Canterbury District Health Board
Te Poari Hauora ō Waitaha

Antimicrobial Stewardship Bulletin

CDHB Hospital Antimicrobial Stewardship Committee
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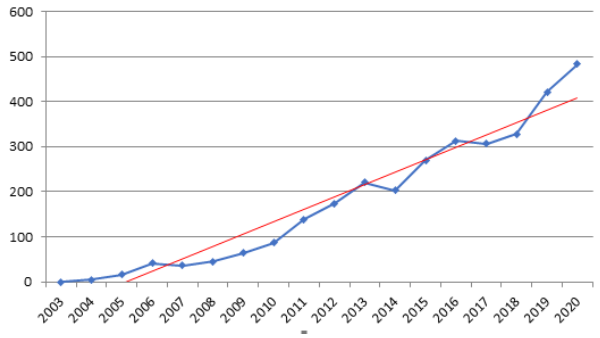
New CDHB Antimicrobial Stewardship policy, plus guideline and activities update

"If people realized how many deaths were caused by drug-resistant infections across the world they would act as quickly as they have for COVID-19"[1]

- Antimicrobial stewardship (AMS) aims to optimise antimicrobial use to prevent and treat infections while minimising the potential harms of antimicrobial use including antimicrobial resistance (AMR), toxicity and unnecessary cost.
- The biggest driver for AMS is AMR, which currently kills 700,000 people globally each year but is predicted to kill 10 million people annually by 2050 if we do not take effective action now (see AMS Policy section below).

Extended-spectrum β-lactamase (ESBL) producing Enterobacterales like *Escherichia coli* are a particular concern. These are resistant to most penicillins and cephalosporins, and often to unrelated agents like trimethoprim and ciprofloxacin. It is difficult to treat 'simple' cystitis if these are the cause. Fig. 1 shows that the presence of these organisms in Canterbury has increased ~5-fold over the past decade.

Fig. 1: Number of patients with an ESBL producer isolated (CHL)[2]



NEW POLICY — CDHB ANTIMICROBIAL STEWARDSHIP POLICY

- Our new CDHB AMS Policy is published in the "Fluid and Medication" policies section in our intranet.
- This policy establishes responsible antimicrobial use as a safety and quality priority for CDHB.
- All CDHB prescribers, pharmacists and nurses are required to support responsible antimicrobial use. Please review the policy to ensure you fulfil your obligations towards preserving antimicrobial effectiveness.

NEW NAME — VANCOMYCIN INFUSION REACTIONS

- Vancomycin can cause anaphylactoid reactions by stimulating histamine release from mast cells. This may present with hypotension, along with erythema in pale skin.
- The original name of "red man syndrome" is not appropriate from a racial and gender equity perspective. It may also cause harm via incorrect adverse reaction documentation.
- The new name of "vancomycin infusion reaction" will better depict the ability to readminister vancomycin in patients with a history of this reaction albeit at a slower infusion rate.
- For further information see: Alvarez-Arango S et al., Vancomycin infusion reaction – moving beyond "red man syndrome". N Engl J Med 2021; 384: 1283-6.

PRACTICE CHANGE — PRE-OPERATIVE URINE TESTING

- The Orthopaedic Service has ceased pre-operative urine culture in patients without urinary tract infection symptoms.
- This is because the literature does not support a link between asymptomatic bacteriuria and early periprosthetic infection. However, harms may result from inappropriate antimicrobial use in asymptomatic patients, e.g. *Clostridiodes difficile* infections, adverse reactions, AMR, additional cost and unnecessary delays in surgery.

UPDATED GUIDELINE — SURGICAL PROPHYLAXIS GUIDELINES

- With the exception of gynaecology, all surgical prophylaxis guidelines have been reviewed and updated in the Pink Book.
- The standard pre-operative cefazolin dose has increased from 2g to 3g for patients ≥ 120 kg to improve adequacy of cover.
- Cefazolin + metronidazole is now recommended for upper GI or biliary tract surgery if biliary obstruction is present due to high local *E. coli* resistance to amoxicillin+clavulanic acid (30% from blood cultures).
- The duration of post-operative cefazolin use after cardiothoracic surgery is now reduced from 48 to 24 hours.

INITIATIVE REMINDER — DOCUMENT THE INDICATION ON SCRIPTS

- In November 2020, CDHB and ADHB, together with the NZ AMS/Infection Pharmacist Expert Group, led a national initiative to improve indication documentation on antimicrobial prescriptions. As a result, voluntary indication documentation at CDHB doubled from ~20% to ~40%. This is a positive start but we fall short of our target of 95%.
- The importance of including an indication in the prescription is signalled by its inclusion as a requirement for all prescribers in the new CDHB AMS Policy. Including an indication:
  - facilitates communication between healthcare providers and with patients,
  - supports timely reassessment of the ongoing appropriateness of antimicrobial use,
  - provides justification for non-guideline compliant prescribing,
  - reduces harm from inappropriate antimicrobial use, and
  - helps with quality improvement auditing.
- Please ensure a *meaningful* indication is documented in all antimicrobial prescriptions, e.g. "cystitis" or "pyelonephritis" is preferable to "UTI" or "infection"

[1] Laura Piddock, Scientific Director, Global Antibiotic Research & Development Partnership
[2] Julie Creighton, Senior Scientist, Canterbury Health Laboratories