Canterbury District Health Board
Te Poari Hauora ō Waitaha

Antimicrobial Stewardship (AMS) Bulletin

CDHB AMS Strategic Group and Hospital AMS Committee
Contact: sharon.gardiner@cdhb.health.nz

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QUALITY OF ANTIMICROBIAL PRESCRIBING AT CHRISTCHURCH HOSPITAL

A point prevalence survey in adult inpatients 2020 (PART 1 of 2)

- Antimicrobials are a precious resource that are losing effectiveness (see our bulletin).
- 'Snapshot' audits on the quality of antimicrobial use can inform AMS programs and track their effectiveness.
- In November 2020, we conducted a point prevalence survey on the quality of antimicrobial prescribing in adult inpatients at Christchurch Hospital. This was a repeat of work undertaken in 2017.
- This is the first of two bulletins summarising our performance against six quality markers for AMS:
  - **Bulletin 1 (September 2021 #033)**: 1) guideline compliance, and 2) appropriateness of prescribing.
  - **Bulletin 2 (October 2021 #034)**: 3) antimicrobial restrictions, 4) indication documented, 5) review/stop date documented, and 6) surgical prophylaxis ceasing within 24 hours post-operatively.

DEMOGRAPHICS, ANTIMICROBIALS AND INDICATIONS

- The 510 inpatients (52% male) present on the audit day had a median (range) age of 75 (17-96) years (~6% Māori, ~1% Pacifica).
- 256/510 inpatients (50%) were prescribed antimicrobials (1-4 agents per person, total 387 prescriptions)
- The route of administration was mainly IV (50%), oral (42%) or topical (7%). The top five agents (amoxicillin+clavulanic acid, cefazolin, metronidazole, cefuroxime and nystatin) and top five indications (intra-abdominal infection, surgical prophylaxis, community-acquired pneumonia, oral candidiasis and sepsis) accounted for 50% of all prescriptions.

Our 2020 auditors
Rear: Mark Birch, Steve Chambers, Ashleigh Kortegast, Cate McCall, Simon Dalton, Andy Mothershaw.
Front: Sharon Gardiner, Giselle Dousti, Abbey Evison, Sasha Vohlidkova.
Not shown: Sarah Metcalf, Matt Doogue, Paul Chin, Michael Harrington, Mike Maze, Allan Edwards, Mary Young, Judy Dalrymple, Michelle Casey

- The method was adapted from the Australian National Antimicrobial Prescribing Survey tool, which is used by a number of DHBs.
- We chose to use the 'gold standard' approach, which involved around 80 auditing hours by 10 multidisciplinary teams of two.
- We thank our 20 auditors (above), and the Infection Management, Pharmacy, Clinical Pharmacology, Microbiology and Respiratory services for their support.
- Our earlier 2017 and 2018 audits at Christchurch Hospital campus, Burwood Hospital and Ashburton Hospital are published here.

QUALITY MARKERS

GUIDELINES COMPLIANCE

81% in 2020 (203/251 prescriptions) *vs* **74% in 2017** (165/224 prescriptions)

- Our increase in guidelines compliance in 2020 (81%) compared with 2017 (74%) is great (p=0.06)!
- Of the 48 non-compliant prescriptions, most were for respiratory tract infections (20, community- or hospital acquired pneumonia, or infective exacerbation of COPD), prophylaxis (7, surgical or medical), and wound infections (6).

APPROPRIATENESS

83% in 2020 (296/355 prescriptions) *vs* **84% in 2017** (278/331 prescriptions)

- The appropriateness assessment included evaluating choice of agent and regimen against guidelines and clinical parameters (e.g. penicillin allergy, renal function, microbiology).
- Most prescriptions were assessed as appropriate in 2020 (83%) and in 2017 (84%), but there is room for improvement (p=0.8).
- There were 128 reasons for 59 inappropriate prescriptions. The most common were incorrect duration (30 prescriptions), spectrum too broad (26), incorrect dose/frequency (23), no need for antimicrobial therapy (20) and surgical prophylaxis continuing for more than 24 hours post-operatively (11).

HOW CAN YOU IMPROVE ANTIMICROBIAL PRESCRIBING?

- **Improve your understanding of CDHB expectations for responsible antimicrobial use**. Review our AMS Policy, which applies to all health workers involved with antimicrobial use.
- **Follow guidelines (when appropriate)** in The Pink Book, Hospital HealthPathways or Community HealthPathways. Departmental guidance (e.g. The Red Book) is acceptable if supported by the AMS Committee. If an alternative regimen is justified clinically, document the reason in the clinical record.
- **Seek advice** from Infection Management (formerly Infectious Diseases), Microbiology, Pharmacy or Clinical Pharmacology services as appropriate.
- **Clearly communicate the indication and review/stop date in the prescription** to fellow health providers.