CSIRO PUBLISHING

Healthcare Infection, 2015, **20**, 134–140
http://dx.doi.org/10.1071/HI15015

Implementation of an antimicrobial stewardship program in an Australian metropolitan private hospital: lessons learned

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Abstract. ***Introduction*:** While there is literature on the implementation and efficacy of antimicrobial stewardship (AMS) programs in the public hospital setting, there is little concerning their implementation in the private hospital setting. Resources to guide the implementation of such programs often fail to take into consideration the resource limitations and cultural barriers faced by private hospitals. In this paper we discuss the main obstacles encountered when implementing an AMS program at a private hospital and methods that were used to overcome them.

***Methods*:** In 2012, St Vincent's Private Hospital Melbourne implemented an AMS program that was tailored to suit the requirements and limitations faced by private hospitals. Baseline data was collected to determine areas of priority. Cultural barriers were overcome by forming relationships between AMS and non-AMS personnel, involving key clinical stakeholders when developing hospital policies, and having ample support from hospital executives. We also modified our approach to conventional AMS interventions so that typically resource-intensive projects could be carried out with minimal resources, such as the restriction of antimicrobials via a two-stage post-prescription review model.

***Results*:** Through our AMS program, we have been able to implement multiple initiatives including a formulary restriction, significantly reduce aminoglycoside use, develop hospital guidelines and regularly contribute data to national surveillance programs.

***Conclusion*:** While there are guidelines available to help develop an AMS program, these guidelines need to be adapted to suit different hospital settings. Private hospitals present a unique challenge in the implementation of AMS programs. Identifying and addressing barriers specific to an individual institution is vital.

Received 17 July 2015, accepted 31 August 2015, published online 14 September 2015

Introduction

Antimicrobial resistance has been heralded as one of the greatest challenges to human health today.[1] The indiscriminate use of antibiotics has led to the development of antibiotic-resistant organisms which has been associated with increased morbidity, mortality and healthcare costs.[2–4] It is estimated that up to 50% of antimicrobial courses prescribed in hospitals overseas and in Australia are inappropriate,[1,5] and there is evidence to support the ability of Antimicrobial Stewardship (AMS) programs to improve the quality of antimicrobial use, improve patient outcomes, minimise resistance,[6–9] and reduce excessive antimicrobial prescribing without worsening patient outcomes.[10] In 2012 the Australian Commission on Safety and Quality in Health Care (ACSQHC) introduced the AMS criterion in the new National Safety and Quality in Health Service (NSQHS) Standards.[11] This

Implications

- Antimicrobial stewardship programs need to be tailored to suit the needs and available resources of individual institutions.
- Endorsement and support from hospital executives, involvement of key clinical stakeholders and awareness of prescribing etiquette is crucial for successful implementation of antimicrobial stewardship programs.

required all Australian hospitals, both public and private, to implement an AMS program in order to meet hospital accreditation standards.

Despite the abundance of literature on AMS,[12] there is little concerning the implementation of an AMS program in the private hospital setting. A survey of Australian hospitals[13] found that only 4.8% of private hospitals restricted the use of broad-spectrum antimicrobials versus 93.8% in the public metropolitan sector. Resources available to guide the implementation and development of AMS programs[5] often centre around the public healthcare sector and fail to take into consideration the difference in patient case-mix. For example, national guidelines often place emphasis on policies for medical conditions, such as community-acquired pneumonia, as most public hospital patients (74%) are admitted for medical treatment.[14] In contrast, 41% of private hospital patients are admitted for surgery and only 38% admitted for medical treatment.[14]

Unlike the public hospital, where medical staff work in speciality teams, in the private healthcare sector medical specialists admit their own patients and are individually responsible for their care. Problems may arise in private hospitals as a result of this difference in workplace dynamics as long-standing cultures of 'prescribing etiquette' are amplified.[15] In an institution that deals predominantly with doctors at the top of the medical hierarchy, an environment of autonomous decision-making with regard to prescriptions is often widely accepted and unchallenged by other healthcare staff.[15] These unwritten rules often lead to an ethos of 'non interference' with prescriptions written by other medical officers which may result in suboptimal prescribing of antimicrobials.[15]

A recent survey of healthcare workers at Australian private hospitals[16] identified the following as attitudes to AMS which could prove to be barriers when implementing an AMS program in a private hospital: (i) a low proportion of healthcare staff (nursing staff in particular) being aware of AMS, (ii) the challenge of making antimicrobial resistance a relevant local issue among health professionals at the hospital in which they practice, and (iii) significant disengagement in issues revolving around antimicrobial use amongst clinical stakeholders at the hospital, despite formal endorsement and sponsorship of AMS by the hospital executive.

Reviews of AMS programs from around the world have shown that the most successful interventions are those that have been tailored to local conditions.[12] The likelihood of producing behavioural change in professional practice improves if interventions are adapted to address institution-specific barriers and limitations.[17,18] Qualitative research in AMS has largely been performed in public hospital settings; as such, finding an optimal and sustainable AMS program model for a private hospital setting and its prescribing culture presents unique challenges.[17] Literature exists which demonstrates the barriers that may be encountered in the private hospital system[16] and possible methods to overcome them.[19] The aim of our paper is to demonstrate one model for implementing an AMS program at a private hospital based upon our experiences.

Methods

Setting

St Vincent's Private Hospital Melbourne (SVPHM), is a metropolitan private hospital comprised of three campuses (Fitzroy, East Melbourne and Kew) with ~400 overnight-stay beds, 70 day-case beds and eight ICU beds. Medical and surgical specialties are represented, including cardiothoracics, neurosurgery and obstetrics. In 2012, SVPHM started the development of its AMS program.

Development of the AMS committee (AMSC) and AMS team (AMST)

In preparation for the new AMS criterion in the 2012 NSQHS standards,[11] hospital executives approved funding for the implementation of an AMS program at SVPHM. Three infectious diseases (ID) physicians who were already well known to the institution were selected to participate in the AMS program on a consultative basis. Together with a medical microbiologist, pharmacist, nursing representatives from infection prevention, and executive representatives (the director of medicine and general nursing director), they formed the AMS committee (AMSC). The AMSC was responsible for ensuring compliance with the NSQHS standards[11] with a smaller subgroup, the AMS team (AMST), being responsible for implementing and directing the activities of the AMS program. The AMST comprised of the ID physicians, pharmacist and infection control nurses. While the AMSC would meet on a quarterly basis, the AMST would meet regularly to discuss projects.

Following recommendations set out by the NSQHS standards,[11] the AMSC was integrated into the hospital's organisational structure and reported to the Infection Prevention Committee, the Drugs and Therapeutics Committee and other various groups or committees when required.

Implementation of an AMS program in the private hospital system

From the outset, we identified the importance of the program being inclusive of all healthcare workers, in particular nurses,