ANTIMICROBIAL STEWARDSHIP

What is an antimicrobial and what is Antimicrobial Stewardship?

The Australian Commission on Safety and Quality in Health Care (ACSQHC) define antimicrobials as:

> *"A chemical substance that inhibits or destroys bacteria, viruses and fungi, including yeasts or moulds."*
> **National Safety and Quality Health Service Standards 2012, p. 7.**

Antimicrobial Stewardship (AMS) is defined as:

> *"A program implemented in [an] … organisation to reduce the risks associated with increasing microbial resistance and to extend the effectiveness of antimicrobial treatments. Antimicrobial stewardship may incorporate a broad range of strategies including the monitoring and reviews of antimicrobial use."*
> **National Safety and Quality Health Service Standards 2012, p. 7.**

> *"Antimicrobial stewardship programs have been shown to decrease inappropriate antimicrobial usage, improve patient outcomes and reduce adverse consequences of antimicrobial use (including antimicrobial resistance, toxicity and unnecessary cost)."*
> **ACSQHC n.d., 'Antimicrobial Stewardship Initiative', para. 3.**

Why are people living in Residential Aged Care Facilities (RACFs) more vulnerable to infections?

There are three broad reasons why people in RACFs are often more vulnerable to infections than the general population:

- The individual themselves.
- The living arrangements.
- The rate of hospital transfers.

People that live in residential care tend to be more frail, have poorer functional ability, have multiple comorbidities and have less effective immune systems. These considerations are compounded by the living arrangements in a facility with resident-to-resident interactions and resident-to-staff interactions. In addition, there is an increased risk of exposure to infections in hospitals, which can be transferred back to a facility.

Are there any additional challenges with diagnosing infections in people that live in RACFs?

In conjunction with the normal challenges for health care professions, people that live in RACFs can have atypical clinical presentations, which presents diagnostic challenges. This is often due to non-specific manifestations (for example delirium, a fall) in the absence of fever. This can result in either a delay in diagnosis or the administration of prophylactic drugs (i.e. to try and prevent an infection occurring) just in case the person has an infection. Other challenges can include cognitive impairment, language barriers and time poor clinical staff.

Is there any information available on antimicrobial prescribing and use in RACFs?

In 2015, the Aged Care National Antimicrobial Prescribing Survey (acNAPS) pilot was undertaken in 186 RACFs. A variation of this survey is a standard auditing tool in Australian hospitals but this was the first time that it has been modified and used in the aged care setting. This survey provides a snapshot of the antimicrobial use in RACFs, with some of the key findings including:

- 11.3% of residents had an antimicrobial prescription, with over one in five being a prophylactic. However, only 4.5% of people had signs or symptoms of infection.
- 17.5% of prescriptions were for ‘unspecified’ skin, soft tissue or mucosal infections.
- 31.6% of prescriptions didn’t have a clinical indication listed.
- 65% of prescriptions didn’t have a review and/or stop date listed.
- 31.4% of prescriptions had been prescribed for over six months.

Is there a problem with high rates of antimicrobial use?

Yes, research shows that there is a strong association between antimicrobial resistance (for example antibiotic resistance) and antimicrobial use. Inappropriate use of antimicrobials can have the unintended consequence of making the specific drug less effective as the infectious agent builds immunity (for example 'golden staph'). This is not a problem just in Australia but is an international issue, with the World Health Organization (WHO) having identified antimicrobial resistance as a global health priority. In 2015, Australia released its first National Antimicrobial Resistance Strategy 2015-2019, which identifies seven objectives to support global and regional efforts to manage the threat of antimicrobial resistance. One of the seven objectives, number three, is to develop a nationally coordinated surveillance of antimicrobial use and resistance, including systems across the hospital, community and aged care settings.

Are there any 'simple' quality improvement opportunities that RACFs could potentially implement around Antimicrobial Stewardship?

There are a number of resources available to assist organisations and clinicians to improve their understanding and practices around Antimicrobial Stewardship. Some quality improvement opportunities may include:

- Ensuring robust and well implemented infection control practices.
- Well documented patient/resident records – as highlighted in the acNAPS survey, a significant proportion of people with antimicrobial prescriptions do not have well documented clinical indication/s, review and/or stop dates.
- Clinical currency with current best practice – seeking to ensure that the prescription is clinically indicated, especially with prolonged use.

REFERENCING DETAILS:

- Australian Commission on Safety and Quality in Health Care n.d., Antimicrobial Stewardship Initiative, ACSQHC, viewed November 2016, *https://www.safetyandquality.gov.au/*
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- Lim, C. Stuart, R. & Kong, D 2015, 'Antibiotic Use in Residential Aged Care Facilities', Australian Family Physician, vol. 44, no. 4, pp. 192-196.