A National Approach to Antimicrobial Stewardship

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Australian Commission on Safety and Quality in Health Care
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National approach to AMS

- ACSQHC
- ACSQHC HAI Program
- AMS Advisory Committee
- AMS publication
- Requirements for AMS programs
- National Safety and Quality Standards
- Work plan
National safety and quality

Australian Commission on Safety and Quality in Health Care

- Established in 2006
- Reports to Health Ministers
- Remit across public, private, acute and primary
- Nine priority programs including Healthcare Associated Infection (HAI)
- Committee structure:
  - Inter Jurisdictional Committee
  - Private Hospital Sector Committee
  - Primary Care Committee
ACSQHC Role

• Lead and coordinate improvements in safety and quality in health care
  – Identify issues and policy directions
  – Recommend priorities for action
  – Disseminate knowledge and advocate for safety and quality

• Recommend nationally agreed standards for safety and quality improvement

• Report publicly on the state of safety and quality including performance against national standards

• Recommend national data sets for safety and quality,

• Provide strategic advice to Health Ministers
ACSQHC Priority Programs

1. Open Disclosure
2. Health Care Associated Infection
3. Patient Identification Issues
4. Clinical Handover
5. Medication Safety
6. Accreditation
7. Information Strategies
8. The Deteriorating Patient
9. Patient Charter of Rights

Marilyn Cruickshank
HAI Program Manager
Deadly stomach bug has arrived

The Age
27 May 2010

HOSPITALS are warned to be on alert for a highly infectious and potentially deadly strain of a stomach bug, confirmed in three Melbourne patients.

Experts say the presence of Australia’s new strain of Clostridium difficile infection—which has caused hundreds of deaths overseas—is concerning but not unexpected.

They warn that hospitals need to quickly detect the strain in order to stop patients and staff from spreading it.

The standard form of treatment is common in hospitals but it causes diarrhoea.

But the Australian Health Protection Information Centre’s notification of Clostridium difficile infection rates to the Australian National and Community Health Research Committee show the need for enhanced surveillance in Melbourne.

It discovered the new strain in two other patients, but the hospital’s executive medical director Megan Robertson said there was no evidence of contact between patients.

What’s happening in Australia is yet to be determined, but it’s a concern for the general community but not for newborns or the elderly who are closer to death.

A spokesman for the NSW Health Department said they are looking at the situation and taking steps to ensure the strain isn’t spread.

SMH
11 Feb 2008

SMH has also reported on the same strain of Clostridium difficile infection.

NSW patients at greater risk of lethal infection

MJA
5 Oct 2009

SYDNEY hospital patients are more likely to contract lethal infections than elsewhere in Australia, the State Government has reported.

The study was published last year in the federal Health Department’s Communicable Disease Intelligence Journal.

It showed that 43.4 per cent of golden staph infections were in patients in NSW and the ACT, compared to 25.1 per cent in other states.

A spokesman for the NSW Health Department of Health said the study was done by the Australian National University.

He said the study was commissioned by the NSW Health Department in response to concerns about the spread of the infection.

The study showed that the infection rate was higher in NSW than in other states and territories.

MJA
5 Oct 2009

SMH
11 Feb 2008

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HAI Strategy – 5 Key Initiatives

• National surveillance for the prevention of HAIs

• Building Clinician Capacity Project

• National Infection Control Guidelines

• National Hand Hygiene Project

• Antimicrobial Stewardship Project
It was on a short-cut through the hospital kitchens that Albert was first approached by a member of the Antibiotic Resistance.
Antimicrobial Resistance

Development related to:
• Quantity of AM use
• Inappropriate use:
  – Overuse, duration of therapy
  – Selection of ineffective agent
  – Inadequate therapy, underuse
  – Unnecessary use of broad spectrum agents
• Prior exposure
1. NAUSP 08/09 includes Australian data from July 2008 to June 2009
2. DANMAP 2008 rates represent 2008 usage
3. NETHMAP 2009 rates represent 2007 usage
4. SWEDRES 2009 rates use numerator data from 2009 and denominator data from 2008
Quality of use

Up to 50% regimens prescribed in Australian hospitals inappropriate

Radford JM et al DUE of Antimicrobial Therapy in CAP Aust J Hosp Pharm 1999
Radford JM et al Vancomycin use review in era of VRE Aust J Hosp Pharm 1997
Robertson MB et al Ceftriaxone and cefotaxime use in Victorian Hospitals MJA 2002
Antibiotic Stewardship

- Systematic approach to optimisation of antibiotic utilisation
- The appropriate use of antibiotics and the limitation of unnecessary antibiotic administration/exposure
  - Optimising diagnosis
  - Selecting appropriate antibiotics
  - Optimal dosing
Antibiotic Stewardship

↓ & optimising antimicrobial use minimises potential for selecting resistant organisms

Comprehensive AMS programs
• ↓ antimicrobial use 22 – 36% $^1$
• Save US$200K – 900K p.a$^1$

Improving antimicrobial prescribing
• ↓ treatment failures, mortality, LOS $^2$
• ↓ incidence of nosocomial CDI$^2$

1. Dellit Owens et al Clin Inf Diseases 2007
Publication on surveillance

- Reducing harm to patients: the role of surveillance

Published July 2008

Chapter 15. Antimicrobial usage: Monitoring and analysis

Recommendation 2:
National antimicrobial stewardship guidelines are required for all health settings……

AMS Advisory Committee

Members:
Celia Cooper (Chair)
Kirsty Buising
David Kong
David Maxwell
John Turnidge
Helen van Gessel

John Ferguson
David Looke
Graeme Nimmo
Karen Thursky
AMS Advisory Committee

10 August 2008 - First meeting
11 September 2008 – ACSQHC AMS Forum

19 November 2008 – topic areas identified and allocated to members
- Basis of publication on AMS in hospitals
- Key requirements for hospital AMS programs
  • Published in Windows into Safety and Quality in Health Care 2009
Objective:
Synthesise evidence
Provide guidance on AMS
in context of Australian setting

Content
• Ch 1 - implementing AMS
• Ch 2-6 strategies
• Ch 7 -10 resources and tools
• Key requirements

Each chapter
• Key points
• Recommendations

Appendices
• Ch 15 form Surveillance book
• Examples of resources
  • Policies, guidelines
  • Websites
Antibiotic resistance – the three keys to control

- Infection Control
- Antibiotic stewardship
- Surveillance
  - Antibiotic-resistant bacteria
  - Antibiotic usage

Control of antibiotic resistance is like a three-legged stool – if you take away one of the legs – the whole thing falls over!
Changing hospital antibiotic use is a challenge of formidable complexity

- Many determinants play a part in influencing hospital antibiotic usage
  - Cultural, contextual and behavioural
- Diverse strategies are required

Hulscher M et al Antibiotic prescribing in hospitals: a social and behavioural scientific approach. The Lancet March 2010
Antibiotic stewardship – it’s complicated! (continued)

- Establishing effective antibiotic stewardship programs requires challenging powerful motivators for the medical profession:
  - Autonomy of individual prescribers
  - The primacy of the individual doctor-patient relationship
  - The relationship between individual prescribers and the medical profession as a whole and the pharmaceutical industry
Strategies for AMS

Restrictive
- Pre-prescription
  - Formulary restriction, antimicrobial cycling and
  - antimicrobial approval systems

Persuasive
- Review and prescriber feedback
  - Post prescription
    - Review of antimicrobial use with direct interaction and feedback to the prescriber
- Point of care interventions
  - Directed antimicrobial therapy on the basis of culture results
  - Dose optimisation
  - Parenteral to oral conversion
Strategies for AMS

Persuasive

• Education
  – Education of prescribers, including the
  – impact of the pharmaceutical industry

Measuring performance

• Monitoring use
• Process and outcome indicators
Resources for AMS

Personnel

• Clinical microbiology services
  • Antibiograms
  • Selective reporting
• Infectious diseases services
  • Leadership, approval systems
  • Policies, guidelines, education
• Pharmacy services
  • Roles and responsibilities of ID/AMS pharmacists
  • Formulary management, restrictions, DUE
Resources for AMS

Tools and resources

• Integration of stewardship programs into electronic decision support systems and IT platforms

• Appendices
  – Examples of policies, guidelines education material from Australian hospitals
  – List of useful websites
  – Guidelines, policies on managing conflicts of interest, liaison with pharmaceutical industry
Strategies for Implementing AMS

Implementing a program
- Change management
- Governance, executive support
- AMS team, Engaging clinicians
- Program plan
- Goals and measuring improvement
- Selecting strategies

Requirements for AMS programs
Structure and governance of the program

Hospital management support, including:

• providing dedicated resources for stewardship activities, education, and measuring and monitoring antimicrobial use

• establishing a multidisciplinary antimicrobial stewardship (AMS) team with core membership (wherever possible) of an infectious diseases physician, clinical microbiologist or nominated clinician (lead doctor), and a clinical pharmacist

• ensuring that AMS resides within the hospital’s quality improvement and patient safety governance structure, and clear lines of accountability exist between the chief executive; clinical governance; drug and therapeutics, and infection prevention and control committees; and the AMS team.
Requirements for AMS programs in Australian hospitals

Essential strategies for all hospitals

- implementing clinical guidelines that are consistent with the latest version of Therapeutic Guidelines: Antibiotic and take into account local microbiology and antimicrobial susceptibility patterns

- establishing formulary restriction and approval systems that include restricting broad-spectrum and later generation antimicrobials to patients in whom their use is clinically justified

- reviewing antimicrobial prescribing with intervention and direct feedback to the prescriber — this should, at a minimum, include intensive care patients

- monitoring performance of antimicrobial prescribing by collecting and reporting unit or ward-specific use data; auditing antimicrobial use; and using quality use-of-medicines indicators
Requirements for AMS programs in Australian hospitals

Activities according to local priorities and resources

• educating prescribers, pharmacists and nurses about good antimicrobial prescribing practice and antimicrobial resistance

• using point-of-care interventions:
  – streamlining or de-escalation of therapy
  – dose optimisation
  – parenteral-to-oral conversion

• using information technology such as electronic prescribing with clinical decision support or online approval systems

• annually publishing facility-specific antimicrobial susceptibility data.
National Safety and Quality Standards
Clinical leaders and senior managers of a health service organisation put in place systems for the prevention and management of healthcare associated infection and communicate these to all staff to achieve appropriate outcomes. Clinicians and other staff implement healthcare associated systems.

The intention of this Standard is to:

- Prevent patients acquiring a healthcare associated infection and to effectively manage infections whenever they occur.
HAI: D Antimicrobial Stewardship

HAI: D will be achieved by:
• Developing, implementing and regularly reviewing the effectiveness of the antimicrobial management system.

HAI: D Measure Evidence of:
• an antimicrobial management system
• access to *Therapeutic Guidelines: Antibiotic*
• monitoring of antibiotic usage, infections with resistant organisms
2010 Work Program for Committee

- AMS e-learning programs
- Regional hospital antibiotic stewardship approaches
- Pilot of European Society of Clinical Microbiology and Infectious Diseases. point prevalence survey
Acknowledgements

AMS Advisory Committee Members

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www.safetyandquality.gov.au