

Success of antimicrobial stewardship programmes – it starts with leadership and accountability

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Antimicrobial resistance (AMR) is recognised as one of the top ten global public health threats facing humanity,¹ an estimated 4.95 million deaths associated with bacterial AMR in 2019.² The global misuse and overuse of antimicrobials is a leading cause of AMR putting the future of healthcare at risk, driving us towards ‘a post-antibiotic era’ where simple infections are fatal.³ It is widely recognised that antimicrobial use is not without harm to individual patients and that over prescribing antimicrobials can have adverse effects in up to 20% of hospitalised patients,⁴ including devastating adverse effects, for example, *Clostridioides difficile* infection.⁵

The UK National Institute for Health and Care Excellence (NICE) defines Antimicrobial Stewardship (AMS) as ‘an organisational or healthcare system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness’.⁶ AMS is an integral component of healthcare systems.⁷

The COVID-19 pandemic has amplified the pressure of AMR, with an increased use of broad-spectrum antibiotics to treat respiratory tract infections, the full global impact of this is not fully understood. With comparisons between COVID-19 and AMR, highlighting the impact of infections for which there are no effective treatments, the pandemic has increased the priority of AMS in healthcare settings.⁸ However, this is counter-balanced by the increasing pressures on healthcare facilities globally which are working hard to repair and reinforce health services in the aftermath of the pandemic.⁹

It is internationally recognised that the core elements of institutional AMS programmes include clear leadership and accountability structures.^{4,7} The UK Department of Health’s ‘Start Smart then Focus’ toolkit acknowledges that ‘it is no longer the responsibility of specialists alone to champion stewardship efforts within an organisation’.¹⁰

If strategic leadership is key to the success of institutional AMS programmes, now is the time to consider on a global, national and local level: What does strategic leadership support for AMS programmes look like? How should strategic leaders support AMS programmes? Who are the AMS leaders, nationally, regionally and locally? Do the AMS leaders have the necessary leadership skills to engage with key stakeholders and drive AMS programmes forward?

Healthcare organisations in some countries (e.g. the UK) are becoming larger groups of healthcare facilities with complex leadership/management structures. We must consider, in a hierarchical system are the AMS leaders able to and enabled to lead local AMS programmes? What makes a good AMS leader and do our local AMS leaders have the necessary skills?

AMS programmes should focus on optimising infection management, giving individual patients the best outcome and minimising harm, while reducing the impact of AMR for future patients. This is ultimately balanced by the need to deliver cost-effective healthcare, with a drive to make savings. Strategic leaders in healthcare face daily challenges and have many competing priorities

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with AMS being just one of these. An effective AMS leader is empathetic to the difficult nature of delivering safe and cost-efficient healthcare in an often resource limited setting. AMS leaders must work closely with strategic leaders to ensure that AMS continues to be a priority locally, while working closely with national leaders to increase pressure on organisations to maintain sustainable AMS programmes.

There must be a collaborative relationship between AMS leaders and strategic healthcare leaders, at all levels in healthcare. AMS leaders need to develop skills to lead effectively, fostering relationships with key stakeholders, communicating effectively to drive the AMS agenda forward. Efforts need to be made to upskill members of the AMS team in leadership regardless of stage of their career. To enable AMS leaders to do this, we must develop effective and relevant AMS leadership programmes and resources. There are many healthcare leadership courses and resources available and now some specific AMS leadership courses are in operation, for example, the UK Chief Pharmaceutical Officer's Global Health Fellowship,¹¹ but such leadership courses may be only available to small cohorts; therefore, there is a need to develop more specific national and international AMS leadership tools/resources for larger groups of AMS specialists and AMS leaders.

Accountability goes hand in hand with leadership in many AMS toolkits which describe the core elements of institutional AMS programmes,^{4,7} it is important to consider: What does accountability in terms of AMS programmes mean? Who is accountable for the prescribing of antimicrobials within an organisation? How are individual healthcare practitioners held to account?

What is the true measure of success of AMS programmes? National targets set for individual institutions are often based on antibiotic consumption rates, for example, the UK NHS National Standard Contract, which guided by the UK AMR National Action Plan has from 2019 specified that Trusts should make a 1% year-on-year reduction in their rate of total antibiotic usage per 1000 admissions (amended to Watch and Reserve classes only from 2022).¹² While targets based on consumption may be easier to quantify/estimate, are these the best measures of a success in terms of managing AMR on a global scale? National

teams must set clear standards/objectives/action plans which can be easily implemented by local AMS leaders to ensure that AMS is prioritised by individual organisations.

Prescribers must be accountable and responsible, understanding that each antimicrobial they prescribe carries a risk of harm. Evidence suggests that risks of adverse effects on the individual patient increase by 5% for each additional day of antibiotic therapy.¹³ However, sepsis and AMS have been described as 'co-existing in tension' with often opposing messages around the use of antimicrobials. Prescribers may assess that the risk of under treating sepsis is greater than the impact that their individual prescription may have on the global risk of AMR development.¹⁴ AMS programmes while seeking to optimise and reduce antimicrobial consumption in the individual organisation must accept that this may have unintended consequences on patient outcomes¹⁵ and must implement systems to support prescribers.

The blame game isn't working; the traditional approach to AMS has been one of blame, of red, amber, green dashboards and sometimes unachievable consumption targets. AMS programmes traditionally led by pharmacists and microbiologists, involving audits which judge prescribing practices of medical staff have not always built harmonious relationships. It has led to a misconception that doctors ignore AMS guidance and that the primary focus of AMS teams is to stop antibiotics to meet consumption targets.

Expanding the core AMS team beyond the traditional barriers and embracing the skills of others such as behaviour change experts¹⁶ will help to modify the behaviours of individuals and the culture of the masses. Our focus should be on rebuilding relationships and breaking down barriers, encouraging prescribers to become AMS champions rather than seeing them as AMS villains, celebrating successes and progress together rather than blaming each other when things go wrong.

Culture needs to change to reach our collective goal of optimising patient care, avoiding harm and reducing AMR. National AMR programmes should focus on developing the leadership skills of AMS specialists and engaging with other healthcare leaders to develop non-infection specialists as AMS leaders. An institutional multi-disciplinary leadership team with a focus on collaboration,

assurance and accountability can together develop a core vision with a strategy to drive the AMS programme dependent on the AMR/AMS priorities of the individual organisation.

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Consent for publication

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