“AMS implementation in private hospitals”

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Overview of presentation

• Very brief description of the Australian private hospital sector
  – Highlighting difficulties adopting “conventional” AMS models for this sector

• AMS resources, antimicrobial prescribing and attitudes towards antimicrobial resistance

• Potential solutions for AMS implementation
Private hospital sector in Australia

Australian private hospitals
• 44% of all hospitals in Australia
• 33% of all hospital beds
• 40% of all hospitalisations

Services delivered: qualitatively similar to public hospitals, however, quantitatively different
• 66% of all elective surgeries
  • 75% of knee operations
  • 70% of major eye procedures

(Ref: ABS 2013; AIHW 2013)
AMS in Australian hospitals

• Funding for AMS in Australia has largely concentrated on the public hospital system through various schemes
  eg Start Clean Strategy (2008) Victoria

• Most well-developed hospital-wide AMS programs internationally are in hospitals with inherent similarities to Australian public hospitals (APuHs)
Australian private hospitals (APrHs)

• Can ‘conventional’ hospital-wide AMS programs be used in APrHs?
  – Lack of junior medical staff working in APrHs
  – Senior medical staff are typically not employed by APrHs (ie VMOs), work privately and autonomously
  – Services such as pathology and pharmacy often contracted out and limited to a ‘supply’ function
  – Infectious diseases doctors are part of the VMO pool and may have little influence/mandate in altering prescribing behaviour → unsolicited consultation
AMS resources and activities in APrHs

• 38-item self-administered survey distributed to all eligible Victorian hospitals in 2012\(^1\)
  – AMS resources, personnel and activities

Survey based on themes identified by the Australian Commission on Safety and Quality in Healthcare reference “AMS in Australian Hospitals”

Results from private hospital respondents
• 42 Victorian APrHs (68% response rate)
• Mainly filled by respondents with a nursing background (76%)

Access to prescribing guidelines

- 37 hospitals (88%) had access to the latest version of the National Therapeutics Guidelines: *Antibiotic*
Access to prescribing guidelines

- 37 hospitals (88%) had access to the latest version of the National Therapeutics Guidelines: *Antibiotic*
Access to expert review of antimicrobial prescriptions

- Only 20 hospitals (47.6%) had regular review of antimicrobial prescriptions with direct intervention and feedback.

Post antimicrobial prescription review (n = 42)

- Infectious Diseases clinician: 6 (14.3%)
- Ward pharmacist: 13 (31.0%)
- Infectious Control practitioner: 2 (4.8%)
- Clinical Microbiologist: 1 (2.4%)
- Antimicrobial Management Team: 1 (2.4%)

NOTE: As some hospitals had more than one form of post prescription review, the total number of forms of post prescription review (n = 23) is greater than the number of hospitals with post prescription review (n = 20).
Antimicrobial restriction and pre-approval

• Only 7 hospitals (16.7%) had restrictions on antimicrobials by way of a ‘closed formulary’
  – 2 of these (4.8%) via pre-approval from an AMS expert
## Barriers to AMS encountered by APrHs

<table>
<thead>
<tr>
<th>Barrier</th>
<th>n (%)</th>
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<tbody>
<tr>
<td>Lack of education and training in antimicrobial use provided to clinicians</td>
<td>26 (61.9)</td>
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<tr>
<td>Lack of willingness from doctors to change their prescribing practices</td>
<td>21 (50.0)</td>
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<td>Lack of leadership to promote an AMS program at the hospital</td>
<td>19 (45.2)</td>
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<tr>
<td>Lack of ID and/or microbiology services</td>
<td>18 (42.9)</td>
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<tr>
<td>Lack of enforcement or endorsement by hospital administration</td>
<td>15 (35.7)</td>
</tr>
<tr>
<td>Lack of pharmacy resources</td>
<td>14 (33.3)</td>
</tr>
<tr>
<td>Lack of support from senior clinicians at the hospital</td>
<td>7 (16.7)</td>
</tr>
<tr>
<td>High level of transient staff</td>
<td>5 (11.9)</td>
</tr>
<tr>
<td>No barriers identified</td>
<td>2 (4.8)</td>
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</table>
## Antimicrobial prescribing in APrHs

2014 National Antimicrobial Prescribing Survey: n=202 (166 APuHs and 36 APrHs)

<table>
<thead>
<tr>
<th>Types of indications</th>
<th>Public n (%)</th>
<th>Private n (%)</th>
<th>All hospitals n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>11463 (81.6)</td>
<td>928 (48.5)</td>
<td>12391 (77.6)</td>
</tr>
<tr>
<td>Prophylaxis</td>
<td>2590 (18.4)</td>
<td>986 (51.5)</td>
<td>3576 (22.4)</td>
</tr>
<tr>
<td><strong>Surgical prophylaxis</strong></td>
<td>1358 (9.7)</td>
<td>898 (46.9)</td>
<td>2256 (14.1)</td>
</tr>
<tr>
<td><strong>Medical prophylaxis</strong></td>
<td>1232 (8.8)</td>
<td>88 (4.6)</td>
<td>1320 (8.3)</td>
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</table>
Perceptions and attitudes towards antimicrobial resistance, prescribing and AMS in APrHs

• 26-item self-administered electronic survey administered to ONE large private hospital in 2013\(^2\)
  – Physicians, surgeons, anaesthetists, pharmacist and nurses

• Responses based on:
  – ‘Yes’ ‘No’ or ‘Unsure’ (analysed as proportions)
  AND
  – 7-point Likert scale:
    – ranging from “strongly agree” to “strongly disagree” or “not a problem” to “very serious problem”
    – Categories 6 to 7 (positive or ‘agreement’ analysed)

Results: perceptions and attitudes towards antimicrobial resistance, prescribing and AMS in APrHs

- 331 respondents
  
  Response rate was:
  
  42% among physicians, surgeons and anaesthetists (VMOs)
  
  100% among pharmacists
  
  13% among nurses

**Antimicrobial resistance as a local problem**

- Antimicrobial resistance more of a problem in other hospitals than survey hospital (p<0.001)
Patient care and antimicrobial resistance

• Physicians and nurses more likely to believe antimicrobial resistance affected their patients (p<0.001)

• Pharmacists more likely to believe that improving antimicrobial prescribing helps decrease antimicrobial resistance (p=0.006).
Estimation of 50% or greater non-compliance with *Therapeutic Guidelines: Antibiotic*
Experience with AMS

• Approximately 40% of respondents had previously heard of AMS

• Physicians (47.8%) more likely to have worked in healthcare facilities with AMS programs (p<0.001)

• Pharmacists and physicians more likely to have heard of AMS (p=0.016 and p<0.001 respectively)
<table>
<thead>
<tr>
<th>Response</th>
<th>Physicians</th>
<th>Surgeons</th>
<th>Anaesthetists</th>
<th>Nurses</th>
<th>Pharmacists</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A formal policy for the use of antimicrobials should be introduced</td>
<td>56.3 (45)</td>
<td>48.3 (28)</td>
<td>61.5 (48)</td>
<td>62.9 (66)</td>
<td>100 (10)</td>
<td>59.5 (197)</td>
</tr>
<tr>
<td>A policy that limits the prescribing of selected antimicrobials to certain clinical indications via an approval process should be introduced</td>
<td>51.3 (41)</td>
<td>43.1 (25)</td>
<td>52.6 (41)</td>
<td>54.3 (57)</td>
<td>80 (8)</td>
<td>52.0 (172)</td>
</tr>
<tr>
<td>Local antimicrobial guidelines and protocols should be introduced</td>
<td>53.8 (43)</td>
<td>48.3 (28)</td>
<td>61.5 (48)</td>
<td>59.0 (62)</td>
<td>100 (10)</td>
<td>57.7 (191)</td>
</tr>
<tr>
<td>A computer application which gives advice on selection and duration of antimicrobial therapy for patients should be introduced</td>
<td>57.5 (46)</td>
<td>58.6 (34)</td>
<td>53.9 (42)</td>
<td>62.9 (66)</td>
<td>90 (9)</td>
<td>59.5 (197)</td>
</tr>
<tr>
<td>A team consisting of a Specialist Physician and Pharmacist providing individualised antimicrobial prescribing advice and feedback should be introduced</td>
<td>53.8 (43)</td>
<td>44.8 (26)</td>
<td>57.7 (45)</td>
<td>54.3 (57)</td>
<td>100 (10)</td>
<td>54.7 (181)</td>
</tr>
<tr>
<td>I would be willing to participate in any interventions involving antimicrobial use</td>
<td>55.0 (44)</td>
<td>48.3 (28)</td>
<td>51.3 (40)</td>
<td>42.9 (45)</td>
<td>100 (10)</td>
<td>50.5 (167)</td>
</tr>
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Implementation of AMS in APrHs

- Focus group discussion among key APH stakeholders at a large private hospital group

- Semi-structured interview with independent facilitators

- Audio recorded and transcribed verbatim

Results: implementation of AMS in APrHs

Themes associated with current antimicrobial prescribing behaviour:

Attitudes of prescribers
- Autonomy and lack of accountability
- Attitudes towards infections

Relationship within the same speciality

Competitive interaction w/i same VMO speciality

Relationship with experts in antimicrobial prescribing
- Referral to ID physicians
Themes associated with introduction of an AMS program:

**Barriers**

- Limited scope in restricting antimicrobials
- Lack of antimicrobial knowledge
- Limited scope in introducing prescribing guidelines
- Limited resources
Themes associated with introduction of an AMS program into APrHs:

**Potential solutions**

- Communication tailored to VMO beliefs
  - Diplomatic and patient focused
  - Potentially segmented (eg Anaesthetists vs Surgeons)
- AMS champions and leadership from Hospital Executive
- **Advisory based** AMS educators
- Specific roles for pharmacists and nurses
- Potential role for private patients (ie customers of VMOs) as advocates of AMS
Where do APrHs start?

– Hospital executive sponsorship (National Standards)

– Dedicated committee to oversee AMS in the hospital (include Pharmacy and Microbiology services)

– Antimicrobial prescribing policy outlining formal endorsement of the AMS committee

– Incorporate the antimicrobial prescribing policy part of VMOs gaining or renewing patient admitting rights
Thank you

"I'll have someone come in and prep you for the bill."