5 x 5 AUDIT
The Westmead Experience

Prepared by Lucy Nair
Acknowledgements: Lolita Tu and Tony Lai

September 2015
Westmead Hospital

- 975 bed specialised tertiary referral hospital
- (Haematology, BMTx, renal transplant, cystic fibrosis, ICU, NICU, Infectious Diseases)
The 5x5 Experience

- 5x5 audit was introduced to the Aged Care ward using the Rapid Cycle Improvement model
  - Allowed audit to be ‘trialled’
  - Enabled continuous change and adaptation of how the results were fed back to the teams
Plan

- **Ward/Specialty Selection**
  - NAPS results for 3 years demonstrated Aged Care as the second highest prescribers of antibiotics (behind Haematology)
  - NAUSP results showed high ceftriaxone use in Westmead Non-ICU wards (which was also the most used antibiotic in Aged Care)
  - Enthusiastic HoD
    - Supported CEC and AMS
    - Keen to enhance patient care
    - Wanted consistency amongst consultants
    - Competitive (within department and with the State benchmarks)
Plan

- **Stakeholder engagement**
  - Infectious Diseases team
  - Hospital Executive
  - Head of Department (Aged Care)
  - Aged Care Staff Specialists
  - Junior Medical Officers
  - Nurse Unit Manager (Aged Care)
  - Ward Pharmacist (Aged Care)

**What is the 5x5 Audit?**

- The 5x5 Antimicrobial Audit is a new initiative of the Clinical Excellence Commission (CEC) that aims to improve communication and selection of empirical antimicrobial therapy among clinical teams.
- The primary aim of the audit is to capture proportional results for two antimicrobial prescribing indicators:
  - Documentation of an indication
  - Concordance with guidelines (OR non-concordance with a documented reason)
- 16 pilot sites across NSW
  - Geriatrics and Respiratory (WMH)

**What should I know about this audit activity?**

The 5x5 Antimicrobial Audit is being used to collect information on empirical antimicrobial prescribing practices at Westmead Hospital. The audit questions particularly focus on whether or not an indication for antimicrobial therapy has been documented, and if the choice of agent is concordant with either local or national antimicrobial prescribing guidelines.

The audit tool and its supporting components have been developed by the Clinical Excellence Commission, based on the work of the Scottish Antimicrobial Prescribing Group. Westmead Hospital will be involved in a 12 month pilot approved by the LHD Chief Executive, Danny O’Connor and Director of Organisational Effectiveness, Carine Mar. The pilot is also supported by Alison Starr, Manager Clinical Governance.

**What happens to the results?**

The primary aim of the audit is to capture proportional results for two antimicrobial prescribing indicators:

1. **Documentation of an indication**
2. **Concordance with guidelines (OR non-concordance with a documented reason)**

Prescribers will receive regular feedback of results at a local level. Results will also be reported to the hospital executive and the Clinical Excellence commission.

For more information, please contact the Audit Coordinator for Westmead Hospital:

Lucy White [AMS Pharmacist]
9845 8711
Plan

- Firm process
  - AMS Pharmacists to do the auditing
    - CEC training attended
    - Completed auditing together for the first month to ensure consistency
  - Feedback to occur in monthly departmental meetings
    - Booked in advance
    - Infectious Diseases present where possible
Auditing

- Integration of workload into AMS Pharmacist duties
  - Patient selection (timing)

- Documentation was crucial; additional information noted during auditing:
  - Patient initials and MRN
  - Where the patient had the antibiotics initiated (e.g. ED, ED HOPE, Aged Care ward)
Study

Feedback

- Presentations included graphs to show target and state average

**Documentation of Antimicrobial Indication**

For the period of 01-May-14 to 30-Sep-14

*Numerator:* Number of patients with an indication clearly documented in the notes, chart or electronic medical record

*Denominator:* Total number of audited patients

(Location: Westmead B4C)
Study

- Feedback
  - Presentations included graphs to show target and state average
## Study

### Feedback

- Presentations included graphs to show target and state average
- Case details

### Week 16

<table>
<thead>
<tr>
<th>Patient #</th>
<th>Indication documented</th>
<th>Antimicrobial therapy</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mild LRTI &amp; URTI</td>
<td>Augmentin DF® + roxithromycin</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>UTI</td>
<td>Stat gent + amp</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Sepsis – CAP</td>
<td>Tazocin® + azithromycin</td>
<td>Ceftriaxone and azithromycin are recommended first line for sepsis, severe pneumonia (community acquired)</td>
</tr>
<tr>
<td>4</td>
<td>R leg cellulitis</td>
<td>Flucloxacillin</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Infective exacerbation of COPD</td>
<td>Benpen + roxi</td>
<td>*Patient received Augmentin DF® at home for past 6 days to no effect</td>
</tr>
</tbody>
</table>

*non-concordant with guidelines but reason documented
Feedback

- Presentations included graphs to show target and state average
- Case details

Week 16

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<tr>
<td>1</td>
<td>Mild LRTI &amp; URTI</td>
<td>Augmentin DF® + roxithromycin</td>
<td>-</td>
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<tr>
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<td>Sepsis – CAP</td>
<td>Tazocin® + azithromycin</td>
<td>Ceftriaxone + metronidazole</td>
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<tr>
<td>4</td>
<td>R leg cellulitis</td>
<td>Flucloxacillin</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Infective exacerbation of COPD</td>
<td>*Patient at risk for adverse effect</td>
<td>-</td>
</tr>
</tbody>
</table>

*non-concordant with guidelines but reason documented

Week 27

<table>
<thead>
<tr>
<th>Patient #</th>
<th>Indication documented</th>
<th>Antimicrobial therapy</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RML pneumonia → CAP</td>
<td>Benzylpenicillin + doxycycline</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Aspiration pneumonia</td>
<td>Ceftriaxone + metronidazole</td>
<td>Penicillin allergy</td>
</tr>
<tr>
<td>3</td>
<td>“Unlikely to be COPD exacerbation? chronic changes → ?viral infection” Team contacted → Abx prescribed to cover for CAP</td>
<td>Augmentin Duo Forte®</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Aspiration pneumonia</td>
<td>Ceftriaxone + metronidazole</td>
<td>Nil penicillin allergy, spoke to team, changed to benpen</td>
</tr>
<tr>
<td>5</td>
<td>Aspiration pneumonia</td>
<td>Piperacillin + tazobactam</td>
<td>Metronidazole allergy</td>
</tr>
</tbody>
</table>
Study

● Feedback

  – Presentations included graphs to show target and state average
  – Case details
  – Suggestions for discussion/improvement (relating to commonly seen ‘infringements’)

Suggestions:

● More specific documentation of indication
  – E.g. LRTI/Chest Infection → CAP, COPD, Influenza, etc.

● Greater adherence to guidelines
  – E.g. Patients admitted to ward with CAP should be given Benzylpenicillin and Roxithromycin in preference to Ceftriaxone and Azithromycin which is reserved for ICU/B5b admissions

● Don’t be afraid to rationalise ED’s prescriptions – they expect and WANT you to review within 24 hours.

WSLHD CAP Policy

TABLE 3: Initial treatment regimen for MODERATE CAP

<table>
<thead>
<tr>
<th></th>
<th>Empirical Regimen</th>
<th>Penicillin Hypersensitivity</th>
<th>Penicillin Anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODERATE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Regimen</td>
<td>Benzylpenicillin 1.2g IV q6h PLUS</td>
<td>Ceftriaxone 1g IV daily PLUS</td>
<td>莫西沙星 400mg 口服每日 (经审批所需)</td>
</tr>
<tr>
<td></td>
<td>Roxithromycin 300mg orally daily</td>
<td>Roxithromycin orally daily</td>
<td>300mg</td>
</tr>
</tbody>
</table>

TABLE 4: Initial treatment regimen for SEVERE CAP

<table>
<thead>
<tr>
<th></th>
<th>Empirical Regimen</th>
<th>Penicillin Hypersensitivity</th>
<th>Penicillin Anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEVERE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Regimen</td>
<td></td>
<td>Ceftriaxone 1g IV daily PLUS</td>
<td>莫西沙星 400mg IV or orally daily (经审批所需) PLUS</td>
</tr>
<tr>
<td></td>
<td>Azithromycin 500mg IV or orally daily</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Study**

- **Feedback**
  - Presentations included graphs to show target and state average
  - Case details
  - Suggestions for discussion/improvement (relating to commonly seen ‘infringements’)

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**Suggestions..**

- More specific documentation
  - E.g. LRTI/Chest Infection
- Greater adherence to guidelines
  - E.g. Patients admitted to wards Benzylpenicillin and Roxithromycin Ceftriaxone and Azithromycin ICU/B5b admissions
- Don’t be afraid to rationalise ICU and WANT you to review with the team!
Act

- Suggestions incorporated into practice
- Teams *congratulated* when goals achieved
  - Monthly CEC reports sent to the Executive (CC HoD)
  - RTF to JMOs when auditing
  - Chocolates given out at departmental meetings when 100% targets reached
  - Infectious Diseases consultants present in departmental meetings
- REPEAT every month!!
Key Lessons

- Select ward/specialty carefully for greatest impact
  - E.g. High users, proven inappropriateness, enthusiastic

- Lock in feedback sessions
  - Ensure you bring something to the table also (e.g. Infectious Diseases consultant, rewards, etc.)

- Provide the feedback that they need/want
  - E.g. Case by case feedback enhances discussion rather than blanket statements

- Provide the information required to FIX the problem
  - E.g. print the guidelines; produce lanyard cards/iPhone photos

- Avoid being the ‘antibiotic police’