has changed the clinical evolution of HIV infection, however its adverse effects are increasing particularly endocrine dysfunction as reported in western countries. Indian population is predisposed to thyroid dysfunction, this study was undertaken to evaluate prevalence and pattern of thyroid dysfunction in HIV patients on HAART.

Materials and Methods: The study was done from November 2010 to October 2011. 54 HIV patients on HAART for more than 12 months were included by excluding known cases of thyroid dysfunctions, active opportunistic infections, AIDS related neoplasia, renal/hepatic dysfunctions, neuro/hypothalamic diseases, drugs interfering with thyroid hormones. Complete Blood count, liver function/renal function tests, fasting thyroid function test, CD4 Count were done for all patients. Observations were based on clinical and subclinical parameters of thyroid dysfunction.

Results: Among the 54 patients - 48 were euthyroid(88.9%) and 6 had thyroid dysfunction (11.1%) in which 5 had subclinical hypothyroidism(9.25%),1 patient had isolated low Ft4(1.85%). Mean TSH value was 2.63+3.79 µIU/mI, Mean T4 value was 1.05+0.22ng/dl. Mean CD4 count in 6 thyroid abnormal patients was 325 and 446 in 48 euthyroid patients. The predominant drug regimen in the study group was stavudine/lamivudine/nevirapine.

Conclusion: Thyroid dysfunction occurs significantly in HIV patients on HAART. The prevalence of thyroid dysfunction in study population was 11.1%. Subclinical hypothyroidism was the most common abnormality observed. There was significant correlation between CD4 cell count and thyroid abnormality. Further studies may highlight this significance so as to prevent the morbidity due to thyroid dysfunction.

Disclosure of Interest Statement: There are no conflict of interests. Study was carried out in Aarupadai Veedu Medical college and Hospital Pondicherry India.

POSTER NO: 100

FLUCONAZOLE-RESISTANCE AMONG CANDIDA ALBICANS AND CANDIDA NON ALBICANS A STUDY ON OROPHARYNGEAL ISOLATE OF HIV PATIENTS IN SARDJITO HOSPITAL, YOGYAKARTA, INDONESIA

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Introduction: Oropharyngeal candidiasis is one of the most common opportunistic infection in HIV infection. Oropharyngel candidiasis due to azole-resistance Candida species has emerged to be one of the major problems in HIV patients. *Candida albicans* and *Candida non albicans* have some difference in azolresistance mechanisms.

The objective of the study was to compare the fluconazole-resistancy between *Candida albicans* dan *Candida non albicans* strains from oropharyngeal isolate of HIV infected patients in Sardjito Hospital.

Methods: This observational study was conducted in cross sectional design. Oral rinse sample was taken from 2 oropharyngeal of HIV infected patients. Samples were inoculated in CHROM Candida agar for species determination and subcultured in saboroud dextrose agar for fluconazole resistancy test.

Results: Candida colonization was detected in 54 (79%) patients. The Candida isolates: *C. albicans* 30 (40%), *C. dubliniensis* 15 (20%), *C. dubliniensis* 15 (20%); *C. parapsilosis* 14 (18,7%); *C. glabrata* 14 (18,7%); *C. tropicalis* (1,3%); *C. krusei* (1,3%). None isolates resistance to fluconazole. The frequency of *C. non albicans* with decreased susceptibility to fluconazole was higher than *C. albicans*, however there was no significant difference (p = 0,21).

Conclusion: This study showed that *C. nonalbicans* more frequent than *C. albicans*, and none isolates with resistance to fluconazole. The frequency of *C. non albicans* with decreased susceptibility to fluconazole was higher than *C. albicans*, however there was no significant difference (p = 0,21)

RISK BEHAVIORS AND INCIDENCE OF SEXUALLY TRANSMITTED INFECTIONS AMONG HIV POSITIVE AND NEGATIVE FEMALE SEX WORKER COHORTS IN TWO INDIAN CITIES

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Introduction: In India, the national sexually transmitted infections (STIs) management guidelines recommend a standard package of interventions for female sex workers (FSWs), irrespective of their HIV sero-status. Risk behaviors and incidence of STIs were studied among HIV positive (HIV+ve) and negative (HIV-ve) FSWs.

Methods: FSWs attending two STI clinics at Hyderabad and Mumbai participated in a cohort study and were followed periodically for six months during 2008-2009. Information on risk behaviors and biological specimens were collected. Blood was tested for HIV and herpes simplex virus type 2 (HSV-2). Vaginal swabs were tested for *Neisseria gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT) using APTIMA-Combo II. Data from the clinics were merged.

Results: The cohorts included 56 HIV+ve and 216 HIV-ve FSWs. The mean duration of follow-up was 217 days (SD=60.0). At baseline, HIV+ve were less likely than HIV-ve to be currently married (48.2% versus 63.9%, p=0.032). Also, HIV+ve had sold sex for a longer period (mean=5.6 versus 4.0 years, p=0.023), used condoms consistently with non-commercial partners (41.5% versus 11.4%, p<0.001), higher prevalence of HSV-2 (94.6% versus 73.5%, p=0.001) and higher risk of co-infection with NG and/or CT and HSV-2 (30.4% versus 18.1%, p=0.042). Reported consistent condom use (CCU) with clients did not vary significantly between the HIV+ve (69.4%) and HIV-ve (69.6%) [p=0.977]. Incidence of NG and/or CT among HIV+ve was 103.0 as compared to 86.5 per 100 person-years among HIV-ve (p=0.433). Mean time to infection with NG and/or CT was 65.0 days among HIV+ve and 66.1 days among HIV-ve (p<0.001).

Conclusion: HIV+ve FSWs appear to have higher prevalence and incidence of STIs and could benefit from enhanced STI management including frequent STI testing. Though HIV+ve reported higher CCU with non-commercial partners than HIV-ve, CCU with clients and non-commercial partners remains low among both groups. Innovative behavior change strategies and structural interventions are required for condom promotion.

POSTER NO: 102 TREATMENT EDUCATION WORKSHOP FOR PLWHA; IMPROVING ADHERENCE TO ANTIRETROVIRAL THERAPY IN BALI

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Introduction: Kerti Praja Foundation (KPF) provides services for approximately 400 PLWHA, but adherence to ART is poor, especially amongst females sex workers and family members (housewives). Zero survey amongst FSW in 2009 found that 23% of Denpasar's FSW are HIV+. Very low adherence is because of the poor understanding of the HIV and ART

Methods: PLWHA Treatment Education (TE) training covers ART and all aspects of HIV and AIDS to increase ARV adherence. This program was held monthly, from July 2009-June 2010. The evaluations were based on pre/post testing, completed final questionnaires, and KPF's clinic data. Indicators were the number of those who joined the TE program to start ARV, the decrease of drop-out and increase of adherence.

Results: One hundred and sixty three PLHIV underwent TE. Positive changes post TE: increased knowledge about HIV, 142 began treatment through the workshop and the outreach workers. After this program, 142 new PLHIV began treatment and 42 PLHIV who were previous recipients remain adherent to ARV.

Conclusion: PLWHA Treatment Education is an effective strategy to improve HIV and ART knowledge, also increasing their ARV adherence.

POSTER NO: 103

ELIMINATION OF DISCRIMINATION

Setiady R¹

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Introduction: The Transgender community is one that has a high risk factor for contracting HIV-AIDS. It would be easier to intervene transgender community one of them can do so through the establishment of a set for the transgender community. In Bandung, West Java had formed the set for the transgender community Srikandi Pasundan. Srikandi Pasundan long journey. Lack of interest by side against the issue of HIV-AIDS, Srikandi Pasundan create a strategy to stimulate interest in assisting. The strategy is to combine information with the HIV-AIDS lifeskill capacity. The results were quite astounding, the number of members who originally amounted to only 14 people have now been netted nearly 5000 side by side, spread throughout West Java.

Methods: One of the activities to build interest in assisting to come to access information about the dangers and prevention of HIV-AIDS is a form of training lifeskill insert capacity of talent and expertise of assistance itself.

Results: In addition to access to information about HIV-AIDS, assistance became aware of the dangers of HIV-AIDS. This is evident from the increasing need and use of condoms from the beginning only 35% to 80%. Indicators of success can be seen from the increasing awareness of assistance to access health services.

Conclusion: The combination of HIV-AIDS information with lifeskill training. This is done to increase the attractiveness of assistance to HIV-AIDS information access.

POSTER NO: 104

HIV AND INJECTION DRUG USERS IN PAKISTAN: TEMPORAL TRENDS

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Introduction: The use of injection drugs continues to be an important driver of the HIV epidemic in Pakistan. Despite evidence of high rates of HIV among injecting drug users (IDU), little attention has been paid in examining trends and patterns of HIV epidemiology among IDU in Pakistan.

Methods: Data were from serial cross-sectional biological and behavioural surveys of IDU across Pakistan, with analysis restricted to two rounds of data (2006 and 2011). Trends in HIV prevalence, risk and drug injection behaviours were examined. Adjusted odds ratios (AORs) and 95% confidence intervals (95%CI) from separate multivariable logistic regression models examined the correlates of HIV infection from the two largest provinces in Pakistan (Sindh and Punjab).

Results: Sample size was 3,167 and 3,509 in 2006 and 2011, respectively. The average age of IDU decreased from 32.4 years of age to 31.0 years. Increases in HIV prevalence (16% to 31%), use of an unclean syringe (28% to 36%), proportion reporting heroin use

(45% to 73%), and the proportion using a professional injector (25% to 68%) were observed. In Punjab, IDU injecting for 5-9 years were more likely to be HIV-positive (AOR: 1.6, 95%CI: 1.1-2.3; p=.007), compared to those injecting for 1 year or less. In Sindh, IDU 40+ years of age were 0.2 times as likely to be HIV-positive, compared to those 18-20 years of age (95%CI: 0.1-0.5; p=.001). Those reporting sex work were two times more likely to be HIV-positive (95%CI:1.2-4.3; p=.001).

Conclusion: Our results highlight the heterogeneity in HIV epidemics across Pakistan, and suggest that HIV prevention and intervention programs for IDU should be informed by local assessments of HIV infection determinants. The association of HIV with younger IDUs in Sindh province is suggestive of more recent HIV transmission.

POSTER NO: 105

COMPARISON OF ANTERIOR NARES COMMUNITY ACQUIRED-METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS COLONIZATION BETWEEN HIV PATIENTS WITH CD4+T CELL < 200 /µl AND CD4+T CELL \geq 200 /µl 13

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Introduction: CA-MRSA infection is important health problem, especially in HIV-infected patients. Colonization of CA-MRSA in the anterior nares is a predisposing factor for infection with identical strain. In HIV-infected patients, CD4+ T cell number is the best indicator of relative stage of the disease. In HIV-infected patients, there were deficiency of innate and adaptive immune system, especially occurred when the number of CD4+ T cell falls < $200/\mu$ l.

The aim of this study was to compare the occurence of anterior nares CA-MRSA colonization between HIV-infected patients with CD4+T cell< $200/\mu$ l and $\geq 200/\mu$ l.

Methods: Design of this study is cross-sectional. Specimen of nasal swab taken from HIV patients in outpatient clinic. Identification was performed by inoculation on blood agar at 37°C for 18-24 hours and Gram staining to identify *Staphylococcus sp.* Staphylase test was done to identify *S.aureus*. Identification of MRSA was performed with cefoxitin disk on Mueller Hinton Agar using Kirby-Bauer method.

Results: Ninety-four participants included on this study, consist of 69,1% men and 30,9% women, mean of age was 34,1 \pm 7,8 years old. Colonization of CA-MRSA was found in 14 (14,9%) patients. The occurrence of nares anteriores CA-MRSA colonization between HIV-infected patients with CD4+T cell< 200/µl and \geq 200/µl was not statistically different(p=0,082). Colonization of CA-MRSA was associated with receiving cotrimoxsazole [p 0,026, Cl 0,811(0,726-0,905)].

Conclusion: The occurence of nares anteriores CA-MRSA colonization in our HIV population was high and it didn't differ significantly between HIV-infected patients with CD4+T cell< $200/\mu$ l and $\geq 200/\mu$ l.

POSTER NO: 106 EPIDEMIOLOGY OF HIV AND STI AMONG FEMALE SEX WORKERS IN THAILAND

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Introduction: Female sex workers (FSW) have a high risk of exposure to sexually transmitted infections (STI) including HIV. There is a lack of information on the epidemiology of these infections in this high-risk group in Thailand.

Methods: A cross-sectional study among FSW was performed in 12 regions in Thailand between May 2010 to July 2010. Socio-demographic information and behavioral data were collected. Serological tests were done for HIV and urine tests (PCR) for chlamydia and gonorrhoea. Associations between HIV and selected features of FSWs and their partners were examined using univariate and multivariate logistic regression analysis.

Results: A total of 3,689 FSWs enrolled. The mean age (SD) of participants was 29.4 (9.4) years. 79.1% of participants were Thai and 42.4% were divorce. Main workplaces were massage (28%), karaoke (22.8%), and brothel (9.3%). The prevalence of HIV, CT,NG respectively. Associations correlated with CT were age (OR = 0.35, 95% CI = (0.2629-0.4713), years as a sex worker <3 years (OR = 0.94, 95% CI = 0.9116-0.9888). FSWs with NG positive were 1.71 times more likely to be infected with HIV compared to those with non-reactive NG.

Conclusion: The prevalence of CT, NG was higher than HIV prevalence among FSW in Thailand. Risk behavior analysis suggests the need of developing specific educational prevention programs among FSW. The high prevalence of CT & NG, an incurable STI. may increase the risk of HIV acquisition and transmission in this high-risk group over time.

POSTER NO: 107

PREVALENCE OF HIV AND SELECTED SEXUAL TRANSMITTED INFECTIONS (STIS) IN MEN-WHO-HAVE-SEX-WITH-MEN (MSM) IN HONG KONG, CHINA, 2011

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Introduction: Homosexual and bisexual contact between men has remained the major mode of HIV transmission in Hong Kong in the past decade. The cross-sectional PRiSM project (HIV Prevention and Risk behavioural Survey of MSM in Hong Kong) was conducted to determine the prevalence and associating factors of HIV, urethral C. Trachomatis(CT) and N.gonorrhoeae(NG) among the local gay community.

Methods: The 2011 PRiSM project involved the recruitment of MSM through time-venue and internet sampling. MSM were recruited in gay venues and interviewed for exposure of sexual health messages, testing history and patterns of risk behaviours. A study website which incorporated the same questionnaire was launched following the venue-based study. It was publicized through online advertisements in gay websites and internet forums. All participants were required to submit a urine sample for HIV antibody testing by an IgG antibody capture particle adherence test, followed by Western Blot confirmation: and testing for CT/NG infection by nucleic acid amplification test.

Results: A total of 996 urine samples were received from July to November 2011. Majority of the MSM were Chinese (89.1%), below 40 years old (84.4%), and had obtained secondary education (99.0%). Of these, 78% had exposed to HIV prevention messages during the year preceding the survey. Some (66.0%) and 48.2% had received their last HIV-antibody test and STIs screening within the last year respectively. Thirty Six (3.6%), 47 (4.7%) and 2 (0.2%) urine samples were detected positive for HIV-antibody, CT and NG infection respectively. MSM were more likely to have HIV/STIs infection if they had more than 3 sex partners (OR= 1.03-2.83; P=0.027); had engaged in group sex (OR= 1.05-3.09; P=0.022) or commercial sex (OR=0.98-10.9; P=0.01).

Conclusion: The HIV prevalence among Hong Kong MSM has remained stable over the past few years. Active asymptomatic STI in a proportion of MSM is a cause for concern.

POSTER NO: 108 SYPHILIS TREATMENT FAILURE IN A PATIENT WITH HIV

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Introduction: There is controversy about the optimal treatment for syphilis in patients with HIV. Some authorities treat all HIV-infected persons with syphilis co-infection with 3 weekly doses of intramuscular benzathine penicillin, whilst others use a neurosyphilis regimen in the absence of neurological signs. We report a case of inadequately treated secondary syphilis in a patient with HIV (CD4 count of 434, viral load 173 copies/ml)

Case Report: The patient is a 26 year old Chinese MSM, diagnosed with HIV in May 2008. He presented in 2011 with a generalized non specific rash and positive syphilis serologies (RPR 1:128). He was treated for secondary syphilis with a single dose of intramuscular benzathine penicillin, achieving a RPR titre of 1:4 five months post treatment. Six months later, he presented with an erythematous indurated plaque over the glans penis. He denied any further sexual exposure after his initial diagnosis. Histology showed features of lichenoid and psoriasiform dermatitis and the RPR showed a rising titre of 1:64. The impression was that of inadequately treated syphilis. The patient refused a lumbar puncture. He was treated with two weeks of intravenous penicillin followed by 3 weekly doses of intramuscular benzathine penicillin with resolution of the penile plaque.

Conclusion: Immunosuppression associated with HIV infection can make concurrent STIs such as syphilis difficult to control. Studies have indicated a faster progression of syphilis and higher rates of neurosyphilis in HIV-infected persons. This case illustrates that treatment failure rate may be higher in syphilis patients with HIV and may be necessary to treat them with a neurosyphilis regimen. It is important to recognize this as subsequent clinical presentation of inadequately treated syphilis may be atypical. It is also important to monitor HIV-positive MSM with syphilis until their RPR has become non-reactive or stabilizes at a low serofast level.

IUSTI – LABORATORY/DIAGNOSTICS

POSTER NO: 109

GENETIC VARIATION OF HUMAN PAPILLOMAVIRUS TYPE 6 AND TYPE 11 IN VARIOUS EPITHELIAL LESION TYPES IN THE AUSTRALIAN POPULATION

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Introduction: Human papillomaviruses (HPVs) types 6 and 11 are the most prevalent 'low-risk' anogenital HPV types. They are commonly associated with genital warts, but have also been associated with more aggressive lesions including the generally benign hyperproliferative lesions of recurrent respiratory papillomatosis (RRP) and some anal cancers. Little is known about the genetic variation of HPV6 and HPV11 in clinical samples. In this study we investigated whether different disease states and virulence were associated with specific genetic variants within oncogenes E6 and E7 in different lesion types.

Methods: Three different HPV positive lesion types; recurrent respiratory papillomatosis (RRP) (n=17), genital warts (n=35) and anal cancer (n=6), in addition to normal cervical cells (n=5), collected from the Australian population were examined by sequencing the E6 and E7 gene regions.

Results: Of the 49 HPV6 lesions sequenced, a total of 18 single nucleotide mutations (13 in E6 and 5 in E7) were identified. A total of 5 lesions were identified as HPV6b variants, and 12 grouped with the HPV6a variant. Overall, 26 lesions were identical to the HPV6vc variant, with an additional 5 HPV6vc variants identified, each with a single nucleotide difference to HPV6vc. Six missense mutations, 3 in each of the E6 and E7 genes, and 12 silent mutations were identified.

Three genomic variants were identified for the 25 HPV11 lesions. A total of 8 single nucleotide mutations (six in E6 and two in E7) were identified, 5 missense and 3 silent mutations.

Conclusion: We detected a series of mutations in the E6 and E7 genes of HPV6 and HPV11 in our cohort of clinical samples. The E6/E7 genomic variants were not, however, specific to lesion type. Further investigation of genetic variation and the epigenetic status of the viral regulatory long control region (LCR) is warranted in this cohort.

POSTER NO: 110

INVESTIGATION OF DISCORDANT TREPONEMA PALLIDUM PCR AND SEROLOGY RESULTS AT MELBOURNE SEXUAL HEALTH CENTRE, 1995 TO 2011, AND IDENTIFICATION OF SERONEGATIVE PATIENTS WITH EARLY SYPHILIS

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Introduction: To aid in the diagnosis of early syphilis and clarify the timing of immune responses, VIDRL developed a real-time PCR assay targeting the *Treponema pallidum* polA gene in 2003. Since then we have identified and further investigated 20 patients at MSHC with positive PCR results and negative or very weak (IgM only) serology, including one with positive dark ground microscopy.

Methods: VIDRL developed a confirmatory confirmatory PCR assay targeting the 47kDa antigen gene of *T pallidum* using primers and a probe designed using Primer Express V 3.0 (Applied Pallidum Biosystems) based on sequences published by Weigel et al. Discordant specimens were re-tested using this assay.

Results: Of the 20 patients with discordant reported results, 14 had DNA extracts available for 47kDa PCR testing and, of these, 6 tested positive. These patients' results had lower polA ct values and clinical presentations more consistent with syphilis. Three of these patients showed a weak IgM response and one was DGI positive. Eight samples were negative by 47 kDa PCR. Temporal analysis a degree of clustering of discordant PolA PCR results , suggestive of cross contamination.

Conclusion: We have identified both occasional clustered false positive polA results and genuine unclustered 47kDa pos patients who did not seroconvert to *T pallidum*.

POSTER NO: 111

MICROWAVE-ACCELERATED METAL-ENHANCED FLUORESCENCE (MAMEF) POINT OF CARE TEST FOR THE DETECTION OF CHLAMYDIA TRACHOMATIS

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Introduction: Chlamydia trachomatis (CT) is the most prevalent bacterial sexually transmitted infection (STI) reported to the U.S. Centers for Disease Control and Prevention. Accurate point-of-care diagnostic tests are urgently needed for rapid treatment of patients. To address this need, we have developed and tested a Microwave-Accelerated Metal-Enhanced Fluorescence (MAMEF) assay. We report use of the assay on clinical samples.

Methods: A variety of transport buffers and media were investigated for compatibility with the MAMEF method Different metal disjointed "bow-tie" structures for rapid microwave lysis of CT cells were examined and the effect of these parameters on assay performance was determined. Fifty archived vaginal swabs (Gen-Probe media) and 32 dry-transported vaginal swabs were tested. MAMEF resulsts were compared to results from Aptima Combo2 for the Gen-Probe transport media and to ProbeTec for the dry transported swabs, which were rehydrated in deionized water.

Results: The aluminum "bow-tie" structures proved to be as effective as the gold structures in mediating the lysing and fragmentation of genomic CT DNA. Deionized water was the most suitable buffer for re-hydration of dry swabs and subsequent lysing and MAMEF. It is estimated that as few as 10 IFU/mL of CT can be detected in less than 10 minutes total time, including the sample preparation time. The MAMEF assay correctly identified 19/22 (86%) ProbeTec-positive samples, and 9/10 (90%) of the ProbeTec-negative samples. There was less concordance between Gen-probe Aptima and MAME results as MAMEF only correctly identified 19/32 (59%) of the Aptimapositive samples, and 11/18 (61%) Aptima-negative samples.

Conclusion: The CT MAMEF assay demonstrated high sensitivity and specificity when using dry swabs. Low sensitivity of the MAMEF assay with samples in Gen-Probe media may be related to transport media composition. MAMEF platform is a significant step forward in the development of a point of care test for CT.

POSTER NO: 112

MOLECULAR SURVEILLANCE OF NEISSERIA GONORRHOEAE ANTIMICROBIAL RESISTANCE - THE POPULATION BEING INVESTIGATED IS EQUALLY IMPORTANT AS THE GENETIC MECHANISMS BEING TARGETED

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Introduction: With treatment options for gonorrhoea diminishing, strengthening Neisseria gonorrhoeae antimicrobial resistance (AMR) surveillance is paramount. In this study, we investigated PCR-based methods, in parallel with N. gonorrhoeae multi antigen sequence typing (NG-MAST), for direct detection of four N. gonorrhoeae chromosomal mechanisms associated with emerging resistance to extended spectrum cephalosporins (ESCs).

Methods: The assays targeted an adenine deletion in the mtrR promoter, a mosaic penicillin binding protein (PBP) 2, an A501V PBP2 mutation, and alterations at positions 120 and 121 of the porB protein. The PCR **Methods:** were validated using a panel of characterised N. gonorrhoeae isolates (n = 107) and commensal Neisseria (n = 100) species. The methods were then applied to non-cultured clinical specimens from distinct populations in Australia with differing levels of N. gonorrhoeae AMR: the Northern Territory where resistance has a low population prevalence and Queensland with higher AMR prevalence.

Results: When applied to the non-cultured samples, only 1/50 (2%) samples from Northern Territory harboured a resistant mechanism, whereas the Queensland samples (n = 129) collected over different time periods showed progressive acquisition of resistant mechanisms, and these were associated with specific NG-MAST types, including type 225.

Conclusion: The results show that for N. gonorrhoeae molecular AMR surveillance, the population being investigated is equally important as the genetic mechanisms being targeted. In particular, the results highlight that PCR-based methods could be used to rapidly pinpoint incursion of resistant strains in areas with low AMR prevalence, including the Australian Northern Territory.

POSTER NO: 113 UTILITY OF ROUTINE EXAMINATION STRATEGY OF PATIENTS COMPLAINING OF VAGINAL DISCHARGE IN MOSCOW, RUSSIA

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Background: Clinical examination and microscopy (detecting Candida, clue cells, leucocytes and predominating morphotypes) are the only investigation tools being used in most Russian municipal clinics for women with vaginal discharge. The aim of this study was to reveal possible causes of vaginal discharge using traditional examination strategy along with internationally recommended diagnostic approaches.

Methods: Two hundred consecutive female patients complaining of vaginal discharge were enrolled in this study. All participants were aged 18-45, not pregnant and not menstruating at the time of enrollment. Exclusion criteria were usage of antibiotic drugs during 6 weeks prior to enrollment. Each patient underwent clinical examination, genital samples were tested using light microscopy (according to routinely used protocol and Nugent's score), culture (*Candida spp, Streptococcus spp, Staphylococcus spp, Lactobacillus spp.*), and PCR for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), *Trichomonas vaginalis* (TV), *Mycoplasma genitalium* (MG).

Results: Bacterial vaginosis (BV) was revealed in 44(22.0%) patients (Nugent's score), intermediate flora – in 25(12.5%), vaginal candidiasis – in 28 (14%), aerobic vaginitis in 8 (4.0%), STIs in 18(9.0%) patients. From those, 9(4.5%) had CT, 6(3.0%) had MG cases, 4(2.0%) had TV and 1 (0.5%) had detectable NG infection. Among those 1 had both CT and TV and 1 CT and MG infections.

Curdy discharge typical for candidiasis was registered in 18 out of 28 patients (sensitivity 64.3%); fishy odor of discharge – in 27 out of 44 patients(61.4%), vaginal erythema in 2 out of 5(40%) TV - positive patients, clue cells in 19(43.2%) samples. No NG or TV cases were revealed by microscopy.

Conclusion: BV is the most common cause of vaginal discharge in the population studied, followed by vaginal candidiasis and major STIs. Routine examination and microscopy (without Nugent's score) are not effective for detection of BV and STIs' disclosure, which means that screening and examination strategies have to be revised.

POSTER NO: 114

CLINICAL PERFORMANCE OF THE APTIMA TRICHOMONAS VAGINALIS ASSAY AND USE OF THE ASSAY TO DETERMINE PREVALENCE OF TRICHOMONAS VAGINALIS IN THE U.S. AMONG WOMEN BEING SCREENED FOR OTHER STDS

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Introduction: The APTIMA Trichomonas vaginalis (ATV, Gen-Probe, Incorporated) assay is a nucleic acid amplification assay for the detection of *Trichomonas vaginalis* (TV) in female urogenital samples. The objective of this presentation is to review the clinical performance of the assay and use of the assay to determine the prevalence of TV among women being tested for *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoea* (GC) in the U.S.

Methods: The ATV assay was used to test women undergoing routine screening for CT/GC in the U.S. Several published studies are reviewed comparing the ATV assay to other TV diagnostic methodology.

Results: Performance studies have demonstrated that the sensitivity of the ATV assay is approximately 100% compared to wet mount (~60%) and culture (~80%). The prevalence study tested 7,593 women (18-89 years) undergoing CT and GC screening in various clinical settings in 21 states. Samples consisted of endocervical swab, urine, vaginal swab, and liquid Pap samples. Prevalence of TV, CT, and GC was 8.7%, 6.7%, and 1.7%, respectively. TV was more prevalent than CT or GC in all age groups, except those 18-19 years. Highest TV prevalence was in women aged >40 yrs. (>11%). TV prevalence differed by race/ethnicity (20.2% Blacks/African Americans; 5.7% Whites; 5.0% Hispanics/Latinos). Multi-variant analysis demonstrated that age >40 yr, Black race, and patient location (ED/inpatient and jail/STD clinic) were significantly associated with TV infection.

Conclusion: The ATV assay demonstrates higher clinical sensitivity compared to conventional TV tests using several sample types in females. Prevalence of TV was highest in women >40 yr. and in Blacks. The high TV prevalence in all age groups indicate that women being screened for CT/GC or vaginal symptoms and high-risk women >40 yr should be screened for TV.

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POSTER NO: 115 TREPONEMA PALLIDUM-SPECIFIC ASSAY (TPPA, EIA) SEROREVERSION IN PATIENTS WITH INFECTIOUS SYPHILIS, VICTORIA, 2000 - 2009.

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Introduction: The number of infectious syphilis cases in Victoria, Australia has shown a rapid increase over the decade 2000 – 2009, with the vast majority of episodes occurring in MSM and HIV-infected patients. Current dogma suggests that following infection, *Treponema pallidum*-specific (Tp-s) serology tests (eg TPPA, FTA-Abs and various EIAs) remain positive for life, however, as many MSM now undergo regular syphilis screening, it soon became apparent to the authors that a proportion of patients (especially HIV-infected) lose Tp-s antibodies over time. This study attempts to describe and estimate the frequency of this phenomenon.

Methods: A list was assembled of all known incident infectious syphilis cases (1395 episodes from 1161 patients) detected at VIDRL by serology or PCR from any source in Victoria 2000 – 2009. This list includes patient HIV status. At the end of 2011, syphilis serology results from these patients were checked and any patients showing reversion of previous positive TPPA or EIA result were examined more carefully, and classified as complete (both TPPA and EIA), partial (one or the other) or fluctuating (both at different times) antibody loss.

Results: Seroreversion was found more frequently than expected. Of the 540 HIV positive patients, 57 (10.6%), 11 (2.0%) and 2 (0.4%) showed complete, partial or fluctuating loss respectively. Of the 621 non-HIV patients, the figures were 11 (1.8%), 7 (1.1%) and 3 (0.5%) respectively. TPPA loss usually occurred before EIA loss. Four patients showed at least partial antibody loss twice.

Conclusion: Regular syphilis screening in a high risk population has revealed Tp-s seroreversion is under-recognised and would be even more frequent if patients in this cohort did not experience re-infections. These findings have implications for the interpretation of "atypical" syphilis serology result.

POSTER NO: 116

ESTABLISHMENT OF A GONOCOCCAL ANTIMICROBIAL SURVEILLANCE PROGRAMME (GASP) IN AFRICA: CHALLENGES AND LESSONS LEARNT

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Background: The recent emergence and spread of multi-drug resistant *Neisseria gonorrhoeae* requires a co-ordinated global surveillance response. Within Africa, gonococcal antimicrobial resistance (AMR) surveillance systems are weak or non-existent, laboratories under-resourced and human resource skills lacking. We present our experience in undertaking gonococcal AMR surveillance in 5 African countries.

Methods: Surveys were conducted in Madagascar Namibia, South Africa, Tanzania and Zimbabwe. Preliminary activities included site surveys, clinical workload reviews, protocol development, obtaining of ethics committee and in-country approvals, as well as training of clinical and laboratory staff. Consecutive men with visible urethral discharge were recruited and specimens were labelled with a patient-delinked surveillance number. Samples were taken for immediate gonococcal culture and subsequent *N. gonorrhoeae* nucleic acid amplification testing (NAAT) at NICD/NHLS. Presumptive gonococci were confirmed by Phadebact® co-agglutination. Antimicrobial susceptibility testing (AST) of gonococcal isolates and WHO control strains was performed on GC agar + 1% IsoVitaleX[™] media using Etest® strips for ceftriaxone, cefixime, ciprofloxacin and kanamycin (Zimbabwe). External quality assurance of AST was performed at NICD/NHLS. Donor funding was required to support all the surveys with the exception of South Africa.

Results: In all countries, existing national first-line therapies for gonorrhoea required revision. The surveillance exercise was viewed as 'research' rather than an essential part of STI syndromic management. Recruitment was poor in most surveys. Staff was de-skilled in terms of essential functions required to undertake surveillance. At the clinic level, mislabelling of specimens and incomplete completion of surveillance forms occurred. Within the laboratory, problems were noted in respect of failure to culture gonococci in NAAT-positive patients, contamination of sub-cultured plates and contamination-associated erroneous Etest[®] results.

Conclusion: Our observations highlight the barriers to successful implementation of GASP activities within Africa. Strengthening of laboratory capacity, training and funding sustainability are essential for successful roll-out of GASP activities in Africa.

POSTER NO: 117 GENITAL DISCHARGE SURVEILLANCE AMONG STI PATIENTS IN JOHANNESBURG, SOUTH AFRICA, 2007 - 2012

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Background: Genital discharges elevate genital tract HIV loads and are important co-factors for HIV transmission. South Africa's STI surveillance programme incorporates aetiological testing male urethritis (MUS) and vaginal discharge (VDS) syndrome cases and monitors STI co-infections.

Methods: Consecutive consenting MUS (N=1131) and VDS (N=1236) patients were enrolled at a primary healthcare clinic in Johannesburg (January to April, 2007-2012). First-pass urine (MUS), endocervical (VDS), vaginal fluid (VDS) and blood specimens were collected. Urine and endocervical specimens were tested for *Neisseria gonorrhoeae* (NG), *Chlamydia trachomatis* (CT), *Mycoplasma genitalium* (MG) and *Trichomonas vaginalis* (TV) by PCR assay. Candidal morphotypes (CA) and bacterial vaginosis (BV, Nugent scoring) were detected in Gram-stained vaginal smears. Sera were tested for syphilis-associated (RPR/TPPA), HSV-2 and HIV antibodies. Data were analysed with STATA version 10.

Results: The following relative prevalences were observed: NG (75.1%, MUS; 12.7%, VDS), CT (23.8% MUS; 16.0%, VDS), TV (5.8%, MUS; 23.7%, VDS), MG (11.0%, MUS; 10.8%, VDS), CA (26.9%, VDS) and BV (41.2%, VDS). HIV, HSV-2, RPR and TPPA seropositivity was 33.2%, 56.3%, 2.5%, 7.5% for MUS patients and 51.2%, 77.6%, 2.9%, 15.2% for VDS patients, respectively. HIV seropositivity was associated with the detection of NG in MUS cases (p<0.001) and TV, MG and BV in VDS cases (p<0.001, p=0.004 and p<0.001, respectively). It was also associated with HSV-2 seropositivity (p<0.001, MUS/VDS) and TPPA seropositivity (p=0.028, MUS; p<0.001, VDS). HIV seronegativity was associated with CT in MUS cases (p<0.001) and detection of Candida species in VDS cases (p=0.003). The key trends observed were a decrease in TV relative prevalence (p<0.001, MUS/VDS), a decrease in HIV (p=0.032) and TPPA (p=0.014) seropositivity among women, and an increase in the relative prevalence of BV (p<0.001).

Conclusion: Whilst the observed decreasing trends are encouraging, the high prevalence of HIV/HSV-2 co-infections emphasise the high risk status of STI patients.

POSTER NO: 118

IS THINPREP BETTER THAN CONVENTIONAL CYTOLOGY?

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Introduction: Anal cancer rates are increasing in men and women and particularly in HIV-positive men and men who have sex with men. Anal cytology screening is being promoted in clinics with high HIV caseloads in the belief that detection of anal cancer precursors may lead to an earlier diagnosis and hence a better outcome. The unsatisfactory rate of anal cytology is high in some studies.

Methods: Directly observed conventional cytology performed with a cytobrush was compared to ThinPrep cytology in patients undergoing high resolution anoscopy because of a history of previous abnormal cytology.

Results: 122 patients (113 M, 9F) were studied. The median age was 44.6 years. Of the males 90% were MSM/BSM and 56% were HIV-positive. Conventional cytology identified 0.8% unsatisfactory, 31.8% ASCUS, 8.7% AIN 1, 39.7% AIN 2/3. ThinPrep identified 6.4% unsatisfactory, 23.8% negative, 31.8% ASCUS, 9.5% AIN 1, 28.6% AIN 2/3. 3.2% of samples were positive for gonorrhoea or Chlamydia.

Conclusion: Conventional cytology identified 18 more cases of HGAIN, and ThinPrep detected 5 additional cases. The sensitivity for detection of HGAIN assuming conventional cytology the gold standard was 63.3% (95%CI 48.3-76.6), and specificity 92.8% (95%CI 83.9-97.6). Conventional cytology in this study was better at detecting high-grade intraepithelial neoplasia.

Disclosure of interest: Hologic provided ThinPrep filters and transport vials

OPTIMIZATION AND CLINICAL TESTING OF A MICROWAVE-ACCELERATED METAL-ENHANCED FLUORESCENCE (MAMEF) ASSAY FOR THE DETECTION OF CHLAMYDIA TRACHOMATIS

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Background: Chlamydia trachomatis (CT) is the most prevalent bacterial sexually transmitted infection (STIs) reported to the Centers for Disease Control and Prevention (CDC). There were 1.2 million cases of chlamydia reported to the CDC in 2009, and the annual cost exceeds \$1.5 billion. To address the urgent need of sensitive and specific rapid diagnostic tests, we have developed a Microwave-Accelerated Metal-Enhanced Fluorescence (MAMEF) assay and report on its optimization and testing with clinical samples.

Materials and Methods: We have investigated a variety of buffers (Gen-Probe media, PBS, and water) and different metal disjointed *"bow-tie"* structures for rapid lysis of CT cells and determined the effect of these parameters on assay performance. Using a set of 50 samples in Gen-Probe media and 32 vaginal swabs, we have investigated the performance of the CT MAMEF assay.

Results: The aluminum "bow-tie" structures proved to be as efficient as the gold structures in mediating the lysing and fragmentation of genomic CT DNA. Deionized water was the most suitable buffer for re-hydration of dry swabs and subsequent lysing and MAMEF. It is estimated that as few as 10 IFU/mL of CT can be detected in less than 10 minutes total time, which included the sample preparation time. The MAMEF assay correctly identified 19/22 (86%) ProbeTec-positive samples, and 9/10 (90%) of the ProbeTec-negative samples. There was less concordance between Gen-probe Aptima and MAMEF results MAMEF only correctly identified 19/32 (59%) of the Aptima-positive samples, and 11/18 (61%) Aptima-negative samples.

Conclusion: The CT MAMEF assay demonstrated high sensitivity and specificity when using dry swabs. Low sensitivity of the MAMEF assay with samples in Gen-Probe media might be related to transport media or inefficient lysing of CT cells. Our MAMEF platform is a significant step forward in the development of a point of care test for CT.

POSTER NO: 120

AUTOMATED FIRST VOID URINARY WHITE CELL COUNT PERFORMS BETTER THAN GRAM STAINED URETHRAL SMEAR FOR PREDICTING MYCOPLASMA GENITALIUM AND CHLAMYDIA TRACHOMATIS INFECTION BUT CORRELATES ONLY WITH MYCOPLASMA GENITALIUM PATHOGEN LOAD

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Introduction: Gram stained male urethral smear (GSUS) with semi-quantitative microscopy of polymorphoneutrophil (PMN) count is an accepted standard for diagnosing non-gonococcal urethritis (NGU) and empirically predicting the presence of *Chlamydia trachomatis (CT)* and *Mycoplasma genitalium (MG)* infection. However, little is known of the relationship between PMN and pathogenesis. First void urine flow-cytometry determined white cell count (FV-UWC) is user independent, quantitative and offers higher throughput than GSUS. We assessed i) the utility of FV-UWC for predicting *MG* and *CT* infection in symptomatic patients and ii) its relationship with pathogen load.

Methods: FV-UWCs were determined for 217 symptomatic male patients (all having prior GSUS). Pathogen load (expressed as copies/ml of urine) for *MG* and *CT* was determined by Droplet Digital PCR.

Results: *CT* and *MG* were found in 8.7% (n=19) and 10.1% (n=22) of patients respectively. Patients with either *CT* or *MG* had higher FV-UWC than negative patients (p<=0.001) but there was no difference in FV-UWC between *CT* and *MG* patients (p=0.46). Receiver operator curve - area under the curve (ROC-AUC) for predicting *CT*, *MG* or *CT/MG* combined was 0.879 (p<=0.001), 0.744 (p<=0.001) and 0.843 (p<=0.001 respectively. For the combined CT/MG ROC, optimal cut-off of >29 UWC/µL gave sensitivity for predicting either CT or MG of 82% and specificity of 83%. GSUS for predicting CT/MG infection had a sensitivity of 85% and specificity of 63%. FVU-UWC was correlated to MG pathogen load (R2 =0.474, p=<0.001) but not with CT (R2=0.045, p= 0.383).

Conclusion: UWC is i) higher in CT and MG infection compared to negative controls ii) possesses greater specificity for the detection of CT and MG than GSUS. Automated rapid flow cytometry may offer significantly improved utility over microscopy in the clinic. Urethral white cell count demonstrates a relationship with urinary load for *M. genitalium* but not *C. trachomatis*.

POSTER NO: 121

CO-INFECTIONS WITH SEXUALLY TRANSMITTED INFECTIONS AMONG HIV POSITIVE MEN WHO HAVE SEX WITH MEN IN INDIA

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Background: The epidemiologic synergy between sexually transmitted infections (STIs) and HIV is well established. Men who have sex with men (MSM) in India are a vulnerable group with a national HIV prevalence of 7.3% and a rising trend in some districts. This study aimed at comparing the STI prevalence among HIV positive and negative MSM and identifying the risk factors associated with HIV.

Methods: MSM attending four STI clinics at Hyderabad and Mumbai were recruited during 2008-09.

Information on risk behaviors was collected through a structured questionnaire. Biological specimens were collected and tested for HIV (Elisa/Western blot), herpes simplex virus type 2 (HSV-2, Elisa IgG), syphilis (RPR/TPHA), urethral Neisseria gonorrhoeae (GC) and Chlamydia trachomatis (CT) (APTIMA Combo-2) and rectal GC/CT (Roche PCR). All variables associated with HIV positivity in bivariate analysis with pvalues <0.2 were included in multivariate logistic regression. The final model was obtained using backward, step-wise elimination.

Results: Among 505 MSM enrolled in the study, 179 (35.5%) were found to be HIV positive. The prevalence of HSV-2 among HIV positives and negatives was 82.1% and 31.9% (p<0.001), of syphilis 11.7% and 2.8% (p<0.001); but no significant differences in urethral and rectal GC/CT. Prevalence of any of the above STIs was 83.8% and 45.7% among HIV positives and negatives respectively (p<0.001).Selfreported consistent condom use with clients and non-commercial partners was 57.6% and 47.7% respectively for all study participants.

In multivariate analysis the significant factors associated with HIV sero-positivity were being more than 24 years old (OR=1.8, p=0.009), illiteracy (OR=1.9, p=0.012), prevalence of HSV-2 (OR=7.9, p<0.001) and syphilis reactivity (OR=3.1, p=0.016). Condom use did not show an association with HIV status.

Conclusion: HIV positive MSM have higher burden of STIs and hence require more frequent screening for detection and appropriate management. Intensified efforts are needed for counseling on positive prevention.

POSTER NO: 122

ASYMPTOMATIC URETHRITIS DETECTED WITH MULTISTIX® 10 SG AMONG MALE SEX WITH MALE (MSM) COMMUNITY IN YOGYAKARTA, INDONESIA

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Introduction: Asymptomatic urethritis is an urethral inflammation without any subjective nor objective symptoms. Patient with this condition will not seek medical therapy, thus make them the source of infection. Leucocyte esterase (LE) strip may have a role in the screening of asymptomatic urethritis. The objective of this study is to determine the prevalence of asymptomatic urethritis among MSM in Yogyakarta.

Methods: The data was taken from 39 men who visit the MSM clinic at Yogyakarta during September to October 2011, with the age range from 16 to 35 years old. All of them were tested with Multistix[®] 10 SG. The data were excluded when the patient has urinary symptoms, fever, or inguinal lump.

Results: From 39 men, with mean of age 26.5 years old, there were 8 (20,5%) with positive leucocyte result. And 3 (7,6%) ot them were matched with asymptomatic urethritis criteria.

Conclusion: This study showed that prevalence of asymptomatic urethritis among MSM community in Yogyakarta, Indonesia were 7,6%.

POSTER NO: 123

CORRELATION BETWEEN THE POSITIVITY OF CHLAMYDIA TRACHOMATIS IN URINE SPECIMEN AND ENDOCERVICAL SWAB OF NON SPECIFIC GENITAL INFECTION PATIENTS

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Introduction: Chlamydia trachomatis is the most prevalent bacterial of sexually transmitted infection worldwide. Chlamydia infection is known as a silent disease and could cause damage in women's reproductive health. In our conservative community which examination by speculum is easy to perform, self collected sample such as urine sample has an obvious advantages. The aim of this study was to correlate the positivity of *Chlamydia trachomatis* in urine specimen and endocervical swab of non specific genital infection patients.

Methods: A cross sectional study was conducted on September 2009 in Putat Jaya public health centre Surabaya, on 22 commercial sex workers who suffered from non specific genital infection (NSGI). Samples of endocervical were collected with cytobrush, and first void urine were also collected in order to be proceeded with AMPLICOR PCR Kit. The results were detailed in tables and calculated with percentage. Statistical analysis by Fisher's Exact Test was performed.

Results: Chlamydia trachomatis was positive on 14 endocervical swabs (63,6%) and 16 urine specimens (72,7%) from 22 NSGI samples. There was no statistical significance of correlation test (p 0.096).
Conclusion: There is no correlation between the positivity of *Chlamydia trachomatis* in urine specimen and endocervical swab of non specific genital infection patients, but detection of *Chlamydia trachomatis* on urine samples obtained higher to those whose samples collected directly from the endocervix. It could be the source of infection origins from the cervix or urethra. Regarding these findings, further research is required.

POSTER NO: 124

USE OF HERPESELECT AND KALON GLYCOPROTEIN G2 ENZYME-LINKED IMMUNOSORBENT ASSAYS TO DETECT ANTIBODIES AGAINST HSV-2 AMONG SEXUAL HEALTH CLINIC ATTENDEES IN MOUNT HAGEN AND PORT MORESBY, PAPUA NEW GUINEA

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Background: Herpes simplex virus type 2 (HSV-2) is the most common cause of genital ulcer disease worldwide. The most extensively used diagnostic tests for HSV-2 are the HerpeSelect enzyme-linked immunosorbent assay (ELISA, HerpeSelect Technologies, Cypress Hill, Carlifornia, United States of America) and the Kalon ELISA (Kalon Biologicals Limited, Aldershot, United Kingdom). These test's ability to detect antibodies against HSV-2 varies significantly between different populations around the world.

Methods: A total of 132 sera collected from sexual health clinic attendees in Mount Hagen (n=68) and Port Moresby (n=64), Papua New Guinea (PNG) were tested using both HerpeSelect and Kalon ELISAs according to their respective manufacturer's instructions. The cut-off optical density index value for positively scoring specimens was increased from 1.1 (set by the manufacturers) to 1.5, 2.0, 2.5, 3.0, and 3.5 on both assays.

Results: At index value 1.1 for each assay, the overall seroprevalence of HSV-2 was 61% (Mount Hagen = 62.5%, Port Moresby = 55%) with HerpeSelect and 52% (Mount Hagen = 54%, Port Moresby = 50%) with Kalon. Between HerpeSelect and Kalon, positive concordance was 51.5% (68/132) and negative concordance was 43% (47/132) at index value 1.1. Equivocal results were detected by HerpeSelect at index value 3.5 only whereas Kalon produced equivocal results at all increased index values. Increasing the index value to 3.5 resulted in a 13% and 22% reduction in HSV-2 seroprevalence for HerpeSelect and Kalon respectively; and a 33.5% reduction in positive concordance, however negative concordance remained constant.

Conclusion: This data represents the first comparison of HSV-2 tests in PNG and demonstrates consistency between HerpeSelect and Kalon at their manufacturers recommended index values. However increasing the index value causes significant differences between the ELISAs. Further evaluation of HSV-2 tests is required for use in seroepidemiology studies in PNG.

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ELECTROCHEMICAL DNA BIOSENSOR FOR DETECTION OF NEISSERIA GONORRHOEAE IN CLINICAL SAMPLES: A PRELIMINARY REPORT

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Introduction: The keystone of STI control is early diagnosis and treatment. The current developments in base-sensing technologies are aimed at improving the molecular diagnostics and translating it into POCTs. DNA-biosensing technology based on electrochemical detection of pathogen is another attempt in this regard. The study here describes direct detection of DNA of *N. gonorrhoeae* using an electrochemical biosensor and its preliminary evaluation in clinical samples.

Methods: Thiolated 19-mer oligonucleotide sequence (GenBank PUID SNUM: 9716119 2705 Ng_opa) was immobilized on screen-printed gold electrodes. The fabricated nucleic acid functionalized gold electrode was characterized using, SEM, CV, DPV techniques. The presence of target DNA was detected electrochemically by monitoring the redox peak of methylene blue. Standardization of working conditions was done using complementary, non-complementary, one base mismatch DNA, and DNA of *N. gonorrhoeae* (ATCC 49226) following sonication. Serial dilutions of sonicated DNA were used for sensitivity determination. Specificity of the biosensor was checked against genomic DNA from a panel of strains comprising of non-*Neisseria gonorrhoeae Neisseria* spp. (NgNS) and GNB and GPB. DNA from known positive and negative clinical samples as determined by culture and PCR was diluted and used for biosensor evaluation. Results were expressed in terms of percentage difference in the electrochemical read of the test with respect to probe.

Results: The detection limit of the bioelectrode for genomic DNA was 10-18 M (4.336 X 10-15 g). The biosensor was 100% specific, as decrease in signal intensity was observed only for DNA of *N. gonorrhoeae.* Negative clinical samples were identified correctly as none showed a decrease in signal intensity.

Conclusion: The electrochemical biosensor was highly sensitive and specific for detection of *N. gonorrhoeae* and may be used as a nucleic-acid based confirmation Method for culture. With some modifications, such a test could possibly be used directly on clinical samples in future.

POSTER NO: 126

ASSESSMENT OF DIRECT ADDITION OF URINE TO GENEXPERTÂ $^{\circ}$ CT/ NG ASSAY CARTRIDGES FOR RAPID DETECTION OF C. TRACHOMATIS AND N. GONORRHOEAE

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Introduction: The GeneXpert (GX) CT/NG Assay is a qualitative in vitro real-time PCR test for the automated and rapid detection of *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG). The standard protocol requires an 8 ml aliquot of urine transported in sample transport media (STM) for testing in the laboratory. However, if the instrument

is being used at the point of care, addition of urine directly to the cartridge for testing reduces the volume of urine required, simplifies testing and saves on cost of the STM. In this study we determined whether analytical sensitivity of CT and NG testing is altered or samples are increasingly inhibited if urine is added directly to the GX cartridge.

Methods: CT positive urine sample or a colony from NG ATCC strain were added to 10 ml of pooled negative urine and was further diluted by 10 fold in a pooled negative urine sample and tested in duplicate and triplicate. In addition 15 positive samples for CT and NG were also tested to assess inhibition using direct addition of urine to the GX cartridge.

Results: The sensitivity of detection of CT and NG were the same with crossing points of all targets not significantly different between direct addition of urine and adding urine via the STM. In addition, all 15 positive CT and NG specimens resulted in positive **Results:** and no false negatives were obtained.

Conclusion: Based on this evaluation, there is no difference in detection of CT and NG from direct addition of urine to the GX cartridge. This method uses less urine that the standard method, offering a distinct advantage in hot climates where low urine outputs may impact on assessment of CT and NG infection. In addition, the test process is simplified, making it more acceptable for staff at the point of care.

POSTER NO: 127 METATRANSCRIPTOMICS EVALUATION OF BACTERIAL VAGINOSIS REVEALS A POSSIBLE ASSOCIATION WITH PREVOTELLA AMNII

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Introduction: Bacterial vaginosis (BV) is an enigmatic condition whereby the natural flora of *Lactobacillus* spp. in the vagina are depleted, and replaced by an overgrowth of mixed primarily anaerobic bacteria. Cutting-edge transcriptome detection using massively parallel sequencing has made it possible to determine not just which bacteria are present in the vaginal microbiome, but which organisms are metabolically active.

Methods: Metatranscriptomic analysis was carried out on RNA extracted from vaginal swabs taken from a 26 year old non-smoking woman recruited from Melbourne Sexual Health Centre. She complained of a vaginal discharge typical of BV and had a Nugent score (NS) of 10. During the previous three months she had one female sexual partner, and no history of male sexual partners. Subsequently, qPCR screening of specific targets was carried out on samples from 80 sexually active women possessing varying degrees of vaginal health: 34 with normal flora (NS=0-3), 20 with an intermediate flora (NS=4-6) and 36 with BV (NS= 7-10).

Results: Metatranscriptomic analysis of the single NS=10 sample revealed the predominant presence of bacteria of the genus *Prevotella*, in particular *P. amnii*, a bacterium not previously associated with BV, which was formerly classified as belonging to *P. bivia*.

Screening for *P. amnii* was then conducted in samples from the 80 women and revealed a strong association with BV and both vaginal (OR=24.32 (95% CI: 2.93 - 202.10) and receptive oral sex (OR=22.00 (95% CI: 2.65 - 182.61), but not specifically with having a female sexual partner (p=0.418).

Conclusion: Metatranscriptomics is a useful tool for examining the microbiota, which are metabolically active during BV. This technique has led to the novel finding that *P. amnii* may be associated with BV. Further work is warranted to determine its role in the pathogenesis of BV and its possible associated with sexual activity.

POSTER NO: 128

VALIDATION OF A QUANTITATIVE BETAGLOBIN ASSAY TO ASSESS SAMPLE INTEGRITY IN SELF COLLECTED VAGINAL SWAB SAMPLES AND TO NORMALIZE BACTERIAL LOADS

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Introduction: It is imperative to ensure sample adequacy when screening for microbial markers for disease as a degraded or inappropriately collected sample may give rise to false negative findings.

Methods: Utilizing a selection of self collected vaginal swabs from participants with varying degrees of vaginal health (n=332; Nugent 0-3 n=229, Nugent 7-10 n=103), the human Betaglobin levels of each sample were assessed and compared to total bacteria (16S rRNA) and of various bacteria associated with vaginal health and Bacterial Vaginosis (BV): *Atopobium vaginae, Gardnerella vaginalis,* and *Lactobacillus crispatus*.

Results: A wide range of human cells were collected (mean =1.4x106; range = 4x101 to 1x107) with no difference seen between those possessing a Nugent score of 0-3 or 7-10. In those with a healthy vaginal microflora (Nugent = 0-3), human Betaglobin levels were directly proportional to total bacterial load. However, in those possessing BV (Nugent = 7-10), the total number of bacteria collected did not vary (mean =5.8x109 copies; range = 2.3x107 to 2.8x1010). The human Betaglobin levels were then used to normalize the bacterial counts per sample. *A. vaginae* levels were found to be proportional to disease state, with much higher counts observed when a patient possesses a Nugent score of 7-10. *G. vaginalis* and *L. crispatus* levels were unaffected by this approach.

Conclusion: Using BV as an example it is clear that the normalization of bacterial loads is necessary when working with self collected vaginal swabs. Bacteria known to contribute towards a disease state, such as *A. vaginae* in BV, shift dramatically when adjusted for organism load and it is therefore likely that organism load can vary in other disease states according to sampling efficiency. Control measures such as the normalization of data based on human cellular material, is warranted.

POSTER NO: 130 SEROREACTIVITY AND IMMUNOGENICITY OF TP0965, A HYPOTHETICAL MEMBRANE PROTEIN OF T. PALLIDUM

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Introduction: *T. pallidum* subsp. *pallidum* is the causative agent of syphilis. Analysis of recombinant antigens of *T. pallidum* led to the identification of potential candidate antigens for vaccine development and syphilis serodiagnosis. Tp0965 was predicted to be a membrane fusion protein and was found to be reactive with infected human sera in previous studies, but the results were controversial. In this research, the antigenicity and immunoreactivity of recombinant protein Tp0965 were assessed.

Methods: *T. pallidum subsp. pallidum* (Nichols strain) was propagated and isolated and the genomic DNA was extracted. The Tp0965 gene was amplified by PCR. Then the recombinant protein Tp0965 was expressed in *Escherichia coli* and purified by Ni-NTA purification system. The reactivities of protein Tp0965 were examined by immunoblot analysis and indirect enzyme-linked immunosorbent assay. The antisera against protein Tp0965 were obtained by immune rabbits and the immunogenicity of antisera were detected by indirect enzyme-linked immunosorbent assay.

Results: Recombinant protein Tp0965 was expressed successfully in vitro. Immunoblot assay showed that the recombinant protein Tp0965 could be recognized by human syphilitic sera of all stages. Indirect enzyme-linked immunosorbent assay showed there were only 4 of 74 human syphilitic sera that failed to show reactivity to recombinant antigen Tp0965, and lack of reactivity of Tp0965 to all 28 uninfected sera. A low titer of antiserum against Tp0965 in immune rabbits could be detected after the third time of immunization.

Conclusion: The recombinant antigen Tp0965 shows excellent sensitivity for the reactivity with sera from syphilitic individuals at all stages. The results also demonstrate a potential application for the serodiagnosis of syphilis.

HPV GENOTYPING OF GENITAL WARTS IN A STI CLINIC IN SINGAPORE - WILL THE QUADRIVALENT HPV VACCINE BE USEFUL IN OUR POPULATION?

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Introduction: Worldwide, 90% of genital warts are caused by HPV types 6 and 11. An HPV vaccine covering HPV 6 and 11 is now available. To evaluate its potential benefits, we aim to characterise the prevalence of the HPV genotypes in genital warts in Singapore.

Methods: We evaluated a validated commercialised genotyping assay, the HybriBio HPV GenoArray test, that is able to identify 21 HPV types including 5 low-risk types (6, 11, 42, 43, and 44). This is a pilot study of 5 male and 5 female patients with no prior treatment to their genital warts. Scrapings from the warts were collected in virus transport medium and DNA extracted for analysis. Information on demographics, sexual history and clinical findings were collected with a self-administered questionnaire.

Results: The average age of the patients was 28.3 years and 80% were single and heterosexual, with an average of 5 lifetime sexual partners. Eighty percent of them did not use condoms consistently in the last 3 months. HPV genotypes were characterized in 7 out of 10 patients. Either HPV 6 and/or HPV 11 were detected in all 7 patients. Only one case had high-risk HPV genotypes of 18, 31, 58, 68 co-detected in his perianal warts and he is HIV-positive with high-risk sexual behavior.

Conclusion: From our preliminary findings, the HybriBio HPV GenoArray test is effective in evaluating HPV genotypes in our population. The HPV genotypes characterised in all genital warts with readouts were either HPV 6 or HPV 11, and an HPV vaccine targeting HPV 6 and 11 may be useful in the prevention of genital warts in Singapore. A larger study of 100 patients will be conducted to fully characterise the prevalence of HPV genotypes in genital warts in our population attending a STI clinic.

POSTER NO: 132

MULTI SITE CLINIC-BASED EVALUATION OF POINT OF CARE DUAL-PATH SYPHILIS SCREEN AND CONFIRM ASSAY IN CHINA

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Introduction: Syphilis has become an important public health problem globally. For laboratory diagnosis of syphilis, access of the traditional algorithms based on detection of nontreponemal and treponemal antibodies is usually impeded in many areas, particularly in developing countries. As one of point-of-care diagnostics, DPP assay combining detections of nontreponemal and treponemal antibodies was evaluated previously in laboratory with encouraging results. The current study was aimed to conduct clinic-based evaluation of the assay in multiple sites in China.

Methods: Participants were recruited from six sites and three kinds of specimens (whole blood, WB; finger prick blood, FB; and blood plasma, BP) were used for evaluating sensitivity and specificity using the TPPA and TRUST as "gold standards" to compare with DPP T1 and DPP T2, respectively.

Results: A total of 3135 specimens (WB 1323, FB 488, and BP 1324) were collected. The sensitivities of DPP T1 as compared with TPPA were 96.7% for WB, 96.4% for FB, and 94.6% for BP; and the specificities were 99.3%, 99.1%, and 94.6%, respectively. The

sensitivities of DPP T2 as compared with TRUST were 87.2% for WB, 85.8% for FB, and 88.4% for BP; and the specificities were 94.4%, 96.1% and 95.0%, respectively. For those specimens with titer of TRUST at 1:4 or higher, the sensitivities of DPP T2 were increasing, indicating 100.0% for WB, 96.3% for FB, and 99.5% for BP, respectively.

Conclusion: Based on the findings, it can be concluded that DPP has good performance in terms of its specificity and acceptable performance in its sensitivity, especially for those specimens at TRUST tilter of 1:4 or above. This assay can be considered as one of alternatives in laboratory diagnosis of syphilis, particularly in resource-limited areas.

IUSTI – OTHER

POSTER NO: 133

YEAST VAGINITIS: FUNGICIDAL ACTIVITY OF HUMAN MONOCYTES AND POLYMORPHONUCLEAR LEUKOCYTES IN A SYNTHETIC VAGINA SIMULATIVE MEDIUM

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Introduction: In recent years there has been a sustained medical importance regarding recurrent vulvo-vaginal candidiasis (RVVC), which is defined as the occurrence of four or more episodes of vulvo-vaginal candidiasis (VVC) per year, particularly among immunocompromised women. It has been hypothesized that patients with RVVC lack important anti-candida immune factors in their vagina. The fungus is therefore not completely eliminated, leading to recurrence through relapses. We evaluated the effects of vaginal environmental changes from acidic to alkaline pH on the chemotactic activity, phagocytic index and intracellular killing of *Candida albicans* by human PMN and monocytes.

Methods: Under in vitro conditions chemically resembling the vaginal microenvironment (synthetic vagina-simulative medium) we measured the anti-fungal activity of PMN and monocytes obtained from healthy adult volunteers during a cross-sectional descriptive study in Umlazi D clinic in KwaZulu-Natal between June 2011 and December 2011.

Results: All tested immune cell types were capable of chemotaxis, phagocytosis and intracellular killing of *C.albicans*. These responses were highly active at pH 4.2 as compared to pH 3.8 and 6 with the exception of the phagocytic index of PMN shown to be very high at pH 3.8. In the presence of human serum AB group, phagocytosis started at 10 minutes for both cell types. At pH 4.2 monocytes killed 80% of ingested microorganisms while PMN killed 90% after 3 hours of interaction. Most microorganisms that remained alive developed hyphi within the phagocytes as a resistance mechanism.

Conclusion: It can be concluded that the rate at which filamentation of yeast-phase *C. albicans* occurred is dictated by different environmental pH changes; and partially explained the functional difference between PMN and monocytes, the observed difference in their anti-fungal activities and possibly the basis for relapse observed among women with RVVC.

MAN HAS SEX WITH MAN PROGRAM BY THE COMMISSION OF AIDS PREVENTION WEST JAKARTA

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Introduction: Jakarta, the Capital city of Indonesia, still have small (17%) of HIV AIDS prevention program for the community of Man has Sex with Man (MSM). The consistency of using condom decreased and the epidemic trend of HIV has entered the sexual transmission. Spreading characters occurred because of the social environment, religion and cultural pressure. Numbers of HIV case increased, new strategies and approach is needed for the community, having the objective to establish more awareness of HIV and AIDS, build social environment which support the MSM. Establish more comprehensive program, will prevent the new infected and infected HIV people with good quality health service and affordable price also help decrease social economy impact.

Methods: Regular meetings from stakeholder and social institutions like the Hospitals and Civil Society Organization for Behavior Change Communication from Field coordinator, Peer Educator, the condom outlet coordinator, also established Mobile Clinic for the Sexual Transmitted disease, monitor and evaluate the result program. All meetings held four times per year while the evaluation twice a year. These programs have started since January 2011 until now.

Results: The percentage for parties who involved on the Prevention and Handling case HIV and AIDS at the city for administration and field coordinator with 44 stakeholders; 88% support 5% impartial Police Department, West Jakarta (the issue of MSM) 7% not yet support Tourism Board (the issue of MSM) Improved Health Service, there are 9 health center and on five Hospitals in West Jakarta, which provide the service are Furthermore, four Referral Hospitals for Harapan Kita, Siloam, and etc.

Conclusion: Mapping population must be done routinely at least every six months. The stakeholders need to have the same perception for handling HIV and AIDS. Building the awareness of HIV and AIDS intensively must be developed in the Civil Society Organization, more involvement from related sectors and routine advocacy for the stakeholder in the Police Department when there is a change of leader causing effect on regulations.

POSTER NO: 135

NURSE PRACTITIONERS: INNOVATION IN AUSTRALIAN SEXUAL HEALTH NURSING - BUT WHERE ARE THEY?

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Introduction: The Nurse Practitioner (NP) is a relatively new addition to the health care team in Australia, although NPs have provided healthcare in other countries for decades. NPs are clinical and professional leaders who work in an autonomous and expanded role within their specialty area. They provide high standards of healthcare in collaboration with other professionals including GPs, specialists, nurses and allied healthcare workers. Since the authorisation of the first NPs in Australia in 2001, they have provided timely access and a new level of nursing care in both hospital and community settings. Within the specialty of sexual health nursing, NPs are an emerging and innovative addition to the workforce.

Methods: Three Sexual Health NPs (SHNPs) describe their roles, both within publically-funded sexual health clinics and within a General Practice setting. The themes are reported verbatim of their experiences in the area of sexual health

Results: This poster introduces the SHNP, describing the rigorous authorisation process and the advanced clinical and research role they play in sexual health nursing. It also provides an overview of the number of SHNPs and their utilisation in Australian sexual health clinics. Importantly, it relates the benefits, advantages, and demonstrated outcomes of the NP role in sexual health.

Conclusion: The introduction of Nurse Practitioners to the sexual health workforce offers cost-effective care that has the potential for improved access to treatment, provision of outreach services and targeting of at-risk populations. The SHNP supports and enhances existing medical and nursing models of patient care in clinical and outreach settings. However, the full potential of SHNPs has not yet been realised in Australian publically-funded sexual health clinics. Nurse Practitioners are a proven effective addition to the sexual health workforce, but they have the potential to be even more significant.

POSTER NO: 136 A UNIVERSAL TECHNOLOGY SUPPORTING STI AUDIT, RESEARCH AND HEALTH SURVEILLANCE

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Introduction: The sensitive nature of STI-related data can present particular challenges in audit, research and health surveillance. Since 2006, the University of Melbourne has been researching and developing a tool supporting such activities across any health domain using STI surveillance and research as exemplars. The tool (GRHANITE[™]) has been designed to work across organizational boundaries – including General Practice, Aboriginal Medical Services, Family Planning, Allied Health Care, Hospitals, Laboratories and Pharmacies.

Methods: To meet the challenges of providing data across organisational domains, many issues need addressed - all must be resolved. Failure to address any issue is a failure to provide a complete solution. Issues identified and resolved are: Legal compliance, patient consent (waiver, opt-in and opt-out), ability to connect to almost any database, security, privacy-protecting record linkage, supportability, specific study/project protocol support.

Results: GRHANITE[™] is currently utilised in eight Australian STI-related research and surveillance projects including ACCESS Chlamydia Surveillance (Burnet Institute / NRL), ACCEPt Chlamydia RCT (University of Melbourne CWHGS / CERSH), REACCH and SHIMMER (Chlamydia, Hep B/C, Gono, Syphilis, HIV, HSV, HPV - Kirby Institute, UNSW). To-date (June 2012) these projects have collected data using GRHANITE[™] from rural and inner-city locations in all States and Territories covering 46 laboratories (764,000 patients, ~40% Australian Chlamydia testing), 146 community clinics (250,000 patients) - 123 GP, 16 Aboriginal MS, 7 Family Planning clinics. The record-linkage capability of GRHANITE has turned 764,000 laboratory patient records into linked longitudinal data regarding 520,000 distinct individuals.

Conclusion: GRHANITE[™] is gaining some momentum in the Australian STI domain. The more site installations performed, the greater the potential. GRHANITE[™] is generic and can work across any health sector and internationally. **Disclosure of Interest Statement:** GRHANITE[™] is wholly-owned by the University of Melbourne, Dr Boyle is a royalty recipient. The support of the research partners referenced above is acknowledged.

POSTER NO: 137

NATIONAL COLLABORATING CENTRE FOR INFECTIOUS DISEASES: A NATIONAL INITIATIVE TO PROMOTE EVIDENCE-INFORMED STBBI PARTNER NOTIFICATION PRACTICES AND PROGRAMS IN CANADA

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Introduction: Partner notification (PN) is an integral component of the public health strategy for prevention and control of sexually transmitted and bloodborne infections (STBBIs) in many countries, including Canada. Despite having dedicated ongoing efforts and substantial resources to PN for STBBIs, the incidence of STBBIs continues to rise, calling into question the effectiveness of PN in decreasing the spread of STBBIs at the population level. As a national knowledge translation organization in the area of infectious diseases for public health, the National Collaborating Centre for Infectious Diseases (NCCID) has undertaken a project to promote and facilitate the use of context-relevant evidence to inform STBBI PN practices and programs in Canada.

Methods: This project uses a mixed-methods approach to capture both "conventional" research-based evidence and "unconventional" experiential knowledge to address the specific knowledge needs of public health practitioners involved with STBBI PN.

Results: Components of this project include:

- A review of provincial and territorial acts, regulations and protocols related to PN for STBBIs
- A series of Evidence Reviews on various STBBI PN topics
- An experiential review documenting the successes and challenges of STBBI PN practices in local public health jurisdictions
- Mathematical modelling for evaluating the effectiveness and cost-effectiveness of different models of PN for chlamydia
- A formative consultation attended by public health practitioners, policy-makers and researchers from across Canada to gather feedback regarding their PN knowledge and information needs
- A collaborative initiative on a national PN operational manual undertaken with relevant stakeholder organizations.

Conclusion: By integrating evidence from various spheres of knowledge, this NCCID project aims to provide public health practitioners with pertinent information on promising practices that can be adapted for STBBI PN practices and programs in their local context.

POSTER NO: 138

YOU CAN SCREEN FOR CHLAMYDIA JUST ABOUT ANYWHERE: RESULTS FROM THE ACT STAMP OUT CHLAMYDIA PROGRAM 2009 – 2012

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Introduction: Providing screening in non-clinical settings appears to increase participation among hard to reach groups. We have previously shown that offering cash rewards increases participation in chlamydia screening activities especially

among males. The aim of the Stamp Out Clamydia (SOC2) program was to test whether the cash reward increased participation in chlamydia screening in a wider range of community settings.

Methods: Between 27 October 2009 and 30 June 2012 (32 months), health promotion and clinical staff from Canberra Sexual Health Centre and Sexual Health and Family Planning ACT undertook outreach screening events in the ACT region targeting 16 to 30 year olds. Populations offered screening included university students, elite athletes, military personnel, apprentices, construction workers, nurses, sports club members, Aboriginal youth, radio audiences and attendees at motorsports festivals, outdoor concerts and Gay Lesbian Bisexual Transgender and Intersex (GLBTI) events. A count was kept of people approaching the SOC2 stand at each screening event as well as those participating in screening. Participants were offered a \$10 cash reward for providing a urine sample for testing. Those testing positive were offered treatment.

Results: Sixty four outreach screening events were conducted in the 32 month period among 14 different populations. Approximately 11,200 people attended the 64 events and 4,857 (43.3%) provided urine samples for testing. Participant age ranged from 14-77 years; 76% of those tested were male. Test positivity rates among 16-30 year olds varied by target population from 0% (nurses, teachers, and GLBTI event attendees) to 5.1% (construction workers); the overall positivity rate was 2.5%.

Conclusion: Our findings suggest that taking chlamydia screening to venues where males congregate and offering a small financial reward may increase male participation in chlamydia screening. Building sites are a novel outreach chlamydia screening venue where the case detection rate may be higher than in other populations.

POSTER NO: 139 CHLAMYDIA PREVENTION IN SWEDEN - A CASE STUDY OF POTENTIAL KEY FACTORS IN SUCCESSFUL PREVENTIVE RESPONSE

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Introduction: After a continuous increase of Chlamydia trachomatis (chlamydia) in Sweden, a general reduction in reported cases was seen in 2009. The number of cases of chlamydia varied largely between geographical regions.

Aim: The aim of the present study was to identify potential key factors of successful regional prevention of chlamydia and other sexually transmitted infections (STIs).

Methods: A multiple case study was performed including seven Swedish counties. Data was collected via surveys and interviews with key informants, county council registry data, survey data on condom use, and surveillance data on reported cases of chlamydia. In a case comparison, factors of prevention structure and prevention activities were identified and rated as strengths or weaknesses compared to norm of performance. Potential key factors were identified by examining prevention strengths corresponding to high condom use and decrease of chlamydia cases.

Results: Differences were found in prevention structure and activities across counties. Identified potential key factors identified were; adequate investments in STI prevention, suitable organizational structure, strong leadership, managing regional STI-networks, research connection, multiple local collaborations with health care and community, high testing coverage and strategic risk approach. **Conclusion:** The national as well as the regional action plans show little concern for the underlying structure of STI-prevention. Greater consideration to the structure of prevention may benefit the outcomes of STI-prevention activities.

POSTER NO: 140

THE HAPPI PROJECT. HEALTH AND POLICE PRIMARY INTERVENTION. WORKING TOGETHER ON HEALTH PROMOTION FOR STREET BASED SEX INDUSTRY WORKERS.

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Introduction: The local police force encounter street based Sex Industry Workers (SIW) regularly and often find these workers to appear in a poor state of health. According to the NSW Sexual Health strategic plan, street based SIW's are at a higher risk of STI's and it is the police in their professional capacity who often have initial contact with them. A discreet referral card to sexual health and allied services has been developed for distribution when police are in contact with street based SIW's.

Methods: The main aim was to provide our local police with a discreet way of giving street based SIW's simple, easy, direction on where to go for help in relation to Sexual Health and allied services. The card is pocket size, it does not say 'Sexual Health' or 'Sex Work' but lists the clinic telephone number and contacts for local assistance with Mental Health, Parenting, Financial Assistance, Housing, Domestic Violence and Immigration.

Results: 100 cards have been handed to Police in April 2012 and the outcome will be presented at the meeting. The Police have been receptive and supportive of the project at all levels of hierarchy.

Conclusion: This is a positive project that operates at the primary level. Policing and Health Care often over laps but there is not always discussion around this or ways established of how we can help each other. We shall wait and see how this project goes, for now though Liverpool Sexual Health and Liverpool Police have made a positive connection in this area and that is a benefit to our local community. This is a process that maybe applied to many areas around the world.

POSTER NO: 141

FIVE YEAR FOLLOW UP OF GAY / MEN WHO HAVE SEX WITH MEN (MSM) TO SEXUAL HEALTH CLINICS IN AN OUTER METROPOLITAN AREA, SINCE THE INTRODUCTION OF A NURSING TRIAGE SYSTEM.

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Backround: To support the New South Wales (NSW) Sexual Health Strategic Plan 2006 – 2009 a nursing triage system was introduced partly for the referral of Non- Priority Populations to general practioners. This allowed for an increased focus on Gay/MSM populations.

Method: A working group was established in collaboration with the local health promotion team which met monthly to discuss, implement and review strategies to increase the number of Gay/MSM accessing Sexual Health Services. The results of this increase over a five year period are presented as follows.

Results: The increase in attendance is consistent and steady. 2007/8 (46), 2008/9 (134), 2009/10 (149), 2010/11 (192) and 2011/12 (229) as of the 30/05/2012. Approximately one third of all attendances shown were <25 years of age. This supports our efforts to also

increase the attendance of youth, whom are often most at risk and in need of sexual health education.

Conclusion: In the future we would like to focus our strategy on populations who are hesitant to identify as Gay/MSM particularly men from Middle Eastern backgrounds.

POSTER NO: 142 A REVIEW OF COMMUNITY-BASED OUTREACH STI TESTING PROGRAMS TARGETING MARGINALISED YOUNG PEOPLE IN SYDNEY AND SOUTH WEST SYDNEY

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Introduction: Early detection and treatment of chlamydia programs are a crucial component of NSW Sexually Transmissible Infections (STI) prevention strategy. Marginalised young people experience poorer sexual health outcomes than the general population and do not routinely access primary health care services. Sydney Local Health District and South Western Sydney Local Health District trialled three community-based outreach STI models between 2009 and 2011 to increase knowledge, testing and treatment rates among marginalised young people aged 15 to 29 years. Models 1 and 2 were coordinated by Sexual Health Services (SHS) and included chlamydia and gonorrhoea testing and education. Model 3 was coordinated by Youth Health Services (YHS) and included STI testing as part of a comprehensive health assessment.

Method: A review was conducted; including a comparison between models according to occasions of outreach, program reach, number of tests undertaken and positivity rating. Stakeholder consultations were performed to identify strengths, weaknesses, opportunities and threats for each model.

Results: Each model was successful in detecting chlamydia among marginalised young people, however varied in efficiency and effectiveness. Model 3 provided a systematic program that was the most effective in engaging and testing the target population. Although Models 1 and 2 experienced limitations around program sustainability they reported a high level of community acceptability, partially due to the incorporation of Aboriginal Sexual Health Workers in service delivery.

Conclusion: While there is a rationale for SHS to provide regular outreach STI testing programs, past aspirations have been initiated on limited available resources. Model 3 is well placed to continue to provide STI testing at routine outreach clinics. It is recommended that future programs conducted by SHS be modified to specialised STI outreach programs in key settings such as sporting clubs and community events. There is a need for enhanced collaboration between SHS and YHS to improve program quality and effectiveness.

POSTER NO: 143

SOURCES OF SUPPORT: YOUNG WOMEN AND SEXUALLY TRANSMITTED INFECTIONS

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Introduction: The incidence of sexually transmitted infections (STIs) among young women continues to increase throughout the world. STIs are capable of causing both physical and psychological adversity to young women acquiring these infections and healthcare professionals need to be equipped with knowledge and strategies to

promote wellbeing among this group. This paper reports on findings from a larger study focused on exploring young women's experiences of having an STI, and identifies the sources of support young women can utilise to overcome the adversity that can accompany STI diagnosis.

Methods: A feminist qualitative methodology was used for the purposes of this study.

Results: Findings from this study indicated that although the women participants' experiences with healthcare professionals were generally negative, they drew on other sources of support to manage the adversity they experienced through acquiring an STI. Three dominant themes emerged focused on the ability and difficulties associated with reaching out for support, utilising both known and anonymous online sources of support to promote wellbeing and develop strength, and having the ability to reflect and ultimately overcome the personal adversity expressed and felt among these young women.

Conclusion: Drawing on both known and anonymous online support networks can facilitate overcoming the personal adversity accompanying STI diagnosis. These networks have the ability to foster growth, strength and resilience and can also promote friendships and ongoing supportive systems that can positively assist young women to manage their ongoing sexual health. Healthcare professionals treating and working with young women who have acquired an STI need to be aware of the networks this group utilises in the face of adversity and facilitate the use of these networks as a means of promoting health and wellbeing among young women who contract an STI.

Disclosure of Interest Statement: There was no competing or conflict of interests during the duration of this study.

POSTER NO: 144

FRAMEWORK FOR UNDERSTANDING THE ETHICS OF PREPAREDNESS FOR HIV VACCINE TRIAL IN RESOURCE POOR SETTING

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Introduction: Vaccination is an important biotechnology for prevention and control of diseases, but it has been trailed by controversies worldwide. Stakeholders have reached consensus on the fact that HIV vaccine preparedness is threatened by ethical challenges but none of these challenges has been identified. This paper, therefore, examines a framework for understanding the ethics of HIV vaccine preparedness in Nigeria.

Methods: Relevant books, journals (online and print), Internet materials, and newspaper articles were consulted. In particular, Documentary materials on the history of vaccination in Nigeria, and factors responsible for boycott were examined. Information collected from the above sources was corroborated with 20 in-depth interviews collected from stakeholders working on HIV/AIDS. Data will be using the Nvivo no.8 software while content and narrative approaches will be used to interpret the data.

Results: Majority of the respondents (80%) were of the opinion that there are problems about who should be involved in the process, what are the criteria for selection of stakeholders among a diverse group of experts, and who should fund the activity? All the community respondents and 70% of the experts wanted to know who has the right to represent communities – community representatives or community

advocacy groups. Who should be prepared – community or the individual, how would gender issues be addressed, as well as comprehension of information about HIV vaccine? Also 90% of the experts and 70% of the community respondents questioned the competence of the existing research ethics committee to provide oversight functions and the role of regulatory bodies like the National Agency for Food and Drug Administration (NAFDAC)? Finally, there was consensus among experts and community respondents about what should be the standard approach for HIV vaccine trial preparedness and what proportion of the available resources should be committed to preparedness.

Conclusion: An ethically sensitive HIV vaccine preparedness program will promote its uptake.

Disclosure of Interest Statement: We declare that this study was conducted by us. We acknowledge the assistance of Mrs Peju Esemai who assisted in the data collection. We do not have any conflict of interest regarding this study.

POSTER NO: 145

COOK ISLANDS CHLAMYDIA TREATMENT CAMPAIGN

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Introduction: *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.

THE ADULT SEXUAL ASSAULT FORENSIC EXAMINATION: DEVELOPING A MEDICAL WORKFORCE

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Introduction: Experienced Sexual Assault forensic examiners often report commencing this work with minimal training and with concerns that they were inadequate to interpreting forensic medical evidence for the courts. The Sexual Assault Service for RPA & Liverpool hospitals is unusual in NSW in having fulltime medical forensic leadership. This has enabled the recent development of a set of competencies for independent practice and a delineated period of supported practice until doctors achieve those competencies.

While developing these induction materials there has been a conscious effort to develop resources and methods that may be transferred to the support of rural and remote doctors. Rural General Practitioners, Sexual Health Physicians & ED Physicians bring valuable transferable skills and require targeted accessible support in developing forensic skills.

Methods: The following tools have been developed specifically for doctors already experienced in gynaecological and broad clinical practice.

- 1. Induction Handbook with training on forensic procedures
- 2. Tutorial on Injury detection and Interpretation, body and genital
- 3. Medical notes which prompt for medical and forensic care
- 4. Template for an expert certificate
- 5. Mentoring program including remote support and review of all documentation and co-operative writing of expert certificates.
- 6. Photographic documentation guidelines

A series of doctors commencing this work have been surveyed to provide feedback on their experiences.

Results: Resources developed will be displayed.

Doctors report that the availability of training and support is vital to their decision to commence and continue.

Conclusion: Targeted training and mentoring within a peer-supported environment enhances the forensic skills, aids in recruitment and retention of doctors, and has a role in mitigating vicarious trauma.

POSTER NO: 147

STI SYNDROMIC MANAGEMENT TRAINING GAME: AN EDUCATOR RESOURCE FOR PAPUA NEW GUINEAN SEXUAL HEALTH TRAINERS

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Introduction: The Sexually Transmitted Infections (STI) Syndromic Management Training Game is an interactive resource designed to complement and reinforce education sessions on STI and their recommended management in Papua New Guinea (PNG). The game is structured as a large puzzle that requires collaboration between participants to arrange descriptive cards of common STI and genital infections according to categories.

The game is based on the PNG National Department of Health (NDoH) STI Syndromic Management Treatment Guidelines.

Produced by the AusAID -funded PNG Australia Sexual Health Improvement Program (PASHIP) 4As consortium (Anglicare PNG, Anglican Health Services, Anglican Board of Mission-Australia and The Albion Centre). Approval, input and encouragement has been provided by NDoH.

Methods: Trialled with staff working in two health settings in different provinces of PNG; a general integrated Health Service offering STI testing and management and a purpose-built STI clinic. A facilitator trial was also conducted. Pre/post questionnaires evaluated impact of the game on knowledge, while participant feedback via evaluation form evaluated individual enjoyment as well as views on the layout and use of the resource.

Results: Participant feedback suggests the game is an enjoyable and useful learning tool, relevant to Syndromic Management of STI in PNG. Results indicate that the activity promotes STI knowledge and teamwork among participants and could be used in a variety of settings.

Conclusion: The resource offers a flexible and practical approach to learning about STI diagnosis and management.

PNG NDoH plan to publish updated STI treatment guidelines in 2012 following which, if funding is received, the resource will be revised and produced in 2013. It is hoped to become an acceptable addition to PNG NDoH Training in Syndromic Management of STI.

Disclosure of Interest Statement: PASHIP is funded by AusAID.

POSTER NO: 148

ADDRESSING THE SEXUAL HEALTH OF MEN WHO HAVE SEX WITH MEN IN GENERAL PRACTICE: A MULTIFACETED PARTNERSHIP APPROACH

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Introduction: Chlamydia and gonorrhoea are the most commonly diagnosed sexually transmissible infections (STI) in MSM in Sydney. Many MSM at sex on premises venues (SOPV) have numerous casual partners. Following a survey of MSM at SOPV, which indicated strong support for on-site testing, a joint health promotion and clinical team developed a self-collected STI testing program for use by MSM at 357, one of Sydney's busiest and most diverse SOPV in Sydney. The testing program aimed to detect asymptomatic chlamydia and gonorrhea in men attending the venue and offer an alternate model of STI testing.

Method: Testing was conducted between May 2011 and May 2012. There was no clinical staff in attendance. MSM manually completed a consent/lab form, did self collected anal/throat swabs and provided a urine sample. Specimens were results. ACON, the local NGO HIV/AIDS service, ran a peer educator program on site during part of the pilot and were able to promote the service.

Results: A total of 92 men accessed testing. Seven of the testing kits returned a positive result (8%). The preferred method:of receiving results was email (45%) and SMS (43%). Eight tests (13%) could not be processed due to participant errors in either collection or processing. Where possible these men were contacted and advised to retest.

Conclusion: Although testing uptake by venue patrons was low an STI prevalence of 8% was detected. An electronic computer assisted self interview kiosk has since been developed and is being installed at the venue to make the process more efficient and to reduce errors with manual processing of information. A marketing plan has been developed so the service is regularly promoted to try and increase use.

POSTER NO: 149 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 NO: 150

ADDRESSING THE SEXUAL HEALTH OF MEN WHO HAVE SEX WITH MEN IN GENERAL PRACTICE: A MULITFACETED PARTERNSHIP APPROACH

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Introduction: General Practitioners (GPs) and Practice Nurses (PNs) are well placed to detect and treat STIs (including HIV) in men who have sex with men (MSM), as they are often the first and only point of contact with the health system. Publicly funded Sexual Health Services (including sexual health promotion) are in a key position to assist GPs and PNs by providing clinical support, education and resourcing to address STIs, within a patient consultation. This paper will detail a multifaceted approach to increasing GPs and PNs capacity to mange STIs, including HIV, within metropolitan Sydney.

Methods: Effective and sustainable strategies were developed and targeted to low case-load, metropolitan Sydney service locations and/or clinicians with interest. These strategies included: sexual health as a regular Central Sydney GP Network newsletter

item, development and distribution of the STIs and Gay Men's Action Group (STIGMA) newsletter, coordination and facilitation of STI Active Learning Modules (ALMs) and the integration of HIV updates into existing education mechanisms.

Results: Sydney Local Health District (SLHD) based initiatives in 2012 include:

- Publishing 7 sexual health articles and 7 HIV updates, raising awareness of issues impacting MSM, people with HIV and broader community
- 2 STIGMA newsletters with a major focus on the rising rates of STIs and available support resources;
- Coordination, delivery and evaluation of 1 STI ALM and 2 HIV update evenings with RACGP and APNA accreditation; and
- HIV clinical mentoring.

Conclusion: It is highly appropriate and essential that STI & HIV testing are integrated into services offered to gay men visiting general practice. The above multifaceted approach highlights a variety of methods to engage GPs and PNs in addressing STI testing and diagnosis, and support available when a positive HIV result is detected.

Disclosure of Interest Statement: The SLHD HARP Health Promotion Team is funded by NSW Ministry of Health. No pharmaceutical grants were received in the development of this project.

POSTER NO: 151 CHLAMYDIASTIC! - A FUN SEXUAL HEALTH GAME FOR YOUNG PEOPLE

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Introduction: In response to the growing burden of chlamydia in young people, Sydney Sexual Health Centre (SSHC), with support from the South Eastern Sydney Local Health District (SESLHD) HIV and Related Programs (HARP) Unit, developed Chlamydiastic! - a fun sexual health game.

The aim of Chlamydiastic! is to inform young people aged 16-24 years – via a youth/ health worker/teacher facilitator - about the asymptomatic nature of chlamydia and other sexually transmissible infections (STI), condom use and to encourage STI testing. Chlamydiastic! also assists in helping young people feel more confident to access sexual health clinics, GPs or other health professionals in relation to their sexual health.

Youth workers and other professionals will be able to use this resource to engage with young people in a fun, informative and thought-provoking activity. In playing the game, young people will acquire skills necessary for increasing resilience around making informed decisions about their sexual relationship choices and condom use.

Chlamydiastic! has also been used in training nurses, allied health workers and youth workers and has proven to be as useful and memorable a learning tool for these professionals as it is for client groups.

Chlamydiastic! requires 6-10 players, takes about 30 minutes to play and creates good opportunities for discussion centred on STIs, condom use and beliefs about relationships and sex.

Training and distribution of the game is currently underway throughout NSW. Evaluation will focus on the ease of teaching and playing the game, understandability of content and participant responses. Evaluation strategies include pre- and post-game knowledge tests for participants and facilitator evaluations. Evaluation will occur for a minimum of 12 months and preliminary (first quarter) results will be available in September 2012.

DEVELOPING A FRAMEWORK FOR STI POINT-OF-CARE TESTING IN THE PACIFIC REGION

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Introduction: Sexually transmitted infections (STIs) are an important public health issue in the Pacific. Diagnosis is challenging, and often requires laboratory facilities and technical expertise that is seldom available. Results are rarely available to clients on the day of testing, with management primarily based on symptoms. New STI diagnostic tests performed at the point-of-care (POC) may lead to improved medical, operational and financial outcomes. Appropriate and successful introduction, however, rests on consideration of the implications for service delivery.

Methods: The Burnet Institute was funded by the Secretariat of the Pacific Community to support Ministries of Health (MOH) in the region to appraise the suitability of introducing new STI/POC tests, and explore ways to integrate POC testing into existing STI management and control strategies. A participatory consultation process was undertaken with members of the Pacific Regional STI Working Group, selected MOH representatives and regional experts to develop a 'toolkit' for health managers. The toolkit will be road-tested by Fiji MOH personnel in August to ensure language, content and usability match needs of users in the Pacific.

Results: A web-based toolkit was developed. The toolkit includes: background information on POC tests; guidance on how to weigh up the benefits and costs of introducing tests; steps in piloting a test and evaluating its performance; factors to consider when scaling up testing after a successful pilot; and, examples of tools to assist in implementation of POC testing. The online toolkit will be revised after the Fiji trial.

Conclusion: The toolkit will support health managers in the Pacific to critically appraise the suitability of STI/POC tests in their country, ensure a smooth introduction and minimise harms. The toolkit might also be useful for those seeking to review, strengthen or change their current approach to STI testing.

POSTER NO: 153

HUMAN SUBJECT PROTECTION AND ETHICAL REVIEW OF RESEARCH PROTOCOL

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Background: Genital ulcers exhibit significant variability in morphologic presentation, often making the clinical interpretation unreliable when used without confirmatory laboratory tests. Dark field microscopy (DFM), once performed widely as a reliable method of diagnosing Syphilis, is rapidly losing ground to newer serological tests and molecular methods, including PCR. This study was aimed at tracing the performance of DFM over the years and evaluating its usefulness in the present scenario.

Methods: This retrospective study involved analysis of data of 15 years, during which DFM was performed routinely for genital ulcer disease (GUD), along with other serological tests like VDRL, TPHA and FTA-Abs, for the diagnosis of Syphilis.

Results: DFM was performed on a total of 1226 GUD cases, with a positivity of 15.42%. Of the 189 positive cases, 99 (52.66%) were positive only by DFM and no other method, while 90 (47.87%) were positive by both DFM and a serological test for syphilis. The

number of GUD cases steadily decreased over the years, with a consequent fall in the number of DFM performed. But, the last 3 years, have seen an upward trend in Syphilis.

Conclusion: With the advent of HIV infection, GUDs with two or more causative organisms are common, making aetiological diagnosis difficult without sophisticated laboratory tests. Serological tests for syphilis are fast and simple to perform, but are only useful when the infection is not very recent. *Treponema pallidum* PCR, while more informative early in infection is not available widely in developing countries, due to cost constraints. In the light of all the above, it appears that dark field microscopy will continue to light our paths in the diagnosis of syphilitic GUD.

POSTER NO: 154 INTEGRATING ACROSS THE CONTINUUM OF HIV CARE: LESSONS LEARNED FROM LIGHTHOUSE TRUST, LILONGWE, MALAWI

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Background: The increasing epidemic of HIV in Southern Africa underline the increasing imperative for effective coordination of Sexual Reproductive Health (SRH), Tuberculosis, Antiretroviral Therapy (ART), and PMTCT services, but how best to accomplish this remains unclear. We, therefore, describe the integration programme for continuum of integrated services at Lighthouse clinics in Lilongwe, Malawi.

Methods: Lighthouse Trust operates two public HIV testing, treatment and care clinics; Lighthouse (LH) and Martin Preuss Center (MPC). The clinics provide HIV care services to both ART and non-ART HIV-infected patients, and provide ART to HIV infected pregnant women and early infant diagnosis (EID) for exposed infants, including active tracing. SRH services were integrated into routine patient visits, including provision of contraceptiv methods and cervical cancer screening. MPC, the largest TB registration centre in Malawi, manages TB/HIV co-infected patients. TB screening services are incorporated into routine patient visits at both clinics for pre-ART and ART patients.

Results: By 31st March 2012, 18, 528 adults and children were on ART. Among TB/HIV co-infected patients at MPC, 95% knew their HIV status and 74% accessed ART while on TB treatment. Among those on ART, TB prevalence was 5.7%. Between Sept and December 2011, 593 pregnant women were initiated on ART and 214 infants received PCR tests. By December, 2011, 5,700 women of reproductive age were given contraceptive education messages and 529 (9.3%) received contraceptives: 273 (52%), Depo-Provera, 147 (28%) IUCD, 78 (15%) pills, and 31 (6%) implants. SRH has now included cervical cancer screening.

Conclusion s/Lessons Learned: Our patient-centered, integrated services benefit clients through reduced personal transport, fewer health facility visits, and less waiting time, while requiring minimal additional resources over those needed for provision of ART alone in provider's perspective. Continued monitoring and evaluation efforts will help ensure program improvement and provision of quality integrated care.

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A CASE OF PERIANAL GIANT CONDYLOMA ACUMINATUM CAUSED BY HPV TYPE 6 IN HIV PATIENT THAT RESPONSIVE TO TCA 90% SOLUTION

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Introduction: Giant condyloma acuminatum (GCA) is a slow-growing, large, cauliflower-like tumor in the anogenital region. GCA is a rare lesion tending to present in the fifth decade and 80% cases are caused by HPV type 6 and 11. Risk factors are anoreceptive intercourse, HIV, and immunosuppression. There is no general agreement on the choice of treatment for GCA but surgery remains the method of choice.

Methods: TCA 90% solution once a week on lesion

Results: A case of perianal GCA in a 25-year-old HIV man was reported. He had a big bump on perianal region that enlarge since 3 months ago and history of anoreceptive intercourse. Physical examination revealed flesh-colored, cauliflower-like tumor with verrucous surface. 6x1.5x0.5 cm in size, covering anal area, Acetowhite and HIV rapid test; positive, CD4 count: 686 cells/µl, VDRL and TPHA: non reactive. Histopathology examination: condyloma acuminatum. Anoscopy examination revealed small masses on the lateral anal wall and rectum without invasion of surrounding tissue. PCR examination: HPV type 6. Good improvement was observed after five times application of TCA 90% solution.

Conclusion: Surgery treatment has risk of dispersal of viral particles and should be performed with the use of surgical masks and need smoke evacuator. In this case, our patient was young and infected by HPV type 6 as the most common type HPV in genital warts and treated with TCA 90% solution with concideration of availability, safe, and low risk of dispersal of viral particles.

POST<u>ER NO: 156</u>

SYPHILIS CONTROL AND PREVENTION IN LOUISIANA: IS SELECTIVE SCREENING ALONE OR SELECTIVE SCREENING WITH PARTNER NOTIFICATION MORE EFFECTIVE? A COST-EFFECTIVENESS ANALYSIS Rahman M¹ Khan M²

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Introduction: Selective screening and partner notification are the two strategies used by the STD control programs in USA to reduce and or eliminate syphilis. So far no study has assessed the cost and effectiveness of either approach at the state level. The objective of this study is to assess the incremental cost effectiveness (ICE) of adding partner notification (PN) with selective screening (SS) in detecting early syphilis and to measure ICE of intensity of partner notification in Louisiana.

Methods: The cost effectiveness analysis (CEA) was done from the point of view of health care delivery. Micro costing approach was used in cost analysis and the CEA was performed by using the recurrent direct costs associated with detecting syphilis by SS and by SS with PN. For ICE of intensity of PN, cost was calculated for every attempt made to contact partners and effectiveness was calculated by the number of partners as well as the number of cases identified through PN.

Results: The estimates of direct costs associated with SS was \$6.4 million for 1005 early syphilis cases detected and \$6.7 million for SS with partner notification. Partner notification detected additional 279 early syphilis cases with an additional cost of \$314498. Incremental cost of adding partner notification with SS was \$2808 per primary and

secondary syphilis case and \$1883 per early latent syphilis case identified. ICE of identifying partner showed a decline with the increase in number of attempts but the ICE values of case detection through partner notification did not show any systematic pattern.

Conclusion: This study demonstrates that adding partner notification with SS is more CE in syphilis detection compared to case detection by SS alone. In terms of intensity of partner notification, it was found that increasing the number of attempts to contact the partners remained cost effective.

Disclosure of Interest Statement: No personal financial relationship. No contributions were received relevant to this work.

POSTER NO: 157

BUILDING INTERNATIONAL CAPACITY IN STIS AND HIV -AN INNOVATIVE MODEL.

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Introduction: HIV/AIDS and STIs present major public health challenges, especially in resource-poor countries, requiring a well informed workforce with a capacity for lifelong learning to adapt to future changes. Strengthening human resources in the fields of prevention and management is crucial for effective public health responses.

We set out to build sustainable human resource capacity using regional, national and international collaborations.

Methods: Identification of partner organisations was done through site visits. Stakeholder consultations were held. Financial support sought from AusAID. The program was designed to develop evidence-based adult learning skills. It was integrated with existing programs to build on previous experience & to minimise costs. Feedback was sought from participants during and at the end of the program.

Results: We identified partner organisations based on epidemiology, location, ability to support change and need through visits to Botswana, Cambodia, India, South Africa and Zambia. In consultation with partner organisations, 58 leaders were selected to enable change & build the local capacity to introduce new methods to build capacity in HIV and STIs. By the end of 2011, 34 Fellows from 4 countries spent a total of 36 hours learning activities per week for 12 weeks and a further 23 will complete the program in 2012. Fellows who completed the program are working are already involved in assisting capacity building efforts. These programs were supported by AusAID. This allowed us to build a critical mass to support sustainable change and start next phase of building institutional capacity.

Conclusion: HIV is one of the greatest global threats to development. Following a detailed needs analysis, the careful building of informed partnerships allowed the delivery of professionally & geographically targeted resources. Early evidence suggests that this approach has been able to sustain institutional change and improve public health outcomes for a relatively modest investment.

HOME-BASED RE-TESTING FOR CHLAMYDIA: WHAT DO PATIENTS THINK?

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Introduction: Chlamydia re-testing at 3 months after infection is an important strategy to detect re-infections, but re-testing rates are low. A randomised controlled trial titled 'REACT' is underway to assess if home-based specimen collection can improve re-testing rates compared to routine clinic testing in: men who have sex with men, heterosexual men and women. As part of this trial, we assessed the acceptability of home-based re-testing.

Methods: REACT participants were reminded by SMS to undertake a quantitative survey online 4 and 5 months after being treated for chlamydia. The reults of the first 181 completed surveys were analysed.

Results: The majority of the 181 respondents were male (72%) aged \leq 35 years (83%) and lived with friends/flatmates (54%). Of those in the home testing group who didn't re-test, the main reason given was lack of time. Of those in the home group who did re-test, the majority were comfortable having the kit posted to their home (92%); found it easy to follow the instructions and to collect the specimens (95%); and were confident they had collected the specimens correctly (85%). Most (59%) of the home group re-testers reported no problems collecting the specimens, but 27% reported they weren't sure how far to insert the swab, and 11% splashed urine on their hands. The average time between collecting the specimen and mailing to the lab was 1.7 days (range: 1-30). Most (60%) of the home group re-testers preferred home testing, 25% were neutral and 15% preferred clinic re-testing. The most common reasons for preferring home testing were convenience and saving time, and for clinic re-testing: more confident that the tests would be done properly.

Conclusion: Home collection was found to be acceptable. Future home testing programs should provide clearer instructions and reassurance about the reliability of the tests.

POSTER NO: 159

A CASE OF GONOCOCCAL URETHRITIS THAT IS RESISTANT TO FLUOROQUINOLONES, CEPHALOSPORINS, THIAMPHENICOL, AND KANAMYCIN THAT IS SUCCESFULLY TREATED WITH AZITHROMYCIN

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Gonococcal urethritis is a sexually transmitted disease caused by Neisseria gonorrhoeae in urethra. Emergence of *N. gonorrhoeae* which is resistant to antibiotics is a serious health problem, especially for those which are resistant to commonly used antibiotics. This is the first reported case of multi-drug resistant gonococcal urethritis in our Department.

Case: A 25-year-old man presented with gonococcal urethritis. Physical examination was normal. Venereal state on external urethral orifice was edema and hyperemia, with malodorous, abundant, purulent and yellowish white discharge. No inguinal lymph nodes enlargement. Gram staining from the discharge is 80-90 polymorphonuclears

per visual field and intracellular and extracellular Gram-negative diplococci. He was initially treated with single dose ofloxacin, but follow up showed no clinical improvement and genital discharge culture on and antibiotics sensitivity test result was *N. gonorrhoeae* which is resistant to fluoroquinolones, cephalosporins, thiamphenicol, and kanamycin. He was then treated with azithromycin 2 gram orally and after follow up: his gonococcal urethritis was cleared and then he was treated with doxycycline 200 mg/ day for the next 7 days for his nongonococcal urethritis and healed.

Discussion: The emergence and spread of *N. gonorrhoeae* with resistance to antibiotics have led to difficulty in treating gonococcal infection and is a serious health problem. This is the first reported case of multi antibiotics in our Department. We should effectively treat patients with gonorrhea, always being conscious of local trends of drug resistance in *N. gonorrhoeae*.

POSTER NO: 160

CROSSING BORDERS: APPLYING THE LESSONS LEARNED FROM THE RESPONSE TO HIV TO GUIDE HBV POLICY AND PROGRAMS IN AUSTRALIA AND BEYOND

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Introduction: Chronic hepatitis B (CHB) is a profound health issue in Australia, with an estimated 170,000 Australians living with CHB and liver cancer (the majority of which is caused by chronic viral hepatitis) the equal fastest increasing cause of cancer death nationally. CHB is also a significant public health issue globally, with over 350 million people chronically infected and the hepatitis B virus (HBV) being the second most important known human carcinogen, after tobacco. Most people with CHB live in the Asia-Pacific region.

Methods: In this analysis we compare the global and domestic responses to HIV to those for HBV, examine progress in addressing the burden of CHB in Australia particularly within the health workforce area, and outline how the evolving partnership-based approach to HIV infection can inform nascent HBV programs within Australia and our region. For this comparison we focus on comparative epidemiology and responses to HIV and HBV in Australia, and from this framework describe the development of strategic approaches undertaken by the National Policy and International Divisions of ASHM.

Results: Developing partnership approaches, engaging with the affected community, workforce development, and exploring innovative models of care were all hallmarks of Australia's integrated approach to HIV. All these elements are in addition key priorities outlined in the First National Hepatitis B Strategy. As a Society previously engaged predominantly with the HIV sector, ASHM is applying lessons learned from this context to the rising burden of CHB.

Conclusion: There is increasing evidence for the substantial burden of CHB in Australia and in our region, with policy and clinical responses lagging behind those for other blood borne viruses. However the lessons learned from the HIV context can inform our approach to HBV and so help guide an effective, partnership based and comprehensive response.

'THE PROJECT SELLS ITSELF': MAXIMISING THE APPEAL OF STI RESEARCH IN GENERAL PRACTICE

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Background: The Australian Chlamydia Control Effectiveness Pilot (ACCEPt) is a randomised controlled trial designed to assess the feasibility, acceptability and cost-effectiveness of a chlamydia testing intervention in general practice. Trials involving sexual health are not always welcomed in general practice; this paper describes contributing factors to ACCEPt's high participation rate, including intervention design and recruitment strategy.

Methods: The ACCEPt intervention is a suite of evidence-based resources tailored to the needs of each clinic. It was designed to embed chlamydia testing into practice capacity without increasing workload, to provide financial and educational incentives for participating, and to provide ample opportunity for feedback to participating practices. Recruitment to ACCEPt entailed a six-step process comprising mail-outs, phone calls and face-to-face visits, and assigning a single contact to a clinic to ensure continuity. Computer software (GRHANITETM) is used to collect de-identified chlamydia testing data, to reduce the workload for participating GPs.

Results: Recruitment began in July 2010; 685 GPs in 148 clinics in 52 postcodes have been recruited. 91% of approached clinics have agreed to participate. Recruitment of all clinics within a postcode took an average of 80 days (range 16 to 154 days), and required between 4 and 8 visits. GPs at 53 intervention clinics have undertaken training, and nurses at 27 clinics have requested training. Participating GPs are similar to the national average in terms of age and sex, but are more likely to be overseas trained.

Conclusion: Recruiting general practices into a sexual health study can be successfully achieved using a multifaceted recruitment strategy. Taking the particular demands of general practice into account is crucial during trial and intervention design, to make participation more appealing. ACCEPt's first stage of recruitment and implementation has demonstrated the importance of engaging with clinic staff in order to maximise the appeal of participation in research.

IUSTI- SOCIAL AND BEHAVIOURAL RESEARCH

POSTER NO: 162

ANTIRETROVIRAL THERAPY AND INCREASE IN LIBIDO AMONG HIV PATIENTS ON TREATMENT AT SUNTRESO STI/HIV CLINIC IN KUMASI GHANA.

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Introduction: The use of Antiretroviral drugs (ARVs) is associated with constitutional body changes some of which are probably not documented. The continuous and incessant demand by patients on treatment at the Suntreso STI/HIV clinic for condom prompted a suggestion that sexual desire among these patients might have increased. The study was to determine whether the situation is so for majority of the patients.

Methods: 789 patients (Males-42%, 331: Female-58%, 458) who have been on ARVs for between 12 and 24 months and consented to participate were recruited for this cross sectional study. Socio demographic as well as information on their sexual behaviour were gathered using structured questionnaire through one-on-one interview. Statistical analysis was performed using Stata 16.0.

Results: 86.5% of respondents admitted to increase in their sexual desire since they started ARVs than when were not. 47.6% attributed the change to total wellbeing while 39.1% claimed is purely due to the ARVs. The change was more in men (72.3%,239/331) than women(49.1%, 225/458) and increase proportionally with during of patient on ARV and age of respondents.

Conclusion: A significant number of patients attributed their increase libido to intake of ARVs. Although the wellbeing of patients both mentally and physically provided by the use of ARVs might be a contributory factor in the positive change in the sexual desire of these patients, a possibility of ARVs increasing libido cannot be rule out completely. It may be one of the idiosyncrasies of ARVs – aphrodisiac. This may perhaps boost pre-exposure prophylaxis for the sexually active. However it is likely to raise demand for and increase cost of ARVs, spelling doom for the HIV treatment programme especially in the developing countries as Governments and donors may not be ready to fund aphrodisiacs. There is an urgent need for evidence-based study for authentication.

POSTER NO: 163

AN ANALYSIS OF POTENTIAL RISK FACTORS FOR SEASONAL VARIATION IN GONORRHOEA IN INDIA: A SIX YEAR STATISTICAL REVIEW.

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Background: Many hypothesis have been formulated for seasonality in gonorrhea and no single theory has proved satisfactory explanations about its cause. No literature on seasonal trends of gonorrhoea is available from India. The objectives of this study were (1) to determine, if any, seasonal trends were present in India (2) to postulate mechanisms to explain the observations (3) to formulate approaches for gonorrhoea control at the national level.

Methods: Seasonal indices for gonorrhoea morbidity were calculated quarterly in terms of an index, called a seasonal index between 2005 and 2010. Ratio-to-moving average method was used to measure the degree of the seasonal variation in a time series. The original data values in the time-series were expressed as percentages of moving averages. Results were analyzed on the basis of seasonal subseries plot.

Results: The seasonally adjusted average for culture positive gonorrhea cases was highest in the second quarter (91.88%) followed by third quarter (77.50%) while a trough was observed in the first (68.62%) and last quarter (46.34%) on the basis of ratio-to-moving average method The second quarter peak was representative of the summer vacations (April to June) in schools and colleges with increased sexual activity and partner change. It may also be due to the increased attendance of patients to the hospitals in the holidays. Moreover, April is the harvesting month followed by celebrations and social gatherings. A trough in the first and last quarter seemed to be an expression of festival season (October and November) and winter in India leading to less patients reporting to the hospital.

Conclusion: This study determining potential risk factors for seasonality in gonorrhea suggests the need to schedule more aggressive preventive public health strategies such as pre-emptive school sexual health promotion programs prior to the times of high risk for effective gonorrhoea control.

Disclosure of Interest Statement: Apex Regional STD Teaching, Training & Research Centre is **funded by the** Safdarjung Hospital, New Delhi. **No pharmaceutical grants** were received in the development of this study.

POSTER NO: 164

RURAL YOUNG MEN'S ACCESS TO SEXUAL HEALTH SERVICES -HEGEMONIC MASCULINITY NOT TO BE BLAMED!

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Introduction: This study explores the influence of hegemonic masculinity in determining young men's access to sexual health services and also identifies the extent to which the construct of masculinity is recognised by the health system and service providers.

Methods: The Adolescent Masculinity Ideology in Relationships Scale (AMIRS) was used to measure hegemonic masculinity in young men (N=396), aged 16 to 25 years, living, studying and working in rural Australia. Eleven semi-structured key informant interviews were also conducted among health providers from rural and regional locations in Victoria.

Results: The study findings suggest that there is clear mismatch in the proportion of young men accessing general health services (49%) and those accessing sexual health services (18%) although a majority of the young men were at risk of getting infected with STIs (77%). Young men's construction of hegemonic masculinity (higher AMIRS mean score) was associated with their unwillingness to use general health services (<001), but not with STI check-ups (p = .367). Waiting times for STI tests and opening hours, lack of GP's advice, female only providers and a lack of referral networks in the rural health system were found to be significant barriers for STI check-up. Interestingly, protecting partner's health and recognition of STI symptoms were found to be facilitators for STI check-ups. The key informants perceived young men as invincible, strong and rebellious. They attributed young men risk behaviours and non use of health services to hegemonic masculinity.

Conclusion: My study suggests that there is no single factor that influences rural and regional young men's access to health, particularly sexual health services. Health services should acknowledge these multiple and inter-related factors to improve rural young men's access to sexual health services.

Disclosure of Interest Statement: The study is funded by the La Trobe University Post Graduate Research Scholarships

POSTER NO: 165

THE PARADOX OF LEGISLATION: RURAL YOUNG MEN AND SEXUAL HEALTH - A CHALLENGING AREA FOR ADVOCACY AND HEALTH EDUCATION IN AUSTRALIA

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Introduction: This is the first study in Australia which enquires about rural young men's awareness of state legislation related to sexual health including legal age of sex, consent to treatment, age of getting own Medicare card and legal age of purchasing alcohol.

Methods: An online survey was conducted among young men (N=396) aged 16 to 25 years from four regional TAFEs.

Results: The findings suggest that a large majority (79%) of the respondents were aware of, and could identify legal age of purchasing alcohol, but that knowledge did not restrict under aged young men from drinking alcohol since a similar proportion (73%) had drunk alcohol. A small proportion of participants were aware of the legal age for sexual activities (43%), age to give consent for medical treatment (26%) and right to confidentiality and privacy as adults (60%). A very negligible proportion of the participants were aware of the correct age to have own Medicare Card (1%). Conundrums in regard to the legal age of having sex were associated with age variation, gender differences, sexual identity, state regulations and requirement of parental consent. Participants who were unaware of the legal age of sexual partners in the previous year. Similarly participant's level of knowledge on their right to confidentiality and privacy and correct knowledge of having their own Medicare card with a lack of confidence to visit a health provider and whether they had ever had an STI check-up.

Conclusion: This study indicates that rural young men's awareness with regard to the legal age of purchasing alcohol and other legislations were inconsistent. The government needs to take appropriate advocacy strategies to improve awareness of the young men on these legal issues for successful implementation of sexual health programs.

Disclosure of Interest Statement: The study is funded by the La Trobe University Post Graduate Research Scholarships

POSTER NO: 166

MARRIN WEEJALI: TAKING SEXUAL HEALTH TO AN ABORIGINAL COMMUNITY-CONTROLLED CENTRE IN WESTERN SYDNEY

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Introduction: In Western Sydney, the Greater Mt Druitt area has an Aboriginal population which is higher than the proportion of Aboriginal people in NSW. It is widely known that Aboriginal and Torres Strait Islander people bear a disproportionate burden of morbidity from sexually transmitted infections (STIs) and blood borne viruses (BBVs). Access to health services for testing, treatment and support is one of the factors that contribute to these high rates of infections. Consistent with National and State STI/BBV strategies, the local Aboriginal Sexual Health Worker (ASHW) and sexual health clinical staff have aimed to increase Aboriginal community engagement with the publicly-funded sexual health clinics in Western Sydney.

Methods: A regular sexual health promotion and clinical outreach service was established at Marrin Weejali Cultural and Spiritual Healing Centre, Mt Druitt. Principles from the Cultural Respect Framework for Aboriginal and Torres Strait Islander Health were used as a guide in establishing outreach.

Results: Fortnightly outreach to Marrin Weejali is now in its third year. What began as a verbal agreement has been formalised with a Memorandum of Understanding (MOU) between the outreach partners. The sexual health outreach is now accepted as mainstream among other newer outreach health and non-health services (legal, financial, housing). While uptake of STI and BBV screening at outreach remains low, attendances at Mt Druitt Sexual Health Clinic by Aboriginal people have increased and been sustained. As well, the roles of the ASHW and Clinical Nurse Consultant are recognised and acknowledged by staff and community members.

Conclusion: Consistent and reliable sexual health outreach in an Aboriginal community setting can build rapport and gain trust of the community.

POSTER NO: 167

INCOME INEQUALITY AND NEISSERIA GONORRHOEAE NOTIFICATIONS: A COUNTRY-LEVEL ANALYSIS

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Background: Studies examining the aetiology of sexually transmitted infections and relevant health policy often focus on a limited set of risk behaviours and specific sub-populations thought to be at immediate risk of infection. Social determinants of STI epidemiology remain relatively unexplored. This study examines country-level STI notification data and potential associations with one such macro-level determinant, income inequality.

Methods: Member states of the Organisation for Economic Co-operation and Development (OECD) were selected if data relating to gonorrhoea notification rates, income inequality and gross domestic product (GDP) per capita were available. Income inequality was measured using the Gini coefficient. Where possible, data were obtained across multiple years in each country. Linear regression was used to measure the association between income inequality and gonorrhoea notification rates, adjusting for per capita GDP. Gonorrhoea notification data were log transformed for analysis.

Results: A total of 36 observations across 11 countries were available. Gini coefficients ranged from 0.211 in Sweden in 1995 to 0.38 in the United States in 2005. Gonorrhoea notification rates ranged from 0.7 per 100 000 females (Denmark, 2000) to 153 per 100 000 females (United States, 2000). There was a significant association between income inequality and gonorrhoea notification when adjusting for GDP (b = 27.59 (95%CI: 19.14, 36.03)), t = 7.28, p < 0.005). The model also explained a significant amount of the variation in gonorrhoea notification rates, $R^2 = 0.78$, p < 0.005. Unadjusted figures are similar (b = 26.60 (95%CI: 18.59, 34.61), t = 7.40, p < 0.005; $R^2 = 0.77$, p < 0.005).

Conclusion: Having identified an association between income inequality and gonorrhoea notification rates, the study contributes to a growing body of evidence relating income inequality to poor health outcomes, and highlights the importance of social determinants in shaping STI epidemics at a national level.

POSTER NO: 168

THE ADOLESCENT SEXUALITY EDUCATION PROJECT - A NORTHERN TERRITORY INNOVATION DESIGNED TO IMPROVE THE SEXUAL HEALTH OF YOUNG ABORIGINAL PEOPLE

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¹ Department of Health NT.

Introduction: The Adolescent Sexuality Education Project (ASEP) is a collaboration between the Department of Education and Training, the Department of Health and Central Australian Aboriginal Congress. The Northern Territory has the highest rates of both sexually transmitted infections and unplanned pregnancies in Australia, with remote young Aboriginal people particularly affected. Until recently sexuality education generally occurred in an ad hoc manner, during events including health days and community wide STI screening or provided by visiting health practitioners in schools. There is little evidence these programs are effective or sustainable. ASEP is designed to meet this need and we report implementation evaluation findings.

Methods: The project utilises community development practices to both implement sexuality education embedded in the school curriculum and address the needs of young people no longer at school. Evaluation to date consists of reviewing locally developed resources utilising international guidelines, and a formal evaluation of the implementation in schools and community settings.

Results: Review of the resources indicated a need to update them to reflect International best practice. Once completed approval was sought from an Aboriginal cultural consultant. An evaluation framework was developed and formal evaluation commenced. Currently 120 male and female sexuality educators have been trained encompassing 12 communities and schools.

Conclusion: The ASEP has shown evidence based sexuality education can be implemented in remote Aboriginal communities. This required investments spanning the community through to government. Identification of local insight and wisdom was essential in the design and delivery of education to gain sustainable outcomes. Utilising international guidelines and embedding monitoring and evaluation systems into sexuality education ensures program relevance and facilitates the transfer of lessons learnt into best practice.

POSTER NO: 169

IMPLEMENTING ONLINE CLINICAL SEXUAL HEALTH ORIENTATION IN THE NORTHERN TERRITORY - A STRATEGY DESIGNED TO MEET THE NEEDS OF A WORKFORCE IN A CONSTANT STATE OF CHANGE

Borenstein M¹

¹ Department of Health NT.

Introduction: High staff turn over remains challenging when delivering health services to remote Aboriginal communities. Clinical sexual health orientation is critical as STI rates amongst remote Aboriginal communities in the Northern Territory are the highest in Australia. Sexual health can become overlooked in an environment marked by chronic disease and acute emergency care. Online training can provide a realistic solution to the orientation needs of remote staff.

In late 2010 a working group was established by the Sexual Health Advisory Group to develop an online sexual health orientation package. The package was completed in 2012.

Methods: A face to face sexual health package had already been developed and was being delivered in the Northern Territory. Face to face training was developed on the basis of information gathered through a survey undertaken with remote stakeholders. Rather than duplicating the survey the online package was developed on the basis of the findings already identified by the survey.

Results: Survey findings indicated that 64% of remote clinicians believed they needed further training to gain confidence to discuss sexual health with clients. Additionally 94% indicated they would undertake training if it were made available to them. Preliminary findings indicate a high level of accessibility and acceptability for online clinical sexual health training.

Conclusion: Online orientation can be utilised as an effective training platform. Lessons learnt from traditional face to face training and stakeholder consultation can be adapted to suit the online environment. Embedding monitoring and evaluation systems into online training remains critical to ensure the transfer of lessons learnt into best practice.

CAN WE INCREASE ROUTINE TESTING FOR CHLAMYDIA WITHIN THE GENERAL PRACTICE SETTING?

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Introduction: Due to low chlamydia testing and high notification rates, a rural Division of General Practice in the Hunter New England Local Health District (HNELHD) was identified for a youth chlamydia in General Practice audit.

Methods: A needs assessment was used as a recruitment tool and determined current GP chlamydia care practices. Pre-audit phase involved GPs reviewing the HNELHD chlamydia policy statement, completing a learning needs assessment, and practice staff receiving audit training. Phase one was completed for five consecutive practice sessions, with the total number of attending young people 16-24 years and the number of related chlamydia tests recorded. Practice staff routinely provided all young people with a chlamydia checklist, which was then provided to the GP as a prompt for testing and preventive advice. During the intervention phase, all participating GPs attended advanced sexual health training and received individual feedback from phase one. Phase two followed the exact same format as phase one, with individual comparative feedback provided upon completion.

Results: Thirteen GPs were recruited to participate in the clinical audit from three locations within the Division. Chlamydia testing rates of 16-24 year old patients increased by 19% from phase one to phase two, and the provision of preventive advice to young people increased by 10%. Overall 119 young people were tested for chlamydia and 160 were provided with sexual health preventive advice. In addition to this 100% of participating GPs increased their awareness of routine sexual health care and 88% found this activity relevant to their practice.

Conclusion: This project shows that the youth chlamydia audit is an effective tool to increase the sexual health knowledge and chlamydia testing rates of GPs, through education, self-reflection and individualised feedback.

POSTER NO: 171 'CARING FOR OUR GENERATION' TALKING ABOUT STI/HIV CONTACT TRACING WITH NSW ABORIGINAL COMMUNITIES

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Introduction: A Burnet Institute review entitled 'Partner Notification of Sexually Transmitted Infections in NSW: an informed literature review' found little is known about sexually transmitted infection (STI) contact tracing issues for NSW Aboriginal people. Improved contact tracing may be one method of reducing the impact of STIs on the Aboriginal communities in NSW. The NSW STI Programs Unit commissioned Burnet Institute to undertake a supplemental report on STI/HIV Contact Tracing within Aboriginal communities with funding from the Ministry of Health.

Method: The initial contact tracing literature review was revaluated for relevant general documents, and updated for any more publications. An additional literature review was conducted specifically focussing on contact tracing amongst Australian Aboriginal communities. Interviews were conducted with approximately 45 key informants (KI).

Results: There is a need to ensure awareness of contact tracing obligations, methods and resources in GP clinics, Family Planning clinics, maternity services and emergency departments, particularly in areas of NSW where there are higher proportions of Aboriginal people. In GP and community health settings outside of sexual health clinics and Aboriginal controlled community health centres (ACCHS), patient referral is the most common form of contact tracing. ACCHS and sexual health clinicians in some communities often do not involve Aboriginal STI, HIV and Hepatitis Workers (ASHHW) in provider referral. Patient Delivered Partner Therapy (PDPT) may be used by some experienced clinicians however caution may be required in using PDPT for chlamydia in areas of NSW where rates of heterosexually acquired gonorrhoea amongst Aboriginal communities are higher.

Conclusion: Eight recommendations for improving contact tracing amongst Aboriginal communities are outlined. These focus on improving awareness of clinician roles, particularly in areas where there are high proportions of Aboriginal people in the population, whilst encouraging normalisation of sexual health issues and community education via the ACCHS and ASHHW network.

POSTER NO: 172 IMPROVING GENERAL PRACTICE AWARENESS OF CONTACT TRACING: THE STAMP OF APPROVAL

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Introduction: The New South Wales (NSW) Contact Tracing Working Group focused on improving Sexually Transmitted Infections (STI) contact tracing within General Practice. As many doctors were unaware of their responsibilities about contact tracing and identified barriers to undertaking contact tracing as a lack of written guidelines, skills and experience, priority was given to developing and disseminating a clinical tool on how to contact trace.

Method: The tool was developed based on the current Australasian Contact Tracing Manual and the findings of a literature review. Support by the Chief Health Officer (CHO) was identified as a strategy to increase the profile of the campaign, over and above usual methods of dissemination. A letter from the NSW CHO was sent by fax to 7309 General Practitioners outlining their responsibilities around STI contact tracing and offering free online resources. A hard copy of the Contact Tracing Tool for General Practice was offered via a fax-back form.

Results: Within 10 weeks of receiving the letter 1036 faxed requests for 3791 STI Contact Tracing Tools were received - a 14% response rate with an average of 2.6 copies requested. The marketing industry standard for direct marketing campaigns is 0.2-0.5% response rate.

The proportion of requests broken down by Local Health District (LHD) shows Hunter New England has the highest proportion at 13.7% followed by Northern Sydney (12.7%), South Eastern Sydney (11.2%), South Western Sydney (10.6%) and Western Sydney (10.6%). The remaining LHD had responses below 10%. The lowest proportion of responses was the Far West at 0.3%.

Conclusion: The initiative achieved a high response rate supporting endorsement by CHO as a useful strategy when delivering key health messages to general practice.

POSTER NO: 173 MONEY IN COMMERCIAL SEX: GENEROSITY OR ENTITLEMENT?

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Introduction: The aim of this qualitative study was to explore the experiences of long-term clients of commercial sex services in Australia. This paper specifically examines the multiple roles and meanings of money in commercial sex. Previous studies have addressed money mainly as an enabler of male sexual entitlement or as an indicator of men's sexual compulsive behaviours.

Methods: The study was conducted online among men who had purchased sex about monthly for more than one year. Participants completed a semi-structured, anonymous questionnaire assessing their demographic characteristics and practices of buying sex. Guided by open questions, participants then narrated how buying sex affected their sexual expression, what they considered to be positive/negative aspects of buying sex, and how buying sex affected them financially, emotionally and socially. Data were analysed using an interpretive phenomenological approach.

Results: Participants discussed paying money for sex more often than they discussed the sexual act procured per se. Money was important to appraise the value of sexual services and as a signifier of the commercial sexual contract. Participants described particular manners of paying and tipping that reinforced 'good client' etiquette and integrity, with some men framing payment as a romantic gesture and a mark of respect toward sex workers. Money could also be a controlling factor when funds were limited, which often caused feelings of guilt. Some participants compared the cost of commercial sex favourably to the cost of relationships.

Conclusion: The financial implications of buying sex were not solely negative. Money was seen as part of the construction of the sexual contract that was both limiting and boundary setting. Paying for sex was part of men's expression of gratitude and generosity to sex workers. Consumer entitlement to buy sex indicated the commercial nature of sex and emotional intimacy, even in situations where commercial sex was framed using romantic sexual scripts.

POSTER NO: 174

IMPROVING STI AWARENESS AND SERVICES IN EAST NEW BRITAIN

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Introduction: In 2007 the Burnet Institute established the East New Britain Sexual Health Improvement Program (ENBSHIP) as part of the broader PNG – Australia Sexual Health Program (PASHIP). Weakened health services, poor infrastructure, limited resources & low levels of health literacy combined to minimize access to diagnosis and treatment of sexually transmitted infections (STI) in the province. The ENBSHIP project works in collaboration with the Provincial Health Office to support provincial, district and community level initiatives to strengthen health services & expand community awareness & responses to STIs.

Methods: The project works at three levels:

Community engagement & awareness – At a community level, ENBSHIP works through community activators / stret tokers. These individuals are selected by their communities and trained to raise awareness of STIs and build a bridge between communities and health services.

Strengthening health services – this component supports health workers to deliver effective and user-friendly health care.

Improving coordination & management – project staff worked with provincial counterparts to provide training on a range of clinical & service management topics, to conduct supervisory visits, on-site coaching and mentoring.

Results: Overall the project has lead to increased levels of knowledge and awareness about STIs at a community level, which has lead to increased access to services.

Since 2008, 69 health care providers have been trained in syndromic management of STIs and the provision of user-friendly services; this has resulted in improved service delivery.

Finally there has been a gradual increase in the reported STI cases from 1048 (2007) to 3049 (2010) – reflecting improving health facility attendance and better reporting.

Conclusion: The ENBSHIP has helped to re focus attention to STI. Stakeholders have responded enthusiastically, and barriers between communities and health services have been reduced.

Disclosure of interest statement East New Britain Sexual Health Improvement Program is supported by the Burnet Institute are funded through AusAID. No pharmaceutical grants were received in the development of this program.

POSTER NO: 175

DEMOGRAPHIC, BEHAVIOURAL AND DIAGNOSTIC FREQUENCIES OF CONSECUTIVELY ATTENDING NEW CLIENTS OF A SHOPFRONT BASED OUTER SYDNEY METROPOLITAN SEXUAL HEALTH CLINIC

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BACKROUND: The Campbelltown region in south west Sydney has an estimated population of 250,000, and is one of the most rapidly developing areas in metropolitan Sydney with over 20% population growth in just 10 years. The region encompasses a range of marginalised communities with large Aboriginal, Youth and Inject Drug User population. South west Sydney is also home to the largest refugee and newly arrived populations in Australia. There are significant pockets of disadvantage in the Campbelltown region. In 2006, Campbelltown qualified as the 5th lowest socio-economic status region in the NSW according to the SEIFA index.

The Campbelltown SHC became an established stand alone service in 2010, originating from an outreach clinic of Liverpool Sexual Health that commenced in 1994. The establishment of the clinic aimed to enhance the population screening and management of sexually transmitted infections and promote good sexual health in the region. The service design was based on the principles and guidelines of Australian, state and local strategies and reports.

Method: An analysis of the SHIP database was conducted to describe the demographic and behavioural characteristics of new attendees to this shopfront –style outer metropolitan sexual health clinic.

Results: There were 302 new clients attending the service between January 2010 and March 2012, 164 (54%) male and 138 (46%) female.

Data on age-group, aboriginality, ethnicity, sexual identity, drug and alcohol behaviours and referral source will be presented. There will be discussion around health promotion initiatives and what impact was made regarding attendance by new clients.

Conclusion: Community-based sexual health clinics in partnership with health promotion units are well placed to meet the sexual health needs of marginalised populations. Improved evaluation and monitoring of client database will be important to ensure resources are allocated to engaging and providing Sexually Transmissible Infections (STI) testing and care for most at risk disengaged populations.

POSTER NO: 176 BARRIERS TO AND DETERMINANTS OF HEALTH CARE SEEKING AMONG SEX WORKERS IN WA

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Background: The sex industry in Western Australia (WA) is relatively small when compared to those in the Eastern states of Australia, however WA spans a much larger geographical region by comparison. In addition to this, the diversity and transiency of sex workers and the criminalised setting of the industry presents unique challenges to reaching and engaging sex workers and creates particular barriers to service delivery.

Methods: To inform policy and practice regarding service delivery, we consulted sex workers from a variety of backgrounds working in WA through in-depth interviews and a self-administered survey. Questions were asked about what they sought from health care services, their health seeking behaviour, perceived gaps in service provision and suggested improvements.

Results: A total of 75 sex workers from varying backgrounds and levels of experience participated. These sex workers reported a need, at all stages of their career, for current, accurate information and support provided in a non-judgemental way by peer workers at a time relevant to them. Other particular services should be provided by individuals experienced in working with sex workers. Broadly, the gaps identified were around service resourcing, including outreach to remote areas, lack of peer education and other input from sex workers and methods of service delivery. Their suggested improvements included law reform, addressing stigma and engaging peer workers to reach specific sex worker groups.

Conclusion: Understanding the varied needs of specific sex worker communities within a local context is crucial for adapting targeted services to meet these needs. Community stigma and the criminalised nature of the industry in WA impacts on the ability of sex workers to disclose or seek advice when needed. The health and wellbeing of sex workers can be improved by increased sex worker involvement and an enabling environment.

POSTER NO: 177

DO CALLERS TO THE NSW SEXUAL HEALTH INFOLINE ATTEND THE SERVICES THEY ARE REFERRED TO?

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Backround: Confidential helplines have limited evidence that measures the success of referrals. We sought to determine the outcomes of referral processes and barriers for callers in accessing services for testing for sexually transmitted infections (STI).
Method: Callers who were referred to public funded sexual health services (PFSHS) and/or a General Practitioners (GP) for STI/HIV testing were called back in 1 week by a nurse who conducted a telephone interview.

Results: A total of 474/1199 (40%) people who called the service were referred for STI testing between 3rd January and 31st March 2012. Of these, 190 (40%) consented to be in the study. 120 (65%) were successfully called back in 1 week.

Of those called back, 81 (66%) were male, 100 (81%) resided in metropolitan NSW and the average age was 32 years (range 16 - 68 years). The majority of callers were heterosexual 51 (42%) men and 31 (25%) were men who had sex with men (MSM). Only 8 (6.5%) callers did not belong to a STI priority group.

The only significant differences between those we contacted compared with those who we were unable to contact were mean age (32 vs 28, respectively p=0.009) and more non-MSM were unable to be contacted compared with MSM (41% vs 20.5% respectively, p=0.016).

One hundred and two (85%) callers attended or booked services for STI/HIV testing. Eighteen (15%) callers did not attend. There were no statistical differences in attendance related to age, gender, Aboriginality, location, sexual orientation, STI symptoms or STI priority. Disclosed barriers included service closure, appointment refusal and personal constraints.

Conclusion: This is the first Australian study to demonstrate the outcome of referrals made by nurses on a sexual health helpline. Most callers attended services for STI testing. High STI priority callers may benefit from follow up.

Disclosure of Interest Statement: none

POSTER NO: 178 GENDER ISSUES IN PREPAREDNESS FOR HIV VACCINE IN SOUTHWESTERN NIGERIA

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Background: Gender role in the acceptance and utilization of the Human Immunodeficiency Virus (HIV) vaccine, a promising intervention to reduce the scourge of HIV transmission in Nigeria where over 3 million persons are already infected is obscured. This paper examines how gender influences the acceptance and utilization of HIV vaccine among the Ife-Yoruba of southwestern Nigeria.

Methodology: A cross-sectional survey was conducted in two Local Government Areas (LGAs) in Osun State, namely lfe Central and Ife North LGAs, in the southwestern Nigeria inhabited predominantly by the Ife-Yoruba ethnic group. Five hundred (500) respondents were selected through multi stage sampling technique. The SPSS version 16.0 was used for data analysis.

Results: One third of the respondents 30.0% were aware of HIV vaccine. More respondents in the rural (58.0%) than urban (41.0%) LGAs were aware of HIV vaccine. Also, awareness was higher among youths aged 21-30 years (43.0%) than those older than 30 years, secondary (50.1%) than primary education, skilled (67.8%) than unskilled workers (38.8%) and Christianity (83.4%) than Islam (15.9%) and Traditional religion (0.4%). More males (83.0%) would permit their spouses to use HIV vaccine than those

who would not (27.00%). More women (72.2%) were willing to use the vaccine than those who would not (27.8%) There was no significant association between women participation in property sharing (a demonstration of power sharing) and their intention to use HIV vaccine (P>0.05).

Conclusion: Gender relation would not constitute a threat to the acceptance and use of HIV vaccine.

Disclosure of Interest Statement: We declare that this study was conducted by us. We acknowledge the assistance of Mrs Peju Esemai who assisted in the data collection. We do not have any conflict of interest regarding this study.

POSTER NO: 179

THE RECORDING OF ABORIGINAL AND/OR TORRES STRAIT ISLANDER STATUS AMONG GPS IN REGIONAL AREAS: IMPLICATIONS FOR CHLAMYDIA NOTIFICATIONS IN AUSTRALIA

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Introduction: Recording of the Aboriginal and TSI status of patients attending general practice clinics is recommended by the RACGP to ensure optimal health care. The information also ensures surveillance data are accurate. As part of the ACCEPt study which assesses acceptability and feasibility of screening for Chlamydia in general practice, we assessed how often general practitioners (GPs) ask and record their patients' Aboriginal and/or TSI status and the prevalence of chlamydia in young Aboriginal and/or TSI patients.

Methods: Our study involved 86 GP clinics located in regional towns in NSW, QLD, Victoria and SA participating in the ACCEPt trial. At each clinic we undertook: (1) a survey of GPs; and (2) a Chlamydia prevalence survey of consecutive patients aged 16-29 years attending these clinics which asked their and Aboriginal and/or TSI status. We excluded towns with an Aboriginal Community Controlled Health Service.

Results: The survey was completed by 404 GPs; the majority (86%) stated they *never* or *sometimes* asked patients their Aboriginal and/or TSI status and 64% reported the proportion of Aboriginal and/or TSI patients in their clinics was <1%. The survey demonstrated that 4.5% of 3100 participants were Aboriginal and/or TSI. Of the Aboriginal and/or TSI participants, the Chlamydia prevalence was 5.3% (95%Cl:2.2-10.6%); 5.4% in males (95%Cl:0.7-18.2%) and 5.3% in females (95%Cl:1.7-11.9%); and highest in 15-19 year olds (8.8%), 81% had visited that GP or clinic before, and the majority (94%) of these within the last 12 months.

Conclusion: There is a wide disparity between the perceived number of young Aboriginal and/or TSI people being served by regional GPs and the actual number. Incomplete recording of Indigenous status could lead to underreporting of Chlamydia notifications in Aboriginal and/or TSI people. Strategies should encourage regional GPs to assess and record Aboriginal and/or TSI status as part of routine health care.

POSTER NO: 180

WHAT SEXUALITY TOPICS DO STUDENTS INDICATE ARE RELEVANT? TOPIC RELEVANCE REPORTED BY SECONDARY SCHOOL STUDENTS IN REGIONAL VICTORIA.

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- ³ Family Planning Victoria

Introduction: Sexual education is an essential health promotion curriculum area, advocating holistic well-being principles for young people. The current inconsistencies between the breadth and depth of sexuality education topics covered in regional Victorian secondary schools raises concerns for the effectiveness of school-based programmes. The level of topic relevance that secondary school students have with sexual education topics is poorly understood. Currently topic relevance is often determined by stakeholders other that students and thus does not meet the needs of the target audience. Topic relevance should consider the stage of adolescence, be developmentally appropriate and provide sufficient detail to enhance the learning opportunities for the target audience.

Methods: Using purposive sampling techniques, year 7 (n=47), 8 (n=31) and 9 (n=22) students from two government Victorian schools were involved in a mixed-method (quantitative and qualitative) study. Students were asked to self-report on level of relevance for 25 topics in 6 key areas: Puberty, Reproduction, Sex and Risk, Sex and Society, Sex and the Body and Sex and Relationships.

Results: Key findings include the following: <u>Puberty</u>: Year 7 and 9 females (F) reported high levels of relevance familiarity with topics such as social and emotional changes at puberty. Year 9 males (M) report high relevance about erections and ejaculations. <u>Reproduction</u>: Year 9 F report low relevance of teenage pregnancy. <u>Sex and Society</u>: Year 9 F report low relevance in topics such as gender role. <u>Sex and Relationships</u>: Year 7 F report high relevance in abstinence information, however this rapidly declines for the year 9 F cohort.

Conclusion: The relevance of topics often relates to the lived experiences of students, their social and cultural surroundings and gender specific consequences. This research supports the inclusive nature of a variety of key topics within sexual health education within school-based curriculum context. No disclosure of interest.

POSTER NO: 181

WHAT SEXUALITY TOPICS DO STUDENTS INDICATE THAT THEY ARE FAMILIAR WITH? TOPIC FAMILIARITY REPORTED BY SECONDARY SCHOOL STUDENTS IN REGIONAL VICTORIA

Fotinatos N1, Burke J2, Smith A1, Duffy B3

¹ University of Ballarat (School of Health Sciences)

² University of Ballarat (School of Education and Arts)

³ Family Planning Victoria

Introduction: Sexual education is an essential health promotion curriculum area, advocating holistic well-being principles for young people. The current inconsistencies between the breadth and depth of sexuality education topics covered in regional Victorian secondary schools raises concerns for the effectiveness of school-based programmes. The level of familiarity that secondary school students have with sexual education topics is poorly understood.

Methods: Using purposive sampling techniques, year 7 (n=47), 8 (n=31) and 9 (n=22) students from two government Victorian schools were involved in a mixed-method (quantitative and qualitative) study. Students were asked to self-report on level of familiarity for 25 topics in 6 key areas: Puberty, Reproduction, Sex and Risk, Sex and Society, Sex and the Body and Sex and Relationships.

Results: Key findings include the following: Puberty: Year 7 and 8 females (F) and males (M) report high levels of familiarity with the physical changes related to puberty, however year 9 students (F & M) report a low familiarity with this topic. Reproduction: Year 8 M report low familiarity of basic ovulation. Sex and Risk: Year 7 and 9 F report low familiarity of sexually transmitted infections, while year 7 males report low familiarity with contraception. Sex and Society: Year 9 M report low familiarity with gender roles. Year 8 M's report low familiarity with sexual diversity. Sex and the Body: All cohorts report high levels of positive body image. Sex and Relationships: Year 9 F report low familiarity in the topic of abstinence.

Conclusion: This student focused approach is instrumental in highlighting both the positive areas of delivery by a range of secondary school audiences, but more importantly, areas which require improvement to help young adolescent students, positively construct key concepts regarding sexual education in this school-based curriculum context. No disclosure of interest.

POSTER NO: 182

THE WORLD IS NOT READY TO VACCINATE ADOLESCENT BOYS WITH HPV VACCINES! CROSS-CULTURAL AND SOCIO-BEHAVIOURAL LESSONS FROM THE IMPLEMENTATION OF THE GIRLS HPV VACCINE PROGRAM.

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Background: Sound arguments can be made for HPV vaccination of boys, but the world is underprepared for male vaccination. Implementation of female-focused HPV vaccine programs have proven complex and challenging. Disparate uptake rates, gendered public HPV education and vaccine programs, discounting cross cultural factors offer insights into the challenges for adolescent male HPV vaccination across diverse nations.

Methods: (a) A literature review of global HPV vaccination programs 2007 – 2012; (b) reults from an Australian cross-cultural study on parental and GP attitudes toward adolescent HPV vaccination. Participants for the qualitative semi-structured interviews were purposively selected: (i) parents of Anglo, Aboriginal, and Chinese descendency (n = 166) (ii) practicing GPs (n =15). Recruitment was through hospital clinics and related cultural networks.

Results: The literature shows limitations with 'cervical cancer vaccine' message framing and people's low awareness of HPV vaccine factors. Implementation strategies ignored findings from prior adolescent vaccine studies and the recommendations of peak bodies. The current gendered approach limits public awareness about the risks of persistent HPV infection to males and females, especially for oral-HPV related cancers. The qualitative study showed many parents would consent due to their emotional vulnerability toward cancer despite their concerns for the vaccine's relevance for young adolescents, especially boys. There was wide-spread dissatisfaction with the genderbiased HPV message framing. Parents and GPs had low levels of understanding about HPV vaccines, and held different attitudes toward age of vaccination based on their cultural normative values.

Conclusion: Thee introduction of boys HPV vaccination programs should not mimic that of girls. A socio-ecological approach to its implementation strategies accommodating transparent information will optimise delivery and uptake. To enable acceptance for adolescent boys being vaccinated intracultural diversity is fundamental to the development of public education strategies requiring increased resources, expanded time frames and differentiated public sexual discourses.

POSTER NO: 183

NO DRAMA: INCREASING HIV/STI KNOWLEDGE AND TESTING IN AUSTRALIAN GAY MEN THROUGH MASS MEDIA CAMPAIGN - WHAT WORKS?

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Introduction: Since 2000, notifications of HIV and other sexually transmissible infections (STIs) have increased significantly in Australian gay men. We quantitatively evaluated the impact of a national 'Drama Down under social marketing campaign in 2008-2009 aimed at increasing health-seeking behavior and STI testing and enhance HIV/STI knowledge in gay men. We also qualitatively examined gay men's impressions of the campaign to identify key what elements of the campaign appealed most to the gay men and contributed to impact.

Methods: Using a mixed-methods evaluation, we prospectively collected online survey data from 295 gay men and examined associations between recent STI testing and campaign awareness. Survey data was triangulated with routine HIV/STI surveillance data and trends in HIV/STI monthly tests at three clinics with a high case load of gay men were assessed. Poisson regressions and χ^2 tests were used. Focus group discussions with gay men (n=49) were analysed thematically.

Results: Campaign awareness was high among survey participants; unaided (43%) and aided (86%). In a multivariable regression, awareness of the campaign (aided) was independently associated with having had any STI test within the past six months (PR=1.5; 95%Cl=1.0 -2.4). Compared to the 13-months before the campaign, clinic data showed significant increases testing rates for HIV, syphilis and chlamydia among HIV-negative men during and after the campaign. Qualitative findings revealed that campaign style, language and broadcast schedule were perceived as crucial to campaign success. Participants believed these elements increased campaign reach and engagement and helped normalise sexual health testing.

Conclusion: Evaluation findings suggest the 'Drama Down under campaign was successful in achieving its aims of increasing health seeking behavior, STI testing and HIV/STI knowledge among gay men in Victoria and identified factors relevant to the success of future mass media sexual health campaigns targeting gay men.

Disclosure of Interest Statement: This project was funded by the Victorian Department of Health.

POSTER NO: 184

HOW KNOWLEDGEABLE ARE YOUNG MALAYSIANS ON CONTRACEPTION, AND DO THEY KNOW ENOUGH?

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Introduction: Little has been documented about Malaysian youths' knowledge on contraception, given that access to this service is limited to those who are already married. Although the social norm is for youngsters to maintain abstinence until marriage, some may already be sexually active, or about to be. Hence, this study aims to explore their general knowledge on contraception, and the use of selected contraception methods as pregnancy and/or disease prevention.

Methods: A cross-sectional survey was done in 2008 with 1706 university students aged 18-24, completing an anonymous 20-page self-administered questionnaire. Respondents were recruited from 8 faculties at 3 universities in the Klang Valley, Malaysia.

Results: Overall, respondents managed to correctly answer half of the 8 statements on contraception (median = 4.0, Inter quartile range_{25%-75%}=2.0 to 5.0). Of those statements, 70% of respondents had the most knowledge on condoms, and that it cannot be used more than once. In contrast, just under 25% knew about contraceptive pills, and that they would not work as well if the woman is sick. Condoms were found to be the most knowledge on this. However, only 9% knew about Depo-Provera injections. Regarding disease prevention, most knew that the withdrawal technique cannot protect from all STIs (59%), and a significantly lower number of respondents thought of practicing periodic abstinence (39%) and condoms (31%).

Conclusion: Many Malaysian youths have inaccurate and/or inadequate knowledge on contraception. There is an urgent need for policymakers and health professionals to develop better programs to educate them on disease and pregnancy prevention matters. The key element emerging from this research is the gap in contraception knowledge directly relevant to future studies for improving school-based sex education.

Disclosure of Interest Statement: This study was funded by the Ministry of Higher Education Malaysia (MOHE) under the *Fundamental Grant Research Scheme* (FRGS Grant Code: 221501080001), as part of a research project entitled "Sexual health and education: knowledge, attitudes, and behaviour of Malaysian adolescents".

This study also received funding from *Population Health Investing in Research Students' Training* (PHIRST), Melbourne School of Population Health and Key Centre for Women's *Health in Society (KCWHS) Research Funding Scheme*, The University of Melbourne.

POSTER NO: 185

ARE WE BEING PROPERLY EDUCATED ON SEXUAL HEALTH ISSUES? VOICES OF MALAYSIAN YOUTHS

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Introduction: Reproductive Health and Social Education (PEERS), a school-based sexual health education program, has existed in culturally-sensitive Malaysia since 1989 through the integration of subjects such as Science, Religious Education and Health Education. However, little has been documented about it, and the perceived needs of Malaysian youths for this program have not been well explored thus far.

Methods: Four focus group discussions were conducted in two universities in Malaysia, involving 11 female and 9 male students, aged 18 to 24. The main researcher moderated all the sessions in a bilingual environment, with participants constantly switching back and forth between Bahasa Malaysia and English language. The sessions were recorded, transcribed, translated into English and analyzed thematically.

Results: All participants had experienced PEERS while in school. Most have encountered difficulty when accessing useful information about sexual health and sexuality (medicalization of content, limited availability of information, and focus on science students). They were generally unsatisfied with the teaching approaches (exam-oriented, didactic approach and negative attitude of teachers) which caused unconstructive behaviors towards the learning about sexual health matters. Cultural constrains, lack of adequate training for teachers and poor school environment were thought to be the reasons why PEERS was ineffective for them. Although participants reported having mixed feelings with regards to incorporating topics with sexual themes in PEERS, all agreed that young Malaysians need to obtain this information from school, and the introduction must consider cultural and religious sensitivity.

Conclusion: This study demonstrated an urgent need for policymakers and health professionals to acknowledge existing problems in sexual health education program, and to develop better programs for educating youths on these matters. The key elements emerging from this research, such as information constraints and teachers' inability to properly educate are directly relevant to future studies for adult-led school based sex education programs.

Disclosure of Interest Statement: This study was funded by the Ministry of Higher Education Malaysia (MOHE) under the *Fundamental Grant Research Scheme* (FRGS Grant Code: 221501080001), as part of a research project entitled "Sexual health and education: attitudes, knowledge and behaviour of Malaysian adolescents".

This study also received funding from *Population Health Investing in Research Students' Training* (PHIRST), Melbourne School of Population Health and *Key Centre for Women's Health in Society (KCWHS) Research Funding Scheme*, The University of Melbourne

POSTER NO: 186

CONTRACEPTIVES AND SEXUAL PRACTICES AMONG UNIVERSITY STUDENTS IN BOTSWANA

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Background: Unplanned pregnancy constitudes an important health and social problem in Botswana especially among the youth. In Botswana, very limited information is available regarding contraceptive awareness and sexual practices among University students. Thus, the aim of this study is to investigate contraceptives awareness and sexual practices among university students in Botswana.

Methods: A descriptive cross-sectional study was conducted among 346 students who were randomly selected, completed confidential, anonymous, self administered questionnaires.

Results: The average age of respondents was 21 years (SD = 2.8 years), 68% were female and 82.4% stayed off campus. Male and female had similar contraceptive awareness as their mean scores were 8.79 and 8.72 respectively (p=0.733). All female students (100%) knew that contraceptives are not 100% effective as compared to 93.7%

male students. More females (90.6%) knew that using contraceptives irregularly will result in pregnancy as of male (76.4%). The most commonly known contraceptive **Method:** was condom (95.6%) followed by pill (86.7%). More than half (59.0%) of the students indicated that they had sexual intercourse and the mean age of sexual debut was 17 years. Significantly more male students (68.5%) had sex before compared to their counterparts (54.5%) (p=0.038). Majority of the students (76%) reported that they always use contraceptives.Amongst sexually active students, 19.2% indicated that they had multiple partners and the mean number of sexual partners was 1.66. There was no association between level of awareness and contraceptive use.

Conclusion: The level of awareness amongst students regarding contraception was good and as well as contraceptive use was high especially condom usage but students still engaging in risky sexual behaviour as they indicated to have multiple partners. There is a need to educate students about STIs, different contraception methods, and consequences on unprotected sexual behaviour.

POSTER NO: 187 UPTAKE OF PATIENT DELIVERED PARTNER THERAPY IN AUSTRALIAN FAMILY PLANNING CLINICS

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Background: Studies have demonstrated that patient-delivered-partner-therapy (PDPT) could play an important role in reducing chlamydia re-infections. Yet legislation specifically authorising PDPT has only been passed in one Australian state/territory. Data are lacking on PDPT practices and attitudes among Australian clinicians.

Methods: In May-June 2012, a cross-sectional, self-administered internet-based survey was conducted among clinicians working at Family Planning Organizations affiliated with Sexual Health and Family Planning Australia (SH&FPA).

Results: Of the 212 clinicians sent the online survey, 166 completed the questionnaire (78% response rate); 56% were nurses and 44% doctors. Of the participants, 30% reported offering PDPT'sometimes' to their patients with a chlamydia infection, only 6% usually'/'always'. A higher proportion of doctors (54%) offered PDPT than nurses (19%). PDPT was most frequently offered when the partner was either unlikely to attend for testing or treatment (95%), or the client requested it for their partner (90%). The most commonly reported perceived benefits of PDPT were that it increases uptake of partner treatment (87%), provides more timely partner treatment (84%) and protects clients against reinfection (73%). Clinicians reported concerns with PDPT, the most common being; missed opportunities for counselling the partner (79%), missed opportunities for contact (78%), partner may have another sexually transmissible infection not treated by the antibiotic (75%), potential for an allergic reaction (73%), partner of the client may not receive the treatment (72%), and legal status of PDPT (72%).

Conclusion: The survey found that a third of family planning clinicians offer PDPT sometimes to their patients, but the strategy is not used systematically. To increase the uptake of this strategy, it will be important to ensure that there is legislative clarity across all states and territories, supported by guidelines that take account of the best available evidence on benefits and risks of PDPT.

POSTER NO: 188

GEOGRAPHIC MAPPING OF FEMALE SEX WORKERS AND VENUE PROFILING IN URBAN AND RURAL DISTRICTS OF ZIGONG, SICHUAN, CHINA

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Introduction: The purpose of this study is to geographically enumerate the population size of female sex workers (FSWs) and venue profiling of key venues, and to reveal the key elements which are related to the high risk sexual behaviors among FSWs in urban and rural areas of Zigong city in Sichuan, China. The information obtained from this study will inform the design of appropriate public health policy and programs for effective HIV/STI intervention.

Methods: Geographic mapping data were collected by Sichuan University (SU) graduate students, who are supervised by SU project leaders and supported by local CDC outreach workers, through systematically identifying hidden key venues in the rural and urban districts of Zigong. Venue profiling data were collected by interviewing key informants (KI) about the details of sex work operation, such as type of venue, duration of operation, operation days and time, peak days and time, services provided at each venue, number of clients on an average day and a peak day.

Results: A total of 324 key venues were identified and marked on the map in Zigong. The number of massage parlor, teahouse and small hotel type venues was 108, 74 and 45, respectively, which accounting for 33.3%, 22.8% and 13.9% of total venues mapped. 112 venue KIs were interviewed and confirmed a total of 378 FSWs working in those 112 venues. The average number of FSWs per venue is 4. The age of the majority (80.4%) of FSWs was around 20 to 40 years old. The total estimated number of FSWs in Zigong is 1296. The sexual behaviors and operation patterns of key venues in urban and rural areas are different.

Discussion and Conclusion: This research is a comprehensive and systematic geographic and venue profiling study of key venues in urban and rural areas of Zigong city. The mapping and venue profiling data provided direct and visible understanding of the high risk spots, distribution of FSWs within those spots, and patterns of sex work operations. This information is essential for public health intervention planning and program implementation.

POSTER NO: 189

LET'S TALK ABOUT SEX: KNOWLEDGE, ATTITUDES AND PERCEPTIONS TOWARDS SEXUAL HEALTH AND SOURCES OF SEXUAL HEALTH INFORMATION AMONG NEW ZEALAND BORN NIUEAN ADOLESCENT FEMALES LIVING IN AUCKLAND

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Introduction: The aim of this research was to investigate the perceptions of sexual health among adolescent Niuean females who were born in New Zealand. The main objectives were to explore the sexual health behaviours of this group and sources of sexual health education and information among participants. In addition to the above, it was important to identify the barriers or gaps that prevent young Niuean women accessing appropriate sexual health education, information, treatment and health services.

Methods: Twenty participants who were female, of Niuean descent, New Zealand born, aged between 16-24 years and living in Auckland were interviewed for this

qualitative study. Each individual was interviewed face to face using a semi structured approach. Data was analysed using a general inductive approach.

Results: The study findings raised concerns around the lack of knowledge participants had towards contraceptive methods, sexually transmitted infections and sexual health services. A key finding of this study highlighted the important role Niuean women have, with mothers and sisters commonly identified as key educators in the transmission of sexual health information. There was a clear preference for the young women to use services that did not consist of Niuean health workers. Health professionals were regarded as knowledgeable in sexual health information and topics, which was essential for participants as they wanted to be informed with accurate information which some felt was compromised if friends or family members were used.

Conclusion: The findings of this research indicate that Niuean females – both mothers and sisters - play a central role in the dissemination of sexual health information. Health professionals who are not of Niuean descent have also been identified as a significant source of sexual health information. This calls on the need to ensure health professionals are open and opportunistic when discussing sexual health information with young Niuean women.

Disclosure of Interest Statement: Amio Matenga-Ikihele conducted this research as a Masters in Health Science student through the University of Auckland. This research was supported with funding by the Health Research Council of New Zealand.

POSTER NO: 190

"MORE VALIUM!!" PARTICIPANT FEEDBACK FROM A LONGITUDINAL STUDY OF ANAL CANCER SCREENING IN GAY MEN

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Introduction: Participation in trials involving clinical procedures may result in a degree of discomfort, pain and emotional stress that can affect retention or completion of study required tasks. Written feedback allows participants to review their experience in their words and in their own time. The Sydney-based SPANC Study examined anal cancer and its precursor lesions in a gay male cohort. We examined written feedback from men at progressive time points about their study experience.

Methods: SPANC participants were examined with High Resolution Anoscopy (HRA) and completed online surveys 2 weeks and 3 months after each visit. Feedback from visits at Baseline, 6-months and 12 months was examined and collated into 4 categories for analysis: neutral, positive, negative and nil feedback.

Results: By June 2012 235 participants had made 430 clinic visits and submitted 640 online surveys (average completion rate 91%) containing 262 usable feedback responses. Of these, 23% were neutral comments, while 37% (96/262) were positive and 40% (106/262) negative. From an initial higher rate of negative feedback at Baseline, rates of positive and negative feedback remained essentially the same during follow-up, while rates of neutral or nil responses increased. Rates of retention and compliance with interim study tasks were similar across men who gave either positive or negative feedback; but importantly, men who offered no feedback displayed less compliance with study tasks, suggesting a tendency toward early disengagement from the Study.

Conclusion: We examined and present feedback from men participating in an anal cancer screening study and the relationship between their feedback and study

retention and compliance. Preliminary data suggests that positive or negative feedback is not a predictor of remaining engaged with the Study, whereas the absence of feedback may predict withdrawal. This may assist in targeting retention strategies for men who may otherwise exit the study prematurely.

POSTER NO: 191 THE MEDIA DO A BETTER JOB OF SEX EDUCATION THAN PARENTS OR SCHOOLS IN QUEENSLAND

McKee, A¹, Watson, A¹

Introduction: The research aimed to find out what information about sexuality young people receive from parents, schools, media and friends and how these sources of information interact.

Methods: Seventeen focus groups with seventy-six young people between the ages of 14-16.

Results: Young people have good levels of knowledge about safe sex but choose not to implement it. From schools and parents they learn that sex should not be spoken about, and they take this approach to their own sexual practices, saying that planning for sex spoils it. Parents and school also give the message that young people should not be interested in sex, and so young people see it as better to have sex accidentally rather than to plan for it. Friendship interactions work to manage their interest in sex – if girls plan to have sex they are called'sluts' by their friends. For the vast majority of young people the media are the only place where they are reassured that sex can be pleasurable, and that it is OK for them to feel this way. The small number of young people whose parents talked openly to them about sex said they would talk to their parents before having any sexual encounter. The majority of young people said they consciously keep partners and experimentation secret from parents because they were scared of their reactions.

Conclusion: The mismatch between safe sex information and everyday practice for young people might be bridged by parents and schools creating an atmosphere in which talking about sex – including sexual pleasure – is seen to be acceptable. Counterintuitively, the entertainment media illustrate best practice for this.

Disclosure of Interest Statement: This research was funded by a National and International Research Alliances Program grant from the Queensland Government.

POSTER NO: 192

MALE INVOLVEMENT IN REPRODUCTIVE, MATERNAL AND CHILD HEALTH IN EAST NEW BRITAIN, PAPUA NEW GUINEA: FINDINGS AND IMPLICATIONS FOR PRACTICE

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Introduction: Women are at risk of infection with HIV and other STIs during pregnancy and breastfeeding. In PNG, a number of complex factors interact to enhance this vulnerability. Involving expectant fathers in maternal and newborn health (MNH) may reduce their partner's vulnerability to HIV/STIs. While PNG policies support this approach, there is limited understanding of how to achieve it in practice.

This research aimed to explore the factors that contribute to HIV/STI vulnerability among pregnant women, and factors that influence greater male involvement with MNH services in East New Britain.

Methods: We conducted a total of 14 focus group discussions with pregnant women, expectant fathers, older men and older women. Ten in-depth interviews were performed with health workers and staff within the Provincial Administration.

Results: Misconceptions about safety of sex during pregnancy often lead to couples being sexually abstinent for long periods. This may contribute to the likelihood of either partner seeking sex outside marriage, and enhance a pregnant woman's risk of contracting HIV/STIs.

Expectant fathers are concerned for the health of their wife and baby during pregnancy. They are eager to access information about pregnancy, childbirth and care of the baby. Protecting their family is viewed as an important role for men.

Male involvement in care of the mother and baby through health facilities is rare and attitudes towards this are mixed. Barriers to male involvement include custom, shame and embarrassment, and health service factors. Various community channels for reaching expectant fathers were suggested.

Conclusion: These findings have important implications for health education in the pregnant and post-partum period, and improving men's involvement with MNH services in ENB province. Traditional institutions such as the church or Tumbuan society might be another appropriate way to reach men with pregnancy related information.

POSTER NO: 193

INCREASING ACCESS TO AND UPTAKE OF HIV TESTING, COUNSELING AND PMTCT SERVICES AMONG WOMEN IN PURDAH IN RESOURCE-LIMITED SETTINGS OF NORTH EAST NIGERIA

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Background: Women in purdah – the seclusion of *women* from public observation by using a veil and limiting movement – are segregated physically from men and only participate in limited activities outside their home. More than 75% of women who don't access HIV/AIDS services are in purdah or have husbands who restrict their movement. This separation limits access to knowledge about HIV status, and increases prevalence of undetected HIV among women in Muslim dominated areas of northern Nigeria.

Methods: In February 2010, Management Sciences for Health, with funding from USAID, conducted baseline study on women's and men's access to HIV/AIDS services in two local-government run health facilities from March 2010-December 2011. Community, religious and traditional leaders conducted community mobilization and sensitization to encourage male-involvement in couple HTC. Vouchers and escort services were used for making referrals from the leaders to facilities for HIV testing, with the goals of increasing: access to HTC and PMTCT services; and partners testing. Use of services was monitored monthly and yearly using daily service registers and referral records.

Results: Five (5) couples averagely accessed facilities monthly before intervention. Post intervention figures after third and twelve months increased uptake to 32 and 77 couples respectively. In the two facilities, more couples accessed services in May, August and December due to increased sexual activity during festivals and holidays. GH Michika has higher uptake. At the end of year two, more than 1000 intending or married couples had accessed both HTC and PMTCT services.

Conclusion: Advocacy and community mobilization are important tools in HTC. They increase knowledge of and access to PMTCT services among women in purdah when supported by men. To increase PMTCT uptake, government, donors and NGOs should expand efforts in advocacy and community mobilization and engage more men.

Disclosure of Interest Statement: This abstract is presented in its original form and does not have any potential conflict of interest. It can be publish in any publications.

POSTER NO: 194

EXPERIENCES AND CHALLENGES OF A NOVEL TRACKING APPROACH TO ENHANCE CLIENT RETENTION IN RURAL HIV CLINICS OF NORTH EAST NIGERIA

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Background: Poor-retention of patients enrolled in care remains a major obstacle to successful HIV management in developing nations. Identifying innovative approach for improving client-retention is critical to the long-term sustainability of treatment efforts in resource-limited settings. We describe the impact of a novel tracking approach to enhance client-retention in rural HIV clinics of North East Nigeria.

Method: Since August 2008, ProACT, a Management Sciences for Health USAID project funded provides HIV services in five rural clinics in Adamawa state, north East Nigeria. A tracking approach was developed in response to high loss-to-follow-up as quality audit in March 2010 indicated that 380 patients out of 2350 enrolled were lost-to-follow-up. Lost-to-follow-up was defined as not keeping to clinic appointment for more than three months from the last scheduled visit. To address this, (i) mapping of all clients by residence, (ii) phase tracking activity to begin with nearby locations for convenience (iii) start tracking after the first missed appointment rather than waiting till lost-to-follow-up and (iv) community mobilization to conduct tracking using the facility staff and volunteers working on HIV/AIDS activities.

Results: Out of 185 patients tracked in the first phase, 102 (55%) were successfully located and re-established in care. Thirty-four (24%) could not be located due to lack of street addresses and 10 (5.4%) had self-transferred to other treatment sites due to far distance to the clinic. Fourteen (7.6%) denied their status because of self-stigma, 19 (10.3%) patients were confirmed dead, while 13 (7%) tracked are still expected.

Conclusion: Three major challenges were identified which leads to lack of continuity in patient-facility and patient-provider relationships; far distance of clinic sites, lack of street addresses and clients' self-stigma. Development of a community-based HIV education and support program with decentralization of services to hard-to-reach communities may improve clients-retention in HIV management in developing nations.

POSTER NO: 195

ROUTINE GONORRHEA AND CHLAMYDIA PARTNER NOTIFICATION: IS IT FEASIBLE IN HIGH MORBIDITY SYPHILIS STATES? A STUDY FROM LOUISIANA, USA

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Introduction: Partner notification is considered a cornerstone of sexually transmitted disease (STD) control and prevention. As it is highly resource intensive, most STD control programs focus their partner notification resources on syphilis cases only.

Louisiana ranked 2nd among all states in USA for gonorrhea and 3rd for chlamydia in both 2009 and 2010. Despite the high incidence of gonorrhea and chlamydia, partner notification for these two STDs has not been adopted as a routine. Therefore, introduction of partner notification by cost saving means for gonorrhea and chlamydia should be helpful in detecting additional cases at a relatively low cost with potentially high cost-savings for the society as a whole.

Methods: Gonorrhea and chlamydia cases detected at two STD clinics were selected for partner notification via telephone & letters. Three trained telephone interviewers made up to seven attempts to contact and interview the index cases for eliciting sex partners and obtaining detailed information on the partners.

Results: From July 2010 to March 2011, 1053 gonorrhea and chlamydia cases were detected at New Orleans and Shreveport STD clinics.475 cases (45.1%) were interviewed. A total of 169 partners were elicited. 67 partners (39.6%) sought medical evaluation.55 partners (32.6%) were infected and treated, 3 partners (1.8%) received preventive treatment and 9 partners (5.3%) were confirmed as not infected.

Conclusion: Our study shows that partner elicitation and notification for gonorrhea and chlamydia cases via telephone can be an effective mechanism in high morbidity STD areas. In our pilot testing, 100 patients provided information on additional 36 contacts and 100 index cases lead to treatment of additional 12 cases. Treatment of these 12 cases and preventive treatment of additional cases should have significant impact on overall prevalence of the diseases if the program is adopted at the state level, especially in the high morbidity STD states.

Disclosure of Interest Statement: This study was conducted by a grant from Robert Wood Johnson Foundation (Grant ID # 67618)

POSTER NO: 196

IMPACT OF EXPOSURE TO AN HIV PREVENTION PROGRAM ON CONDOM BREAKAGE AMONG FEMALE SEX WORKERS IN KARNATAKA, SOUTH INDIA

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Introduction: Condom breakage is an important risk factor for STIs and HIV infection, and studies suggest that condom breakage among female sex workers (FSWs) is common. We evaluated the impact of program exposure on condom breakage among FSWs in Karnataka, in the context of the India AIDS initiative of the Bill & Melinda Gates Foundation.

Methods: We used data from a survey undertaken between July 2008 and February 2009 in four districts of Karnataka. First, a composite index was constructed from seven distinct variables, like peer educator contacted, condom given, visited clinic or drop-in-centre run by partner organization (NGO), registered with NGO, attended meetings oragnised by NGO and member of self-help group formed by NGO, indicating intensity of programme exposure through principal component analysis, and FSWs were categorized into highly exposed and not highly exposed to the programme. Through propensity score matching (PSM), this index was utilized t to measure the impact of program exposure on condom breakage in the last month. PSM created a counterfactual control group to allow an estimation of the average exposure effect on condom breakage.

Results: Of the 1928 FSWs, 11.4% reported at least one condom breakage in the previous month. The composite index indicated that 38.1% of FSWs were highly exposed to the programme. The PSM analysis showed that higher program exposure was likely to reduce condom breakage by 4.6 percentage points (95%Cl: 1.6-7.6, p=0.002). FSWs who were not highly exposed to the program were 1.6 times more likely to experience condom breakage than if they had been highly exposed to the program (95%Cl: 1.1-2.3).

Conclusion: Higher exposure to the HIV prevention program reduced condom breakage among FSWs, thereby reducing the likelihood of acquiring HIV infection and other STIs.

POSTER NO: 197

THE IMPACT OF KNOWING HIV STATUS ON THE SEXUAL BEHAVIOUR OF PEOPLE WHO INJECT DRUGS IN INDONESIA, 2012

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HIV Cooperation Program for Indonesia, GRM International and Burnet Institute¹

Background: Improved voluntary counseling and testing (VCT) provided by health services in Indonesia, combined with referrals from NGO outreach workers, 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 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 supported by the HIV Cooperation Program for Indonesia was analyzed to see if those who knew their HIV status had safer sexual behaviour.

Results: The 2012 behaviour survey found that 69% of 4,554 participants had received VCT results. Condom use was better in those who tested positive: 34% of 977 participants *always used condoms with regular partners* compared to 11% of the 422 participants who were HIV negative. Of those who had casual sexual partners in the last year, 34% of 302 HIV positive participants always used condoms compared to 30% of the 442 HIV negative participants in the last year.

Conclusion: 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. 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 NO: 198

RAPID BEHAVIORAL SURVEY AMONG FEMALE SEX WORKERS, 2010

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Introduction: The Rapid Behavioral Survey (RBS) examined the performance of HIV program response among female sex workers (FSW). This survey is to obtain description of FSWs characteristics, access to program, and their behavior on using condom.

RBS is one of efforts to increase district capacity providing updated evaluative data. The district has limited data update, although the country conducts Integrated Behavioral and Biological Survey (IBBS) every two year. IBBS results usually disseminate one year after the survey conducted.

Methods: A community based survey was conducted at 10 selected districts, where number of FSWs is high. These districts lie in Sumatera, Java, Bali, Sulawesi, and Papua

Island. Two stage sampling was developed to select (minimum) 210 respondents per district. If number of FSW is less than 210, then all FSW should be selected. The data collected through interview and biological test.

Results: There were 2,542 respondents participating. The average of their age is 30 year and working as FSW for 28 month. Most of them (53%) only attended elementary school.

FSW reached by field workers and exposed to information on how to use condom reaches 91%. Utilization of health services for sexual transmission infection (STI) medication has not met its optimum level. There are 21% respondents who received STI injection from unauthorized health workers (namely *mantri keliling*) and 44% took non-prescribed antibiotic.

During last sex: 91% respondent reported condom was available, 83% offered condom to client, and 74% used condom.

The above figure declined for condom use during last week: 66% respondent are consistently offering condom, and only 41% respondents who consistently using condom.

Conclusion: The program coverage among FSWs has reached more than 80%. It still requires outreach quality improvement encourage FSW to access health services. The effectiveness of sexual transmission program needs improvement to ensure the consistently using condom among FSWs.

POSTER NO: 199

CHALLENGES FOR TRANSGENDER CONDOM USE WITH REGULAR PARTNER IN BALI, 2012

Soehoed R¹, <u>Rasyad Z</u>, Sofie², Blogg S¹ Affiliation: ¹HIV Cooperation Program for Indonesia, ² Gaya Dewata Bali

Background: Information from the Indonesian Ministry of Health 2011 Integrated Biological and Behavior Survey (IBBS) and the 2012 HIV Cooperation Program for Indonesia (HCPI) annual program participant survey were analyzed to evaluate the impact of an NGO program in Bali for transgender people.

Method: During three weeks in April 2012, all transgenders reached by NGO Gaya Dewata's program in Bali were invited to complete a self-administered questionnaire. Results from the 2011 IBBS were obtained from the Ministry of Health.

Result: The IBBS for transgenders in Indonesia found 22% HIV, 25% syphilis and 29% gonorrhea. Most (70%) transgenders used condoms for last casual sex with 36% always using condoms.

The 2012 annual behavior survey conducted among transgenders (mostly sex workers) reached by Gaya Dewata found that 38% reported a positive HIV test with 10% not reporting a result. Ninety-eight percent of respondents said condoms were easy to find. Eighty-three percent of 73 participants with regular partners used a condom at last insertive anal sex compared to 96% of 95 participants with casual partners. Eighty-one percent of 83 participants with a regular partner used a condom at last receptive anal sex compared to 96% of 106 participants with casual partners. Consistent condom use last year was reported by 67% of 81 participants with regular partners compared to 80% of 109 participants with casual partners. The number of casual partners in the last month ranged from 2-300 people (average 51).

Conclusion: Although the consistent use of condoms by transgenders in Bali is higher than that reported in the IBBS result, condom use needs to improve given the high prevalence of HIV and STIs and the large number of sexual partners. Attention needs to be given to improving consistent condom use with regular partners.

POSTER NO: 200 ENHANCING SEXUAL HEALTHCARE WITHIN GENERAL PRACTICE

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Background: This study evaluates the NSW Sexually Transmissible Infections Programs Unit, GP Project. The evaluation includes seven resources for GPs and two for Practice Nurses (PNs) designed to enhance evidence-based sexual healthcare. They include online and paper-based resources; online training; interactive training; and an audio resource. This study gauges impact on the target audience.

Methods: GPs and PNs throughout NSW were invited to complete an online survey to determine awareness of and use of the resources; perceived impact on clinical practice; and suggested resource improvements. Data were collected August 2011 to January 2012.

Results: A total of 214 GPs (largest proportion, 36-45 years: 31.8%) and 217 PNs (largest proportion, 41-50 years: 35.5%) completed the survey. The evaluation indicated varying levels of awareness, use and impact on practice among the activities and between the professions.

Among GPs, the resources most used to inform sexual healthcare were the STI Testing Tool, articles in Australian Doctor and Medical Observer, and the Check booklet. Fewer GPs were aware of the Drive Time Radio CD for STI, STI Resources for General Practice, the Online STI Testing Tool GP Training, or the Active Learning Module.

While few PNs were aware of the Practice Nurse Postcard, more were aware of the Online STI PN Training. Though few had completed it the training, those who had most reported an improved ability to consult patients about sexual health.

Enablers and barriers to successful uptake were identified, and included relationships with peak national, state and local bodies; scope of practice and practice priorities; as well as authoritativeness of the information presented.

Conclusion: The range of items with differing contents, formats and delivery modes, linked by common educational aims, facilitated their use by GPs and PNs with different professional needs and interests, different learning styles, and in different circumstances.

Disclosure of Interest Statement: The University of Western Sydney was commissioned by the NSW Sexually Transmissible Infections Programs Unit to conduct this research.

POSTER NO: 201

CONTRASTING SEXUAL ORIENTATION AND SEXUAL BEHAVIOUR AMONGST BISEXUAL MEN IN SEXUAL NETWORKS FROM VIENTIANE, LAO PDR AND HANOI, VIETNAM.

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Introduction: Men who have sex with both men and women (behaviourally bisexual men) may be at increased risk of sexually transmitted infections (STIs) due to risky sexual behaviours. They are also a potential bridge for HIV between high and low risk populations.

Sexual network studies were undertaken in Vientiane, Lao PDR and Hanoi, Vietnam to better inform our understanding of STI transmission in Asia. Here, we compare sexual orientation versus sexual behaviour of behaviourally bisexual men in the networks.

Methods: Using peer interviewers, snowball-sampling and social network methodology, we recruited two sexual networks in Vientiane and Hanoi between 2010 and 2011. Seeds (n=10 in both networks) were behaviourally bisexual men. Participants completed a sexual behavioural questionnaire (including Kinsey sexual orientation scale) and referred up to five sexual partners for interview.

Results: Data for both self-reported sexual orientation and last-year sexual behaviour were available for 172/189 men from the Vientiane network and 190/191 men from the Hanoi network. In the Vientiane network, 12/172 (7%) men were behaviourally homosexual, 94/172 (55%) heterosexual and 66/172 (38%) bisexual. In the Hanoi network, 25/190 (13%) men were behaviourally homosexual, 14/190 (7%) heterosexual and 151/190 (75%) bisexual. Of the 66 behaviourally bisexual men in the Vientiane network, 11 (17%) reported exclusively heterosexual orientation, 35 (53%) predominantly heterosexual, 6 (9%) bisexual, 12 (18%) predominantly homosexual and two (3%) exclusively homosexual sexual orientation. Of the 151 behaviourally bisexual men in the Hanoi network, one (1%) reported exclusively heterosexual orientation, 43 (29%) predominantly heterosexual, 51 (34%) bisexual, 54 (36%) predominantly homosexual and two (1%) exclusively homosexual sexual orientation.

Conclusion: Our research suggests that behaviourally bisexual men may identify with a variety of sexual orientations and that these may differ considerably between Asian cities. This suggests that relevant STI public health prevention programs need to be specifically targeted according to local context and culture.

POSTER NO: 202

FACTORS EXPLAINING THE SEXUAL RISK TAKING AND STI AMONG YOUNG MSM AND TGS IN INDIA: A MULTI-SYSTEMIC EXPLORATION

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Introduction: Factors underlying the sexual risk-taking among young MSM and TGs are inadequately understood in Indian context! This is primarily due to the preponderance of epidemiological studies and dearth of socio-behavioral analysis. Hence, this study aimed at exploring the types of sexual risk behaviors and socio-psychological factors explaining sexual risk-taking.

Methods: An online survey containing 14-items exploring sexual risk-taking and associated factors was filled by 52 participants [males: 57.7% (30), Female: 38.5% (20) and others: 7.7% (4)] from various professions. Quantitative data was statistically analysed and qualitative responses were thematically analysed using QDA.

Results: A] Nature of Sexual Risk Activity: i) TGs show some patterns e.g. receptive unprotected anal intercourse (UAI); ii) MSMs vary in the number of sexual risk behaviors (insertive, receptive, double-decker, bisexual); iii) slight regional difference in the insertive vs receptive sexual engagement due to male 'macho' beliefs (e.g. north India); iv) Increasing usage of substances like alcohol, tobacco and Injecting drugs are increasing; v) more casual engagements with less disclosure of STI status in Metros.

B] QDA outlined following Socio-Psychological Factors explaining sexual risk behaviours: i) criminalization of homosexuality and harassment by Police; ii) Social alienation, lack of social/familial support and poor or non-acceptance and expulsion from family (more in TGs); iii) psychological trauma, loneliness; iv) lack of knowledge about safe sex & STIs; v) problems forming a coherent self-identity; vi) fear of losing partner and inability to maintain stable relationship; vii) Condoms as barriers in pleasure and engagement for thrill and viii) poor self-esteem and peer-pressure; ix) poverty and financial needs. In contrast to the prevalent data, 'pleasure-seeking' was also reported.

Conclusion: There are certain noticeable differences between MSM and TGs in sexual risk behaviors and factors explaining the same. In-depth explorations will be crucial in providing insights on a completely under-studied population and thereby will assist policy making.

POSTER NO: 203

TRENDS AMONG MSM CAPTURED IN ONLINE BEHAVIOURAL SURVEILLANCE: AN ADJUNCT TO COMMUNITY-BASED RECRUITMENT

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Introduction: Repeat behavioural surveillance can offer insights into HIV and STI epidemic trends, but its utility to explain and predict outcomes is dependent on the sampling methods capturing epidemiologically-significant subpopulations. Most surveillance programmes recruit exclusively in offline venues, but this potentially limits our understanding of factors driving epidemics. We therefore examined trends in surveillance of online populations of men who have sex with men (MSM) as an adjunct to offline surveillance.

Methods: We analysed data from the national cross-sectional Gay men's Online Sex Survey (GOSS) 2006-2011 (n=5,536), a supplement to the offline-based Gay Auckland Periodic Sex Survey (GAPSS) 2002-2011 (n=6091). The questionnaires were identical. Participation in GOSS was voluntary, anonymous and self-completed; eligibility criteria were having an Internet dating profile on a commonly used site for New Zealand MSM and having not completed GAPSS that year.

Results: GOSS data were collected in 2006, 2008 and 2011. Samples became successively older, gay-identified and ethnically diverse over time. An increasing proportion had tested for HIV in the year prior to survey (32.8%, 37.6%, 43.9%, p-trend<0.001), and the prevalence of diagnosed HIV increased (1.9%, 2.2%, 3.1%, p-trend=0.01). The proportion with over 20 recent male partners declined over time (p-trend=0.001), as did the proportion with a current "boyfriend" (p-trend=0.005), however a growing proportion reported a current "fuckbuddy" (p-trend=0.01). There were no changes in the rate of "high" condom use during anal sex with casual partners (70.3%, 72.2%, 71.6%), a current fuckbuddy (52.7%, 52.0%, 58.8%) or a current boyfriend (33.1%, 33.3%, 33.1%) in the 6 months preceding survey (p-trend all ns). Most trends remained significant after controlling for changes in sample composition.

Conclusion: Recruiting MSM into repeated behavioural surveillance from Internet dating sites is viable. It reveals patterns in some behaviours and HIV testing that differ from conventional offline surveillance, and might otherwise be unobserved.

Disclosure of Interest Statement: The AIDS Epidemiology Group at the University of Otago and the New Zealand AIDS Foundation are funded by the New Zealand Ministry of Health.

POSTER NO: 204

SEXUAL PRACTICES AMONG THE AKHA IN NORTHWEST LAOS: IMPLICATIONS OF SEXUALLY TRANSMITTED INFECTIONS AND INFERTILITY

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Introduction: In recent years the Akha Community in Northwest Loas who have traditionally lived in the mountains have been encouraged by the Lao government, to move down to the valley in order to 'be close to development'. This rapid social change has affected people's social and interpersonal relations. Customarily Akha youth engaged in sexual activities at a young age, but lack the knowledge about contraception or the danger of sexually transmissible infections (STIs). Because children are crucial for Akha social reproduction, the Akha have developed strategies to deal with fertility problems, including the possibility of multiple partners.

Methods: This paper was based on 14 months of ethnographic research conducted by the author among the Akha; an ethnic group in Luang Namtha Province Laos. Participant observation was the main research strategy; however both quantitative and qualitativee methods were applied.

Results: According to the survey sample of 666 married couples in 12 villages, 10.96% was found to suffer from primary infertility and 4.5% from secondary infertility. A study by Norwegian Church Aid (NCA) in 2008 confirmed that there is a high rate of STIs in this target population.

Conclusion: The research found that social and sexual networking, and the threat of ongoing STIs may be an underlying cause of the Akha's infertility. To help meet the needs of this community funding for sexual health services in conjunction with safer sex education is considered necessary.

POSTER NO: 205

COMMERCIAL SERVICE PROVISION AMONG SEX WORKERS FROM QUEENSLAND, AUSTRALIA

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Introduction: The role of commercial sex in facilitating infection transmission is a subject of ongoing empirical enquiry, with little attention to the variety and extent of 'non-traditional' commercial services that pose a lesser risk of infection. This study sought to examine the supply and demand of a wide range of traditional and non-traditional commercial sexual services among sex workers and their clients from Queensland, Australia.

Methods: Cross-sectional convenience sampling was used to compare female sex workers in 1991 (n=200, aged 16-46 years) and 2003 (n=247, aged 18-57 years) and from male clients in 2003. The client sample comprised 160 male clients aged between 19 and 72 years.

Results: Over the comparison period there was a significant increase in the provision of exotic' or non-traditional sexual services. In 2003, the availability of bondage and discipline, submission, fantasy, use of sex toys, golden showers, fisting and lesbian double acts had increased dramatically, while 'traditional' services had mostly remained at similar levels. Moreover, the proportion of sex workers in some industry sectors providing 'exotic' commercial services seem to have risen over time.

Conclusion: Undoubtedly, the sex industry has professionalised and now includes more sophisticated and specialized suppliers. As with any commercial business, the diversification of services is largely driven with client demand, with the 'menu' being generally broader than the majority of client preferences. However, although clients demands for particular commercial sexual services seems to have been met, with regard to anal sex and anal play, supply has failed to meet client demand.

Disclosure of Interest Statement: Funding for the 2003 study was provided by the Prostitution Licensing Authority. Acknowledgement and sincere thanks to the men and women who participated in this study.

POSTER NO: 206

KNOWLEDGE CONCERNIN HPV INFECTION AND VACCINATION AMONG RUSSIAN MEN APPLYING FOR IVF PROGRAMS

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Objectives: There is a gap concerning the level of knowledge about HPV infection and vaccines acceptance among the general population in Russia, and in men in particular. This information is of great clinical and health care interest: the prevalence of cervical cancer in women has been decreased with organized HPV screening and vaccination programs and its extension among male population might have to be recommended.

We assessed the knowledge about HPV infection, its outcomes and vaccines in male partners in subfertile couples undergoing fertilization programs at a family planning center in St. Petersburg.

Methods: A total of 65 Russian males (mean age 33.1, range: 23 – 55 years) completed the survey by answering 101 questions concerning their sex life, knowledge about HPV and other STIs, their transmission routes, diagnostics and outcomes, and circumcision.

Results: The majority of studied men were married (85.7%), had high education (60.3%), sufficient income (85.7%) and no children (72.3%). All men denied sex with men (no MSM in the study) and had no detected STIs. Sex life started at the average age of 17.8 years with 10.3 life-time sex partners. Only 18.6%, 5.6% and 9.1% of studied men were informed about HPV infection, its connection to cancers and its vaccines, respectively, but as much as 18.9% would accept HPV vaccination with a half of them on their own expenses. Performing circumcision in men and their potential male offsprings is unpopular among Russians (5.5%). To provide more information concerning STIs in men was requested (69.2%).

Conclusion: The first study on HPV knowledge and vaccines acceptance in men in Russia showed limited knowledge but in principle a willingness to receive the HPV vaccine among surveyed participants. Further studies among different population groups are needed to get the vaccination in men more targeted.

POSTER NO: 207

CHALLENGES FOR TRANSGENDER CONDOM USE WITH REGULAR PARTNER IN BALI, 2012

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Background: Information from the Indonesian Ministry of Health 2011 Integrated Biological and Behavior Survey (IBBS) and the 2012 HIV Cooperation Program for Indonesia (HCPI) annual program participant survey were analyzed to evaluate the impact of an NGO program in Bali for transgender people. **Method:** During three weeks in April 2012, all transgenders reached by NGO Gaya Dewata's program in Bali were invited to complete a self-administered questionnaire. Results from the 2011 IBBS were obtained from the Ministry of Health.

Result: The IBBS for transgenders in Indonesia found 22% HIV, 25% syphilis and 29% gonorrhea. Most (70%) transgenders used condoms for last casual sex with 36% always using condoms.

The 2012 annual behavior survey conducted among transgenders (mostly sex workers) reached by Gaya Dewata found that 38% reported a positive HIV test with 10% not reporting a result. Ninety-eight percent of respondents said condoms were easy to find. Eighty-three percent of 73 participants with regular partners used a condom at last insertive anal sex compared to 96% of 95 participants with casual partners. Eighty-one percent of 83 participants with a regular partner used a condom at last receptive anal sex compared to 96% of 106 participants with casual partners. Consistent condom use last year was reported by 67% of 81 participants with regular partners compared to 80% of 109 participants with casual partners in the last month ranged from 2-300 people (average 51).

Conclusion: Although the consistent use of condoms by transgenders in Bali is higher than that reported in the IBBS result, condom use needs to improve given the high prevalence of HIV and STIs and the large number of sexual partners. Attention needs to be given to improving consistent condom use with regular partners.

POSTER NO: 208

RACY RURAL REGULATORS! : SAFE SEX 24/7

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Introduction: Twenty four hour access to condoms for young people living in rural and regional Victoria is problematic. Issues of privacy, embarrassment, transport and cost are barriers that prevent rural young people from accessing condoms, particularly after business hours. Condom vending machines provide cheap access to condoms twenty four hours per day.

Methods: CERSH partnered with three councils in northeast Victoria to provide publically accessible condom vending machines in places frequented by young people. We convinced each Mayor, CEO and council of the public health problems caused by STIs, using chlamydia as an example. CERSH provided the condom vending machines and the first thousand condoms, whilst each council identified the locations most likely to be accessible to young people and maintained, emptied and refilled the machines. The councils also provided monthly data to CERSH.

Results: A machine was installed in the male and female toilet at the Shepparton skate park, Mooroopna skate park, Nagambie main street, Violet town main street, Echuca wharf and Echuca football club respectively. In total, 722 condoms were purchased, \$1296.05 retrieved and 3 episodes of graffiti reported in a six month period. In total, 77% of condoms were purchased from male toilets, 57% during the Christmas school holiday period and 82% in the second 3 month period of the trial. All twelve machines worked for the entire time they have been installed. No publicity was used to advertise the condom vending machines but youth workers in each council informed young people of their existence via health promotion activities.

Conclusion: Condom vending machines installed in rural towns in northeast Victoria are accessible to young people after business hours, cost neutral to councils and have not generated any complaints from residents. The machines have not suffered damage and are used more frequently as the project progresses.

POSTER NO: 209

THE USE OF SOCIAL NETWORKING SITES FOR SEXUAL HEALTH PROMOTION: KEY STRATEGIES FOR SUCCESSFULLY ENGAGING USERS

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Background: Online social networking sites (SNSs) such as Facebook and Twitter are hugely popular and highly interactive, making them ideal platforms for health promotion. SNSs are increasingly used for sexual health promotion; however, their effectiveness is unknown. The aim of this study was to identify key strategies used to successfully reach and engage users of SNSs involved in sexual health promotion.

Methods: We identified active Facebook (n=60) and Twitter (n=40) profiles involved in sexual health promotion and reviewed their activity over a one month period. Quantitative measures of reach and interaction (engagement) were assessed and profiles ranked according to a composite score. Content of the top ten ranked 'successful'Twitter and Facebook profiles was analysed using a thematic framework, and compared with three poorly performing profiles to identify strategies for successfully reaching and engaging users.

Results: Strategies that were associated with having a large and interactive user base included: regular posts by the host (median of 45 posts per month for top ten Facebook profiles versus four for poorly-performing profiles, and a median of 23 tweets per month versus zero for Twitter profiles); direct engagement with users (95% of top ten hosts reply directly to users, versus 0% of poorly performing profiles); and encouraging interaction and conversation by posing questions (100% of the top ten, versus 33% of poorly performing profiles). Making content broadly relevant and engaging by uploading pictures, video and audio material (80% of top ten, versus 17% of poorly performing profiles), and posting time-relevant content (95% compared with 50%) also appeared to be important for success.

Conclusion: Compared to poorly performing profiles, successful SNS profiles posted regularly, directly engaged with users, encouraged conversation, and utilised uploads and relevant links. Success can be measured using a combination of quantitative measures for reach and interaction and basic qualitative content analysis.

POSTER NO: 210

DO OPPOSITES ATTRACT? SAME-SEX ATTRACTION AND SEXUAL PARTNERS AMONG A COMMUNITY-BASED SAMPLE OF YOUNG PEOPLE

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Introduction: Same-sex attracted young people are more likely to report risky behaviours, abuse, and poor mental health. We assess same-sex attraction, sexual partners, and risk behaviours in a community-based sample.

Methods: Young people (16-29 years) were recruited from a music festival (2011 & 2012) to self-complete a questionnaire. 'Same-sex attraction' was defined as identifying as gay/homosexual/ lesbian, bisexual, queer, or questioning. Chi-square test was used to compare reported behaviours.

Results: Of 2,734 participants, 174 (10%) females and 88 (9%) males reported same-sex attraction (p=0.32). In females the majority reported bisexual (63%) or questioning (22%) identity while males reported gay/homosexual (33%), bisexual (35%), or questioning (20%) identity.

Among those reporting same-sex attraction, 20 (24%) males and 10 (6%) females reported only same-sex anal/vaginal sex partners in the past year; 21 (25%) males and 81 (50%) females reported only opposite-sex partners; 28 (33%) males and 40 (25%) females reported both; and 15 (18%) males and 31 (19%) females reported neither. In total, 167 reported a same-sex partner in the past year, including 57 reporting heterosexual identity.

Participants reporting a same-sex partner were significantly more likely than those with only opposite-sex partners to report: drinking six alcoholic drinks or more on an occasion at least weekly (42%); experiencing alcohol-related memory loss at least monthly (35%); alcohol-related injury (51%); past month illicit drug use (45%); ever injecting drugs (12%); age of first sex <16 years (55%); multiple sex partners in past year (87%); 11 or more lifetime sex partners (48%); and fair/poor mental health (27%) (all p<0.03).

Conclusion: These results highlight that young people with same-sex partners regularly engage in high risk behaviours and are more at risk relative to those reporting only opposite-sex partners. Targeted interventions to promote the health and wellbeing of this group should account for the complexities of identity, attraction and behaviour.

POSTER NO: 211

GOING ALL THE WAY: AGE AT FIRST SEX AND SEXUAL BEHAVIOURS OF YOUNG MUSIC FESTIVAL ATTENDEES; 2005-2012

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Introduction: Young age at first sex has been associated with adverse outcomes amongst young people, including sexually transmitted infection (STI) acquisition and unplanned pregnancy. We report trends in age at first sex and the association with risk behaviours from community-based surveillance.

Methods: Cross-sectional surveys of young people (16-29) recruited via convenience sample at a music festival were conducted annually from 2005 to 2012. Using logistic regression, we assessed demographic and behavioural correlates with young age at first sex (<16 years), adjusting for age and gender. Those reporting sex before age 12 were excluded from analysis.

Results: In 2005-2012, 8,114 surveys were completed (62% female; median age 19 years). The median age of first sex was 16 years and did not change over time (p=0.43). Overall, 79% reported ever having sex; of these, 26.4% of males and 20.9% of females, reported young age at first sex (p<0.01). Adjusting for age and gender, correlates of young age at first sex over recent years (2009-2012) included: failure to complete high school (OR 1.3 95%CI 1.1-1.5); having six or more lifetime partners (OR 3.1 95% CI 2.7-3.6); multiple partners in the past year (OR 2.7 95% CI 2.3-3.1); inconsistent condom use with a casual, new or multiple sex partners in past year (OR 2.5 95%CI 2.1-3.0); past month illicit drug use (OR 2.4 95%CI 2.1-2.8); drinking six or more alcoholic drinks in one episode at least weekly (OR 2.8 95%CI 2.0-3.9); and having an STI test in the past year (OR 2.5 95%CI 2.1-3.0).

Conclusion: Young age at first sex was correlated with numerous risk behaviours and adverse outcomes. These are factors to consider when developing sexual risk reduction strategies for young people. Programs targeting young people prior to their first sexual experiences may help to delay sexual debut and reduce associated risk behaviours.

POSTER NO: 212

ASKING, LISTENING AND CHANGING DIRECTION: GUIDING YOUTH SECTOR CAPACITY BUILDING FOR YOUTH SEXUAL HEALTH PROMOTION

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Background: The youth sector has been proposed as a prime setting for youth sexual health promotion as youth workers often have sustained and effective relationships with young people most at risk of STIs. However in many circumstances the youth sector has been found to take a reactive and ad-hoc approach to supporting young people with sexual health issues. In order to achieve systemic and sustainable change, it is critical that capacity building efforts are designed and implemented in close partnership with the sector. This necessitates flexibility from capacity building funding to adapt project plans accordingly.

Methods: The Youth Educating Peers (YEP) Project aims to increase the capacity of the WA youth sector to support and educate young people on sexual health and blood-borne virus (SHBBV) issues. The first phase of YEP was a two-year action research approach to developing and implementing peer based programs in youth sector settings. Phase two was to be an expansion of this program, the first step of which was consulting with the sector on their views regarding current capacity, strengths and barriers. The YEP Project conducted 10 focus groups with over 90 youth sector staff, conducting thematic data analysis to determine core themes.

Results: The consultations revealed numerous barriers and capacity issues that required a significant policy re-think. In response, the YEP Project advocated to the funders (Department of Health, WA (SHBBVP)) for significant change in strategic approach, from the development of training and resources on peer based programs, to a broader capacity building approach that reflects the diverse levels of capacity within the sector and the barriers faced.

Conclusion: This responsiveness would not have been possible without the flexibility of the Department of Health. The results are enabling strategies that are relevant, accessible and likely to facilitate sustainable sector capacity building for youth sexual health promotion.

Disclosure of Interest: The Youth Educating Peers (YEP) Project is funded by the Department of Health, Western Australia, Sexual Health and Blood Borne Virus Program.

POSTER NO: 213

THE PLACE OF PARENTS IN THE ECOLOGY OF SEXUALITY EDUCATION

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Introduction: Research shows that many parents would like to be able to discuss sex and sexuality with their children, and many young people feel that their parents should be able to discuss this topic with them. Yet the discomfort experienced by parents around this topic limits the discussions that do take place. We asked young people about the sexuality information they receive from their parents and how this related to other sources of information.

Methods: Seventeen focus groups with seventy-six Brisbane young people between the ages of 14-16 were conducted.

Results: It was found that when discussions about sex and sexuality were not initiated earlier in childhood, young people were less open to talking about these topics with their parents upon reaching adolescence. While young people were getting positive messages about openness in sexual discussion from the media, the message of awkwardness from parents was more powerful. Sometimes parents would use media as 'teaching moments', but this was also awkward if an open relationship to discussing sex had not previously been established.

Conclusion: Sex and sexuality are still extremely taboo subjects, and this is reflected in the lack of discussion between parents and their children.

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Theme

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