Western Australian Committee for Antimicrobials
Symposium 2015

ANTIMICROBIAL STEWARDSHIP AND STANDARDS;
Achievements, Progress and the Road Ahead

Program
29th June 2015

Bruce Hunt Lecture Theatre
Royal Perth Hospital
Perth, Western Australia
Welcome

Welcome to the Western Australian Committee of Antimicrobial’s symposium for 2015, ‘Antimicrobial Stewardship and standards; Achievements, Progress and the Road Ahead’.

Antimicrobial Stewardship is a multidisciplinary effort which relies upon a dedicated and coordinated approach to ensure the optimal use of antimicrobials across the ‘Continuum of Care’.

In accordance with the National Safety and Quality Health Service Standards I hope that today’s symposium will provide you with new information and opportunities to share ideas that will help you fulfil and strengthen your individual role in the Global challenge of preserving antimicrobial efficacy through effective strategy to reduce their inappropriate use.

I wish you an enjoyable and stimulating day!

Dr Owen Robinson
Chairman
Western Australian Committee for Antimicrobials
June 2015
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Dorothy Harrison |
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| 10:10  | “Antimicrobial Stewardship Clinical Care Standards for KPIs”   
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| 10:55  | Antimicrobial Stewardship on the move: Utilisation of electronic medication management prescribed data to inform a mobile antimicrobial stewardship application.  
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Dr Joel Tate |
| 12:00  | Antimicrobial Stewardship (AMS) in a Specialised Setting like the Mental Health (MH) Wards at Armadale Health Service (AHS)  
My Linh Nguyen |
| 12:15  | Junior Nurses as Agents of Change in Antimicrobial Stewardship. A Survey of Nurses’ Current Role and Understanding   
Hannah Newstead & Taylah King |
| 12:30  | Safe and Appropriate Antimicrobial Prescribing using a Highly Specialised Antimicrobial Medication Chart (AMC)   
Evonne Fong |
| 12:45  | LUNCH                                                                |
| 13:20  | “AMS implementation in private hospitals”  
Menino Os Cotta Videoconference from Sydney |
| 13:45  | Drilling Down: Using NAUSP data to inform Antimicrobial Stewardship activities at departmental level   
Michelle Stirling |
| 14:05  | Adherence to Best Practice Management and Antimicrobial Prescribing: Clinical Care Standards in Patients with *Staphylococcus aureus* Bacteraemia   
Dr Shafinaz Karim |
| 14:20  | "From Chumps to Champs? The early years of stewardship at PMH"   
Miss Zoy Goff and Dr Tom Snelling |
| 14:45  | Panel discussion & questions                                        |
| 15:10  | Closing remarks  
*Neil Keen*, Chief Pharmacist, Department of Health, Western Australia. |
| 15:15  | CLOSE                                                                |
Western Australian Committee for Antimicrobials

Dr Owen Robinson
Chair of WACA
Infectious Disease Consultant
Royal Perth Hospital

Dr Duncan McLellan
Clinical Microbiologist and
Infectious Disease Physician
Western Diagnostic Pathology

Dr Ronan Murray
PathWest
Microbiologist and Infectious Disease
Physician

Dr Helen Van Gessel
Director of Medical Services
Western Australian Country Health
Services - Albany

Matt Rawlins
Infectious Disease Pharmacist
Fiona Stanley Hospital

Dr Michelle Porter
Microbiologist and Infectious Disease
Physician
Princess Margaret Hospital

Kerry Fitzsimons
Medication Safety Pharmacist,
Fremantle Hospital and Pharmacy
Advisor
Performance Activity & Quality Division.

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Anna Allman
Senior Pharmacist
Fremantle Hospital and Health Service

Dr Tom Snelling
Infectious Disease Physician
Princess Margaret Hospital

Dr Dhanvee Kandadai
Executive Officer
Western Australian Committee for Antimicrobials

Lesley Gregory
Executive Officer
Western Australian Therapeutic Advisory Group
Invited speakers

Dr Katie Attwell
*Capstone Co-ordinator and Lecturer, Sir Walter Murdoch School of Public Policy and International Affairs, Honorary Research Fellow, Telethon Kids*

Dr Katie Attwell is a political science academic with the Sir Walter Murdoch School of Public Policy and International Affairs, and an Honorary Research Fellow of the Telethon Kids Institute. She researches policy and communication strategies for engaging with wicked health problems including vaccine hesitancy in parents and health professionals, and asbestos exposure. She conceived and directed the innovative “I Immunise” social marketing campaign by the Immunisation Alliance of WA. Her research includes investigating social norming and social identity as the motivators of behaviour change – strategies applicable to addressing antibiotic overuse by health professionals and communities.

Dr Susan Benson
*Infectious Diseases Physician & Clinical Microbiologist*

Dr Susan Benson is an Associate Professor of Medicine, Clinical Academic, Clinical Microbiologist, and Infectious Diseases Physician with PathWest Microbiology, Armadale Health Service, University of Western Australia and Notre Dame University School of Medicine Fremantle. Her professional interests are antimicrobial stewardship, undergraduate and postgraduate teaching, clinical informatics and improving the use and usefulness of diagnostic microbiology. She recently returned from a Churchill Fellowship examining international experience in these areas. Her current focus is bringing about improvement by systems change, aligning health service delivery with quality and safety.

Dorothy Harrison
*Armadale Antimicrobial Stewardship Consumer Representative*

Dorothy Harrison was appointed as a marriage celebrant in 1978, and is fully involved in weddings, funerals and naming ceremonies in her community. Volunteering at Armadale Health Service, Dorothy joined the Community Advisory Council in 2011, becoming chairman two years ago while sitting on several committees including Antimicrobial Stewardship. In 2014 she was invited to speak at the launch of the Clinical Care Standards at Concord Hospital NSW for the Australian Commission for Safety and Quality in Health Care (ACSQHC) as their consumer representative. Now ACSQHC and NPS MedicineWise have invited her to participate in the rewrite of their book Antimicrobial Stewardship in Australian Hospitals, as the 2011 edition had no consumer input.
Sandra Polmear RN, BA Applied Sc. Nursing, Post Grad Dip Business, Masters.HMQL, MCNA
Registered Nurse, Manager of Quality and Safety at Armadale Health Service

Sandra Polmear has been involved in quality, patient safety and risk management since 2000. She is an Australian Council on Healthcare Standards Surveyor. She was recently appointed as a member of the West Australian Council for Quality and Safety in Health Care. She has completed her Masters of Health Management, Quality and Leadership.

Matt Rawlins
Antimicrobial Pharmacist, Fiona Stanley Hospital

Matt Rawlins is a Curtin University pharmacy graduate. He was the first antibiotic pharmacist at St Mary's Hospital in London, UK. Matt held the position of Infectious Diseases Pharmacist at Royal Perth Hospital until December 2014 and co-founded the long running Antimicrobial Stewardship programme there. He has now moved to Fiona Stanley Hospital as the Antimicrobial Stewardship Pharmacist.

Jessica Del Gigante
Project Lead Pharmacist (Antimicrobial Stewardship), St Vincent’s Hospital NSW

Jessica Del Gigante graduated with a Bachelor of Pharmacy from the University of Sydney in 2008. After completing her pre-registration training in community pharmacy, Jessica began working at St Vincent’s Hospital in 2011 as a Clinical Pharmacist. She is currently the Project Lead Pharmacist for the implementation of Antimicrobial Stewardship (AMS) approval systems at St Vincent's Hospital.

Fiona Gotterson
Senior Project Officer, Australian Commission on Quality and Safety in Health Care

Fiona is a registered nurse who holds a Master of Nursing, and has over twenty five years’ experience in health care. She began her nursing career in paediatric intensive care before moving onto nursing education, and then patient safety and quality improvement. She has significant experience in project management, guideline implementation, team development and change processes. Fiona currently works within the Healthcare Associated Infection program at the Australian Commission on Safety and Quality in Health Care, leading coordination of Antibiotic Awareness Week and supporting implementation for the National Antimicrobial Stewardship Program and other projects within the HAI portfolio.
Menino Os Cotta  
*Royal Brisbane and Women’s Hospital Intensive Care Unit*

Os Cotta is a senior pharmacist at the Royal Brisbane and Women’s Hospital Intensive Care Unit and an Associate Lecturer with the Burns Trauma and Critical Care Research Centre, University of Queensland. He has recently completed a book chapter in the "Antimicrobial Stewardship in Australian Hospitals" update for the Australian Commission on Safety and Quality in Healthcare. In July this year, he will be submitting his PhD thesis entitled “Antimicrobial stewardship in Australian private hospitals” which was undertaken through the University of Melbourne and partly funded through an awarded NHMRC postgraduate scholarship.

Dr Tom Snelling  
*Consultant Paediatrician. Infectious Diseases, Princess Margaret Hospital*

Dr Tom Snelling is a paediatric infectious diseases physician at Princess Margaret Hospital, and NHMRC Frank Fenner Early Career Research Fellow, Fiona Stanley Investigator, and Scientific Director of the Westfarmers Centre of Vaccines and Infectious Diseases at the Telethon Kids Institute. His research addresses the implementation of health policy and clinical practice, in particular the evaluation of vaccination and other public health strategies to minimise the burden of childhood infectious diseases. This work integrates clinical trials with case-control and cohort studies and disease modelling with a strong focus on Aboriginal and international child health.

Zoy Goff  
*Antimicrobial Stewardship Pharmacist at PMH*

Zoy graduated from Curtin University and has been a Pharmacist at Princess Margaret Hospital for children since 2007. She has been the Antimicrobial Stewardship Pharmacist at PMH since its inception in 2013.
08:30  "Wicked Problems and Creative Solutions: Tackling Antimicrobial Resistance"

Presenter Dr Katie Attwell
“No Mug about Bugs” Health Consumers and Antimicrobial Stewardship

**Presenter**  Dorothy Harrison
“To Merit or Not to Merit - An AMS Accreditation Success Story”

Presenter  Sandra Polmear
Antimicrobial Stewardship on the move: Utilisation of Electronic medication management prescribed data to inform a mobile antimicrobial stewardship application.

*Videoconference from Sydney*

**Presenter**  Jessica Del Gigante
11:20 ACQSHC “Microbiology in Antimicrobial Stewardship: Improving Diagnosis and Targeting Antibiotic Therapy: Laboratory & Clinical Collaboration is Key”

**Presenter**  Clinical Associate Professor Susan Benson
The culture of urine on an in-patient geriatric rehabilitation ward

Author Dr Joel Tate

Presenter Dr Joel Tate

Background: Management of urinary tract infections was identified as a potential area for improvement on the geriatric rehabilitation ward at Armadale Hospital as part of Antibiotic Stewardship. Antibiotic treatment of asymptomatic bacteriuria (ASB) is unnecessary and potentially harmful.

Aim: To assess the impact of a brief educational intervention on the frequency of urine culture and antibiotics use on a geriatric rehabilitation ward.

Methods: All new admissions to the geriatric rehabilitation ward in April 2014 had data collected regarding frequency of urine sampling and pathology results, with this process repeated in July 2014 following an educational intervention.

A short educational intervention regarding asymptomatic bacteriuria including the results from the initial data collection was conducted with both medical and senior nursing staff.

Evaluation was performed on antibiotic (cephalexin and trimethoprim) usage in the 4 months up to April 2014 and then again in the 4 months from July to October 2014 following the educational intervention.

Results: Pre-intervention ward policy was to perform routine urinalysis for all new admissions potentially resulting in inappropriate treatment of ASB. A brief educational intervention led to change in ward practice of sending urine for culture only on clinical indication. Evaluation demonstrated a marked reduction in investigations, improvement in the quality of urine sampling and reduced antibiotic usage.

Biography MBBS (UWA) 2000, FRACP (Geriatrics) 2010

Staff Specialist Geriatrician Armadale Health Service and Fremantle Hospital.
Objectives: To quantify and qualify the level of AMS occurring on the MH wards at AHS

Methodology: A retrospective analysis of pharmacist-led interventions from January 2014 to May 2015 was performed. The aim was to identify how pharmacists intervened to ensure antimicrobials were prescribed appropriately, with respect to patients’ allergy status, indication/sensitivities and duration.

Issues to be addressed: The majority of infections seen were urinary tract infections and cellulitis/wound infections. The oral antimicrobials most commonly used were amoxicillin / clavulanic acid, cephalaxin, ciprofloxacin, flucloxacillin, metronidazole and nitrofurantoin.

Issues identified: Pharmacists alerted doctors of microbiology/culture/sensitivity (M/C/S) results being available and the need for antimicrobials to be reviewed on 21 instances. Pharmacists provided advice on antimicrobial selection in 61.9% of these cases (38.5% involved a change in treatment due to resistance to empirical therapy).

- To curb resistance, pharmacists prompted doctors to review (and cease, if appropriate) prolonged antimicrobial courses.
- One case of pharmacists facilitating change in therapy as patient was inadvertently prescribed antimicrobials that they’re allergic to.
- Patients not receiving antimicrobials in a timely manner.

Conclusions/implications: MH prescribers found pharmacists useful allies in providing information on non-psychiatric medicine, e.g.: in the domain of AMS.

Recommendations stemming from this audit:

- Enhanced training for MH clinicians to improve AMS awareness.
- Increased vigilance in following up M/C/S results.
- Encouraging doctors to prescribe in generic names so allergies are more easily recognised- e.g.: amoxicillin / clavulanate (rather than Augmentin) sounds more closely related to penicillins
- Education to increase nursing awareness of non-psychiatric medications and the importance of patients receiving antimicrobials at the scheduled time(s)

Relevance: This audit highlighted the need to adopt a multidisciplinary approach to promoting AMS. This is especially true in a highly specialised setting like MH (within any hospital), where management of psychiatric illness is the focus of admission, and where antimicrobial prescribing is not routinely expected.
Biography  My Linh is pharmacist with an interest in Mental Health, in particular, in empowering patients to be more involved in their care through increased awareness of their illness & treatment. She has demonstrated this through the delivery of information sessions to carers and development of patient-friendly information resources. She has also been working closely with the staff development nurses to promote medication safety on the wards, through various educational strategies directed at clinical staff.

12:15  Junior Nurses as agents of change in Antimicrobial Stewardship: A Survey of Nurses’ Current Role and Understanding

Author  Hannah Newstead and Taylah King

Presenters  Hannah Newstead and Taylah King

There has been an increasing concern in regards to the use and possible overuse of antibiotics in the clinical setting which is of local and international concern. As recently graduated Registered Nurses we are eager to discover and make recommendations as to how the nursing body could be more involved in addressing the problem locally.

Using the National Safety and Quality and Clinical Care Standards for Antimicrobial Stewardship as a guide, we developed a nursing audit tool to use at Armadale Hospital to look at current practice and gauge levels of awareness of the Antimicrobial Stewardship amongst Registered Nurses.

The audit tool captures; whether patients have had microbiology tests prior to antibiotic prescription, documentation of the antibiotics and administration specifically targeting nurses and their understanding as to why the drugs are being given to their patients.
The findings will be discussed along with the insights we have had from doing the project. We hope to use the data to work with nursing leaders to make recommendations and suggestions as to how we can better educate nursing staff on antibiotic use, whether it be through compulsory education or whether nursing staff must complete competencies prior to using antibiotics on patients. We also hope to promote the antimicrobial clinical care standards ensuring that the standards are met on a daily basis.

**Biography**

Hannah Newstead and Taylah King are newly graduated Registered Nurses both currently employed at Armadale Hospital. Hannah attended Curtin University and graduated in mid-2014, while Taylah attended Notre Dame and graduated at the end of 2014. Both were offered positions in the hospitals graduate program, providing them with the opportunity to develop a ‘Quality Improvement’ project. After quickly developing an interest in the use of antibiotics in a clinical setting, both Hannah and Taylah became more passionate about antibiotics and their use on patients unnecessarily. Working closely with medical doctors the duo were eager to develop and make recommendations as to how the nursing body could be more involved in addressing the problem locally.

12:30 **Safe and Appropriate Antimicrobial Prescribing using a Highly Specialised Antimicrobial Medication Chart (AMC)**

**Authors** Evonne Fong, Jacqui Donnelly, Susan Benson

**Presenter** Evonne Fong

**Objective or Purpose:** An antimicrobial medication chart (AMC) has been developed at Armadale Health Service (AHS). This dedicated AMC introduces a planned approach to antimicrobial therapy to improve prescribing, documentation, review and assist with effective communication between clinicians.
Methodology and Issues to be addressed: In November 2013 a baseline audit of inpatients prescribed antimicrobials showed that 67.1% of antimicrobial prescriptions had an indication documented. For best practice, this should ideally be greater than 95%.

To improve documentation, AHS introduced an “Antimicrobial Action Plan” sticker in the Intensive Care Unit (ICU). This sticker was attached to antimicrobial orders on the NIMC, prompting doctors to record an indication, the starting date of therapy, an intended duration and a review date. An audit post sticker implementation saw compliance to documenting indication increase to 96%.

It was proposed that this sticker should be a permanent fixture on the medication chart, and this evolved into having a dedicated AMC. This AMC has multiple features including:

- Regular antimicrobial prescriptions are limited to a duration of 5 days
- Section for prolonged antimicrobial use.
- Variable dose section tailored for gentamicin
- Vancomycin and gentamicin dosing and monitoring flow charts
- Antimicrobial plan to document indication, start date, intended duration and review date for each antimicrobial order
- Information on reviewing IV antimicrobials and considerations for when to switch from IV to oral therapy.
- IV to oral switch regimens
- Information about antimicrobial restriction policy
- Section for documenting if cultures have been taken and reviewed

Conclusions/Implications and relevance to other services: The antimicrobial chart is a practical way to improve antimicrobial stewardship. It has been approved for piloting in the ICU. Follow up audits and feedback surveys on the chart are planned. The AMC will be rolled out hospital wide after the lessons learnt from the pilot project.

Biography  Evonne is a clinical pharmacist working at Armadale Health Service in the Intensive Care Unit
13:20 “AMS implementation in private hospitals”
Videoconference from Sydney

Presenter Menino Os Cotta
Monitoring rates of antimicrobial use is one of the key strategies in antimicrobial stewardship programs. Since 2004, Australian hospitals have been submitting data on hospital wide usage to the National Antimicrobial Utilisation Surveillance Program (NAUSP). NAUSP reports allow hospitals to monitor trends of use and benchmark usage rates between comparator hospitals and international usage. This may inform large scale quality improvement activities.

One of the main objectives of collating antibiotic utilisation data is to inform and direct quality improvement programs. To promote design of smaller scale, sustainable Antimicrobial Stewardship quality activities, it may be necessary to inform stakeholders at hospital departmental level of individual departmental antimicrobial usage rates.

Armadale Health Service Quality and Safety Department have developed a process to refine the hospital-wide usage data to be broken down to ward level to better target required interventions. The goal of this initiative is to produce more specific information for clinicians to optimise the audit, improvement, and feedback cycle. This initiative has also enabled the monitoring of some antibiotics that are not currently included in the NAUSP bimonthly reports.

Hospital antimicrobial usage data previously submitted to NAUSP was further analysed to provide a breakdown of antimicrobial usage by product and department utilising the same standardised usage density rates and Occupied Bed Days used by NAUSP.

This departmental data is used to identify trends of use of products of concern in select departments thus informing targeted Antimicrobial Stewardship quality improvement activities. The long term plan is that this data will be included in department specific antibiotic stewardship dashboards to embed improved antibiotic use as a hospital wide quality indicator.

**Biography**

Michelle Stirling- Safety and Quality Project Officer Armadale Health Service (AHS), Dr Stephen Lim-Chief Pharmacist AHS, Vicki McNeil- Senior Pharmacist NAUSP, Erin Connor- NAUSP, Sandra Polmear- Manager Safety and Quality AHS, Clin Assoc. Prof Susan Benson- infectious diseases physician, PathWest and AHS, Chair AHS Antimicrobial Stewardship Committee
Adherence to Best Practice Management and Antimicrobial Prescribing: Clinical Care Standards in patients with Staphylococcus aureus Bacteraemia

Authors
Dr Shafinaz Karim: Supervisor: Dr Susan Benson

Presenter
Dr Shafinaz Karim

The 2014 Australian antimicrobial stewardship (AMS) clinical care standards emphasise the need for prompt initiation of antibiotic therapy followed by adjustment of therapy as microbiology results become available. These components of care should be supported by good documentation and treatment according to guidelines. This investigation assessed adherence to these elements of the AMS clinical care standards by assessing compliance outlined by WA Department of Health *Staphylococcus aureus* bacteraemia (SAB) guidelines at Armadale Hospital.

A retrospective audit was conducted on the medical management of adult patients at Armadale Hospital from 31 January to 31 May 2014 with blood cultures growing *Staphylococcus aureus*. Data was sourced from microbiology laboratory records, patient medical progress notes and medication charts. Admission diagnosis, empirical antibiotic therapy, documentation of the laboratory telephone notification, staphylococcal specific therapy initiated following notification (drug, dose and dose interval), echocardiography, performance of follow up blood cultures and Infectious Disease Physician consultation were collected.

The audit yielded 25 eligible SAB episodes. There was overall 96% concordance with WA SAB guideline for antibiotic choice. Of concern, cephezolin dosing was less than recommended in 5/8 cases (63%) and no vancomycin loading dose was administered in 9/15 cases (40%). Medical record documentation was generally poor and alarmingly in three cases there was no record of the laboratory notification call in the medical notes. Although not specifically analysed in this audit 20/25 cases had an admitting diagnosis of community acquired pneumonia suggesting a high rate of misdiagnosis prior to the blood culture result.
This audit demonstrated that there is good compliance with the items in the WA SAB guideline. However the specifics of initial drug dosing and the processes of care involving critical documentation were less than optimal. Overall, this audit was a practical tool to look at the adherence to state guidelines and successfully identified key areas for improvement.

Biography  Dr Shafinaz Karim [BSc(Hons), MBBS] is a recent graduate from the University of Notre Dame, Fremantle and has already found working as an intern in two different hospitals, that the findings of this audit shared in the presentation reflects a common area of concern in processes of care.
“From Chumps to Champs? The early years of stewardship at PMH”

Presenters  Miss Zoy Geoff (PMH Stewardship Pharmacist) and Tom Snelling