

Introduction

An effective antimicrobial stewardship (AMS) program requires engagement with all healthcare professionals involved in antimicrobial use, not just doctors. Therefore, it may be useful to consider attitudes and perceptions among clinical stakeholders prior to implementing a hospital-wide AMS program.

Australian private hospitals contribute significantly to patient care, however, there are a lack of AMS activities currently occurring within these facilities. Importantly, there are no data within this hospital sector on what attitudes exist towards antimicrobial resistance and antimicrobial use as well as what perceptions clinical stakeholders may have about the benefit of AMS.

Aim

To describe perceptions and attitudes towards antimicrobial resistance, antimicrobial use and AMS among all key healthcare professionals at a large Australian private hospital.

Methods

A 26-item survey was constructed by the Melbourne Health AMS Research Group. The following information was collected for each respondent:

- **perception of antimicrobial resistance as a problem**
- **experience with antimicrobial resistance**
- **perceptions of contributing factors to antimicrobial resistance**
- **perceptions of non-compliant antimicrobial prescribing at the hospital**
- **awareness of AMS**
- **attitudes towards potential AMS interventions**
- **willingness to participate in proposed AMS interventions**

A seven-point Likert scale was used for the majority of responses and ranged from “strongly agree” to “strongly disagree” or “not a problem” to “a very serious problem”.

The survey was distributed by email to all visiting specialists, registrars, nurses and pharmacists at a large private hospital in Australia.

Statistical methods

Categorical data were presented as percentages ‘in agreement’ and differences amongst professions were tested using Pearson’s chi-squared test, or when sample size was smaller than 10 for any category, Fisher’s exact test was used. A two-tailed p-value of 0.05 was considered statistically significant. STATA statistical analysis software (version 12) was used (StataCorp, College Station, TX, USA).

An AMS program at the surveyed hospital will need to make all five professional groups more aware of the significance of antimicrobial resistance in the care of their patients. Surgeons will need to be targeted and nurses may also need to be more engaged during AMS implementation.

On the other hand, pharmacists were engaged and appeared to be concerned about non-compliance of antimicrobial prescribing at the hospital, were the most enthusiastic about AMS interventions and were the most willing to participate in an AMS program.

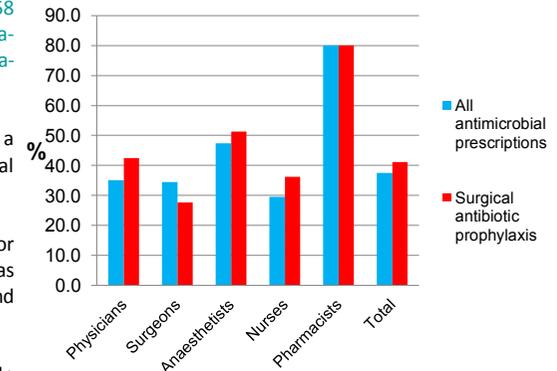
Results

331 healthcare professionals responded to the survey: 80 (24.2%) physicians, 58 (17.5%) surgeons, 78 (23.6%) anaesthetists, 105 (31.7%) nurses, 10 (3.0%) pharmacists. The response rate was 43% among visiting specialists, 100% among pharmacists and 14.5% among nurses.

A larger proportion of respondents believed that antimicrobial resistance was a serious problem in other Australian hospitals compared to the surveyed hospital (61.9% vs 45.3%, $p < 0.001$).

A fifty per cent or greater non-compliance with national prescribing guidelines for all **antimicrobial prescriptions** and **surgical prophylaxis prescriptions** specifically was estimated by a significantly higher proportion of surveyed pharmacists ($p = 0.007$ and $p = 0.019$, respectively) (**Figure** on right).

Pharmacists surveyed believed that improving antimicrobial prescribing would help decrease antimicrobial resistance, with this proportion being significantly higher than the other health professions surveyed ($p = 0.006$).



	Physicians	Surgeons	Anaesthetists	Nurses	Pharmacists	Total
A formal policy for the use of antimicrobials should be introduced	56.3 (45)	48.3 (28)	61.5 (48)	62.9 (66)	100 (10)	59.5 (197)
A policy that limits the prescribing of selected antimicrobials to certain clinical indications via an approval process should be introduced	51.3 (41)	43.1 (25)	52.6 (41)	54.3 (57)	80 (8)	52.0 (172)
Local antimicrobial guidelines and protocols should be introduced	53.8 (43)	48.3 (28)	61.5 (48)	59.0 (62)	100 (10)	57.7 (191)
A computer application which gives advice on selection and duration of antimicrobial therapy for patients should be introduced	57.5 (46)	58.6 (34)	53.9 (42)	62.9 (66)	90 (9)	59.5 (197)
A team consisting of a specialist physician and pharmacist providing individualised antimicrobial prescribing advice and feedback should be	53.8 (43)	44.8 (26)	57.7 (45)	54.3 (57)	100 (10)	54.7 (181)
I would be willing to participate in any interventions involving antimicrobial use	55.0 (44)	48.3 (28)	51.3 (40)	42.9 (45)	100 (10)	50.5 (167)

Conclusion