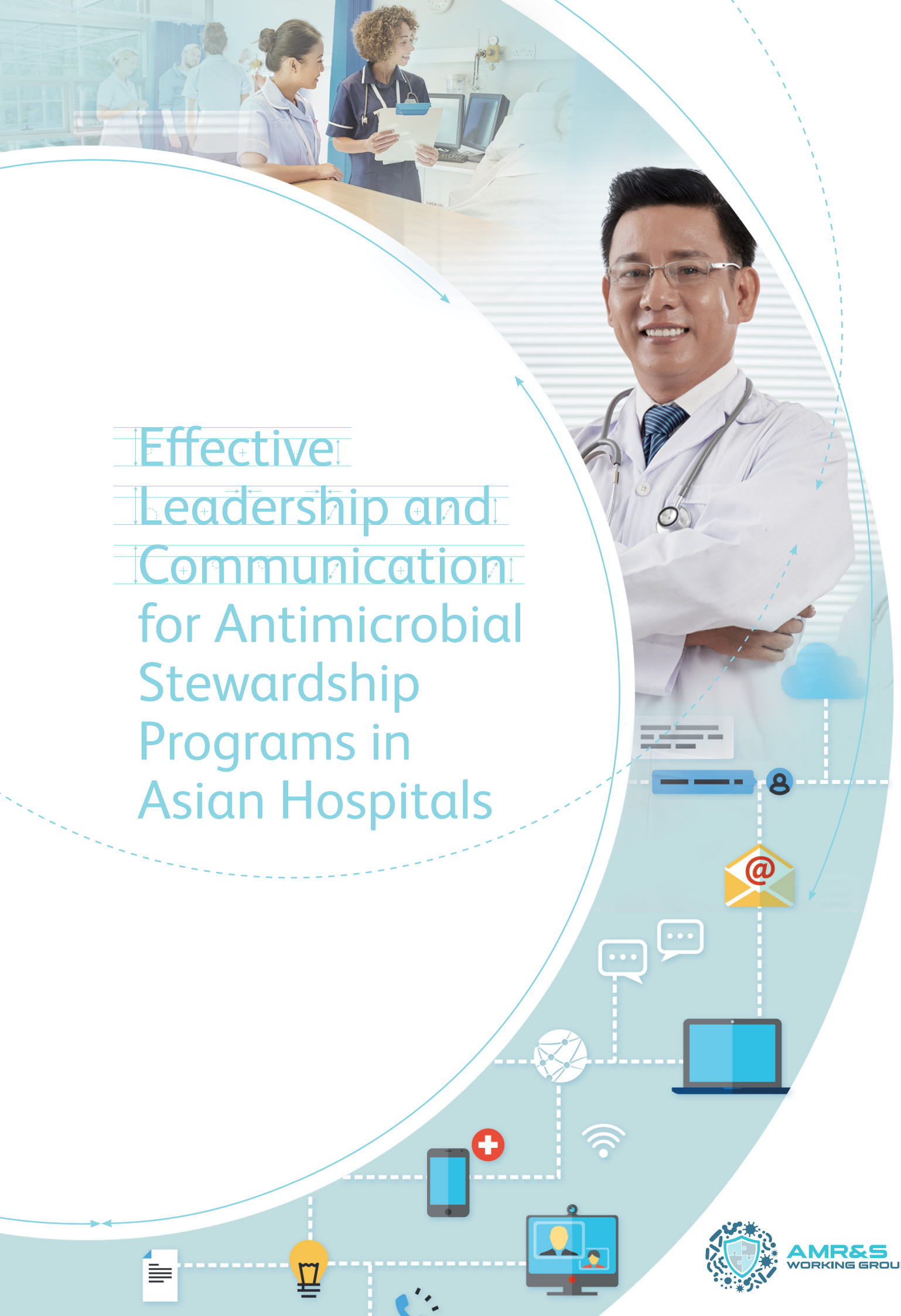
Effective Leadership and Communication for Antimicrobial Stewardship Programs in Asian Hospitals



AMR&S WORKING GROUP

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Who should lead the AMS team?

Effective leadership is vital for the success of an antimicrobial stewardship (AMS) program.[1] Ideally, an infectious disease (ID) physician should lead the AMS team, with an ID-trained clinical pharmacist as co-leader.[1,2] If the ideal leadership structure is not obtainable, these roles can be filled by other members of medical staff.[3] For example, if there is no ID specialist to lead the team, another clinician or a pharmacist with an interest in infectious diseases can be empowered to lead the team.[4,5]

Formal ID training is beneficial but not absolutely necessary for a clinician or pharmacist to be able to lead an AMS team.[4-7] AMS team leaders do, however, need to be assertive and effective communicators who are familiar with stakeholder needs, use evidence-based knowledge, and are respected by hospital administrators and medical staff.[7,8]

AMS team leaders

- Optimally, a physician and clinical pharmacist with ID training or expertise should co-lead the AMS team[1]
- At a minimum, a committed physician or pharmacist with an interest in infectious diseases can lead the team[4,5]

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How to be an effective AMS program leader?

AMS program leader responsibilities include the following:

- Obtaining support for the AMS program
- Building the AMS team
- Developing and implementing the AMS program
- Reporting AMS program performance
- Sustaining the AMS program

To perform these tasks to the best of their ability and obtain buy-in from key stakeholders, AMS program leaders must ensure that they develop effective channels of communication with hospital administration and front-line prescribers.[8] This guide is intended to provide suggestions as to how AMS program leaders might achieve this.

Obtaining formal support for the AMS program

Obtaining formal support from hospital management is essential for the success of an AMS program.[8,9] The AMS team leader should communicate what needs to be improved and why, providing a clear argument to convince hospital administrators that support and funding of an AMS program is beneficial to the hospital and patient safety.[8,10] Before presenting a business proposal to hospital leadership, meet with other key stakeholders to evaluate any concerns and validate content.[8]

Key components of an AMS program business proposal[8,10]

1. Data on hospital problem areas (eg, excessive use of high-cost carbapenems, high rates of multidrug-resistant *Acinetobacter baumannii*)
2. The purpose of AMS programs
3. Benefits of AMS programs
    a. Use current evidence-based literature
    b. Use examples from hospitals in the region
4. Composition of the AMS team
5. Financial analysis (eg, how estimated savings from interventions such as switching from intravenous to oral therapy and de-escalation will offset upfront costs)
6. Recommended interventions
7. Measureable outcomes
8. Assessment time points
9. Pilot-testing logistics and time frame (eg, initial small-scale AMS program and regular reporting of key performance indicators to demonstrate effectiveness and generate support for the program)

The **AMS checklist** can be used to determine what hospital policies, resources and systems are already in place to optimize antibiotic use and support AMS activities, and what needs to be implemented or improved.

Business case **sample slides** are also available in this toolkit.

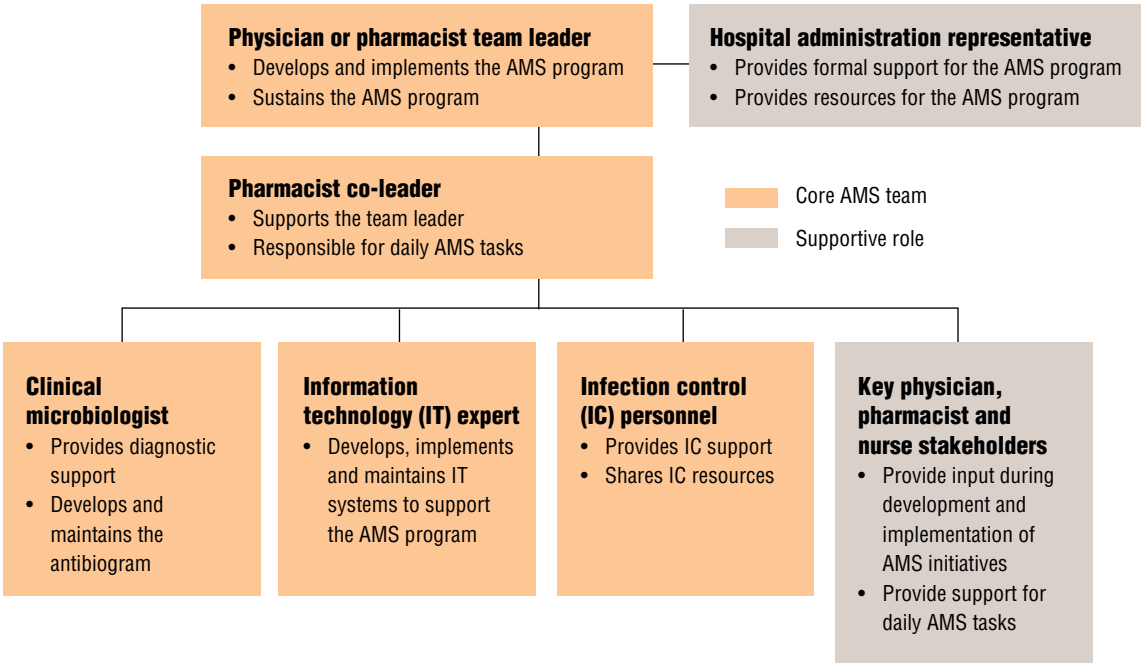
Building the AMS team

The team leader should aim to include pharmacists, infection control personnel, hospital epidemiologists, information technology experts and microbiologists in a dedicated multidisciplinary AMS team (Figure 1).[8,9,11] If the hospital has limited or no access to these personnel, the team leader should widen their net and recruit any interested practitioners at their hospital.[3] Hospital administration and front-line prescribers should also be represented on the AMS team to help develop goals and interventions, help with implementation of the program and encourage buy-in from a broad range of physician groups.[11]

The team leader should ensure that team members have clearly defined roles and enough dedicated time to carry out AMS tasks.[11] Team members should have the knowledge and skills necessary to help establish an AMS program and for the practice of AMS.[7,12]

Figure 1

Suggested hospital AMS team structure and function[1,13]



Adapted from the Centers for Disease Control and Prevention and Dellit HT, et al.

Basic knowledge and skills for AMS team members[12]

AMS knowledge for the establishment of an AMS program:

- Aims of AMS
- Types of AMS interventions
- Issues, controversies and ethics of AMS

Clinical knowledge and skills for the practice of AMS:

- Pharmacology of antibiotics (eg, pharmacodynamics and pharmacokinetics, spectrum of activity, clinical indications)
- Basic microbiology and infectious diseases knowledge (eg, diagnostic tests and their interpretation, treatment options and clinical guidelines for common infections)
- Interpretation of antibiograms and their utility
- Basic clinical skills (eg, communication with patients and healthcare providers, clinical evaluation, clinical documentation and reporting)

Measurement of AMS program outcomes and impact:

- Collecting and analyzing AMS program data
- Process and outcome key performance indicators
- Antibiotic resistance and prescription surveillance

Depending on their experience and expertise, the team leader should make use of educational resources to help the team upskill in relation to AMS and infectious diseases. Some examples of available training courses are listed below:

- A free online AMS course is available at **www.futurelearn.com/courses/antimicrobial-stewardship**
- Making-a-Difference in Infectious Diseases (MAD-ID) is a US organization that offers an online AMS training program with discounts for participants from developing nations (visit **www.mad-id.org/antimicrobial-stewardship-programs** for more information)

Developing and implementing the AMS program

It is very important to obtain physician buy-in before implementing the AMS program.[8,9,11] To facilitate this, the team leader must choose AMS interventions that are most supported by clinical staff and ensure that there is no perceived loss of clinical decision-making autonomy because of these interventions.[11] For example, consider relying more on prospective audit and feedback, which may be better suited to the hospital's prescribing culture and more readily accepted than preauthorization.[8]

Identify key stakeholders from areas of the hospital that will be affected by AMS activities, and organize meetings with them to actively solicit feedback for proposed interventions, making modifications as necessary.[8,11] For example, intensive care and emergency medicine physicians should be involved in the development and implementation of AMS interventions that impact workflow in the intensive care unit and emergency department. These include requirements for preauthorization of certain antibiotics and **empiric treatment guidelines** for the treatment of infections commonly treated in these areas (eg, sepsis and community- or hospital-acquired pneumonia).

An AMS committee to help encourage clinician buy-in

- It is worth considering assembling a separate committee of physician stakeholders from diverse and/or problem areas of the hospital to meet regularly with the AMS team leader
- Such a committee will help the AMS team leader liaise with medical staff and encourage buy-in from clinicians outside the formal AMS team[11]

Prepare prescribers for change by organizing meetings and educational sessions to discuss why changes are being implemented and how they will be integrated into existing work-flow.[8,11] Make sure that all relevant clinical staff are aware of new guidelines, rules and procedures. To promote new or revised AMS program initiatives, consider using:

- Newsletters
- Brochures
- Posters
- Grand rounds
- Hospital intranet and e-mail systems

Reporting AMS program performance

The AMS team leader must decide how to provide feedback to prescribers.[8,9,11] See the **guide to using key performance indicators to monitor AMS program progress** in this toolkit for detailed guidance on using key performance indicators to evaluate the effectiveness of the AMS program in relation to its goals. Measures of the quality of prescribing (eg, the rate of adherence to hospital antibiotic guidelines) and the AMS intervention acceptance rate (eg, the proportion of accepted recommendations for de-escalation) should be regularly reported to the relevant groups in an easily interpreted format. This could be as weekly or monthly reports or discussions at departmental meetings, presentations at grand rounds, or within staff newsletters.

When deviation from evidence-based prescribing practices by outlier physicians is identified, efforts should be made to understand the reasons for non-compliance and rectify the problem.[11] One-on-one education may help overcome resistance to AMS recommendations, such as reluctance to de-escalate broad-spectrum therapy because of concern for patient safety.[11,14,15]

Develop a communication plan for reporting AMS program performance to relevant hospital departments and hospital administration.[8,9]

- Antibiotic use data (eg, use of antibiotics requiring preauthorization or use of specifically targeted classes of antibiotics should be reported at least quarterly)
- Total antibiotic use and antibiotic susceptibility data should be reported at least annually
- A full annual report of all relevant performance indicators should be prepared and distributed to hospital administrators

Key components of an AMS program annual report[8]

1. Overview of the purpose and goals of the AMS program
2. Antimicrobial usage data (eg, use of total antibiotics, restricted antibiotics and/or certain antibiotic groups)
3. Financial metrics (eg, expenditure in relation to total antibiotics, antibiotics requiring preauthorization and/or other antibiotic groups targeted by AMS interventions)
4. Summary of patient-level interventions (eg, number of de-escalations)
5. Summary of completed, ongoing and planned initiatives
6. Outcomes (eg, decreased use of a particular antibiotic and density rates of multidrug-resistant bacteria)

- Examples of AMS program quarterly reports can be found **here**
- An example of an annual report for a new AMS program can be found **here**

Sustaining the AMS program

Once the AMS program has been implemented, AMS leaders are responsible for making sure the AMS program is **sustainable**.[7-9] This should include scheduling regular meetings with the AMS team/committee to review AMS program activities and data, and to make changes to the program as required. The team leader should also meet with hospital administrators on a regular basis to present reports detailing evidence that the AMS program has achieved or is on track towards achieving its goals.
Early success can be used to secure continued support for the program and more resources to expand and improve the AMS program.
For example:

- More AMS providers for one-on-one feedback and other AMS educational activities
- Improved microbiology laboratory capacity to support AMS activities
- Improved IT support for the AMS program

As the AMS program progresses, clinical staff should be continually educated and updated on AMS activities and their purpose. Prescribers should be informed of any changes to the **antibiogram** and AMS policies, and new staff should be familiarized with AMS policies and procedures. General AMS educational strategies may involve:

- One-on-one feedback
- Medical teaching rounds
- Orientation sessions for junior doctors
- Inclusion of AMS in specialty training programs for residents
- Newsletters

An AMS newsletter example advising of a new antibiogram and updated empiric prescribing guidelines can be found **here**.

Summary

AMS team leaders should be widely visible and available AMS program champions who use:

- The best available data to persuade hospital leaders to make AMS a strategic goal of the hospital that is accepted by all stakeholders
- Educational strategies to raise awareness of the importance of AMS and encourage AMS program compliance among prescribing physicians and other healthcare staff
- Success to justify improvement and expansion of the program

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