

ANTIMICROBIALS

the way forward

In 2010 we published the first three articles in our four part series on antimicrobial resistance in New Zealand, from guest contributor Dr Rosemary Ikram. The series concludes in this issue. As part of our ongoing commitment to this important topic we will shortly be distributing an antibiotic prescribing booklet.

The World Health Organisation has identified antimicrobial resistance as one of the three greatest threats to human health, along with food shortages and climate change. Antimicrobial resistance is growing rapidly worldwide, there are very few new antimicrobial medicines in development that offer benefits over existing medicines and increasingly limited treatment options for pathogens such as *Staphylococcus aureus* and *Klebsiella pneumoniae*. There is a very real possibility that we will soon be re-entering

an age where common bacterial pathogens are unable to be successfully managed and will pose an increasing threat to human health. In the past few years we have seen antimicrobial resistance spread from hospitals to the community, resulting in the emergence of “super bugs” – multiple drug resistant organisms.

A global commitment from both health professionals and the general public is needed in order to contain, or at least slow, this threat until new medicines can be developed to combat resistance. Interventions include education about basic hygiene measures to prevent infection and the problems posed by antimicrobial resistant bacteria, as well as a clear understanding of appropriate use of antimicrobials.

Previous articles in this series have highlighted the significant problem of antimicrobial resistance in New Zealand and worldwide. Various strategies to promote the rational use of antibiotics in New Zealand have been discussed. In this final article of the series we look at the way forward in the battle against antimicrobial resistance. Lessons learned from international interventions can be combined with local ideas for a co-ordinated national approach to address this evolving issue.

Contributed by **Dr Rosemary Ikram**, Clinical Microbiologist, MedLab South

Raising awareness of antimicrobial resistance: international interventions


“Get Smart” in the USA

“Get Smart” from the Centers for Disease Control and Prevention is an ongoing educational and awareness programme on antimicrobial resistance. The programme includes input from all stakeholders and is aimed at both health professionals and consumers.

Education of the general public has included programmes in daycare, kindergartens, schools, websites, posters, radio and television advertising as well as pamphlets available in primary care practices.

... and “Get Smart” on the Farm

The widespread and indiscriminate use of antibiotics in animals and agriculture can contribute to the problem of antimicrobial resistance. The “Get Smart” programme also incorporated “Get Smart on the Farm”, targeting educational and awareness interventions to veterinarians and others involved in the delivery of healthcare to animals.

 For further information on the Get Smart programme, visit: www.cdc.gov/getsmart/antibiotic-use/know-and-do.html

Antibiotic awareness days

Annual awareness days are regularly held in some countries such as the European Antibiotic Awareness Day from the European Centre for Disease Prevention and Control. This programme includes resources and toolkits for education of the public and prescribers in primary and hospital care.

The important message in such an awareness programme is focused on reducing inappropriate antibiotic use. Typical topics and issues included are:

- Antibiotics are inappropriate for treating viral infections
- Recognition of common viral infections
- Adverse effects of antibiotics on the individual as well as the population problem of antimicrobial resistance

 <http://ecdc.europa.eu/en/eaad/Pages/Home.aspx>

Essential aspects for addressing antimicrobial resistance

Co-ordination is the Key

Educational awareness programmes often involve a number of partners to increase the impact. For example, a promotional activity could include the media, health professional groups and consumer groups. Communication and co-ordination are essential to ensure success.

Antimicrobial resistance survey

In 2010, clinicians were encouraged to respond to a questionnaire to determine important issues in primary care which may cause barriers to implementation of reduced antimicrobial use.

Responses were received from 268 people. The main findings of the questionnaire were:

- More than half of respondents very rarely (49%) or never (9%) used data on local resistance patterns to guide antimicrobial choice
- Almost all respondents are either mostly aware (63%), very aware (18%) or somewhat aware (18%) of the pathogens that antimicrobials are active against
- Most respondents find it difficult about half the time (51%) or rarely (43%) to avoid prescribing antimicrobials for patients with a viral infection
- A back pocket prescription, if appropriate, is used most of the time (35%) or about half of the time (41%)
- However, information pamphlets are used rarely (52%) or never (25%), to help patients understand when antimicrobials are not indicated,
- Most people rated the threat of antimicrobial resistance in New Zealand as very high (15%), high (42%) or moderate (39%)

From interpreting the comments received in the questionnaire, it seems that a large number of practitioners are unaware of local susceptibility patterns because they are not supplied by the laboratory. Many practitioners felt that more education needs to be directed to the general public through a variety of sources such as media and education at all levels. There were also some who felt that more information is required relating to strategies for symptomatic relief in viral infections.

Good information is essential

Surveillance at both national and local levels is important. Most laboratories have the capability for generating susceptibility reports. Central co-ordination of these databases would give information about the type of resistance in different geographical areas, which can be useful with the ease of movement from one area to another. This is often well co-ordinated with hospital transfer but does not occur with patients moving. An example of this is the first isolate of MRSA USA 300 in South Canterbury, which was traced to a patient who had moved from Taranaki in the previous month. The information that the patient had moved should have been provided to the practitioners who would be involved in the patient's care.

Promote infection control

Colonisation and infection prevention strategies need to be highlighted to the general population. Contact spread, either direct or indirect, is the most important means of transmission. Therefore, hand hygiene with either soap and water or alcohol gels is the most effective strategy to prevent transmission. General hygiene, e.g. regular laundering of linen and personal clothing as well as regular cleaning also has a role.

Antimicrobial stewardship is the buzz word for reducing the inappropriate use of antimicrobials. This needs to occur



in both hospitals and primary care. Hospitals continue to act as reservoirs, as well as institutions where spread of multiply drug resistant organisms (MDROs) occurs.

Guidelines and information

Antibiotic guidelines are important but it is also important to educate about when antibiotics are not required, e.g. viral syndromes where bacterial infection is unlikely. The NICE guideline (“Antibiotic prescribing for respiratory tract infections”) is an excellent document which could be adapted for New Zealand and used to formulate “whether to treat guidelines” rather than simply the appropriate antibiotic for a particular condition. With so many issues to remember in the general practice it is important that information is circulated in a practical and relevant form, and updated regularly. To instigate sustained change in the health sector is a major undertaking and it is important to include all stakeholders when implementing these changes.

In summary

Antimicrobial resistance is with us to stay. How much of an issue it becomes in New Zealand is in our hands. We need to direct efforts to combat this serious threat to our healthcare system and this involves all sectors of our community.



“The capacity to blunder slightly is the real marvel of DNA. Without this special attribute, we would still be anaerobic bacteria and there would be no music.” — Lewis Thomas

Improve patient safety by sharing solutions and prevent these incidents from occurring again. Report patient safety incidents here:

www.bpac.org.nz/safety

