



LEARNING LOUNGE VIEWPOINTS SERIES :

LACK OF ANTIMICROBIAL RESISTANCE (AMR) UNDERSTANDING IMPACTS OPPORTUNITIES FOR PROPER USE OF DIAGNOSTICS



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In this Learning Lounge exclusive Viewpoints Series interview, Jacob Morton, PharmD, BCIDP, Senior Director of Value-Based Healthcare at bioMérieux, addresses a key *POWER the AMRevolution* survey finding.¹ Of the more than 6,000 adults surveyed across the United States, Brazil, China, India, and Spain, **only half (52%) reported being familiar with the term 'AMR', but even fewer were knowledgeable about its consequences.**

This so-called 'unknown enemy' has become a public health crisis with bacterial antimicrobial resistance (AMR) responsible for over 1.1 million deaths² annually. The lack of public awareness about AMR not only hampers efforts by healthcare professionals to combat this threat, but also affects the implementation of effective diagnostic tools that are crucial for proper diagnosis and treatment. As we approach World AMR Awareness Week, it is vital to address this knowledge gap and explore ways to enhance public understanding and engagement.

bioMérieux: Why do you think AMR hasn't gained the same level of public attention or educational focus as other health issues? What factors contribute to this disconnect between the severity of AMR and public perception?

J. Morton: AMR develops gradually, and its effects are not immediately apparent, unlike acute health crises. For this reason, other health concerns often overshadow it in public health communications.

Additionally, terms like antimicrobial resistance are technical and abstract, even more so when referred to as AMR, making it difficult for the public to understand and relate to the issue. Those engaged in public and patient education should learn from previously successful public health campaigns, such as those for HIV awareness, and develop targeted communication strategies that focus on critical personal risks rather than generalized future concerns. At the same time, terminology that is more relatable for the general public should be used.

bioMérieux: Studies³ have shown that patient education leads to increased adherence to proper antibiotic use. What is a baseline strategy that pharmacists and clinicians could employ to advance AMR awareness and the role they play?

J. Morton: As pharmacists and clinicians, taking the time to counsel patients receiving antibiotic prescriptions in outpatient settings, as well as counseling patients who will be discharged from the hospital on antibiotics, can reduce confusion about directions and serve as an opportunity to raise awareness about the risks of AMR related to medication noncompliance – helping ensure that antibiotics are taken at the right time, in the right dosage, and for the appropriate duration.

bioMérieux: What resources or support are needed for the integration of AMR education into daily patient interactions?

J. Morton: Healthcare professionals need easily accessible, patient-friendly resources such as brochures, posters, and digital content that explain AMR in simple terms. These materials should be available in multiple languages to cater to diverse patient populations. Educational materials such as infographics⁴ and other visual aids are shown to be effective communication materials.³ Additionally, healthcare professionals need ongoing training to stay up-to-date on the latest AMR developments and effective communication strategies. This could include workshops, online modules, and interprofessional education sessions.

However, healthcare institutions may not always recognize the importance of AMR education, nor allocate the time needed for patient counseling during consultations or medication dispensing. Collaborative practice agreements between pharmacists and other healthcare providers, as well as antimicrobial stewardship (AMS) teams within the hospital or care facility, could help expand the responsibility of AMR education and increase accountability.

bioMérieux: Over-the-counter sale of antibiotics is a known pathway⁵ for the emergence of AMR, and this issue is especially prevalent in low-to-middle income countries (LMICs) where self-medication⁶ is a common practice. How can we address this issue alongside the unique challenges of healthcare access and resource limitations in LMICs?

J. Morton: Patient interactions provide valuable opportunities for pharmacists and clinicians to promote appropriate antibiotic use, however, it's difficult to counsel a patient who does not have access or does not choose to seek medical attention. While it's crucial to emphasize the importance of proper clinical evaluation and diagnosis before antibiotic use, discouraging self-medication with over-the-counter antibiotics is where community outreach programs become most critical. In LMICs, ensuring that healthcare professionals have access to disseminate the necessary educational materials is essential for increasing awareness and further educating the general public.

We need to be consistently educating the community about the harms of inappropriate use or overuse of antibiotics, especially in the setting of viral infections. It is important that clinicians prescribe the correct dose and duration of antibiotics, and that patients take the antibiotics exactly as prescribed.

Community outreach programs may represent another useful strategy that extends education beyond the healthcare setting and can reinforce these messages in schools and community centers.⁴ This approach helps create a more informed public, contributing to better AMS and improved patient outcomes.

bioMérieux: How instrumental do you think rapid point-of-care tests will be in the ongoing fight against AMR? How could this modern technology benefit the patient relationship as well as help ensure judicious use of antibiotics?

J. Morton: In countries such as the United States, it has been reported that most antibiotic prescribing occurs in outpatient care, with approximately 30% of prescriptions deemed unnecessary.⁷ In our efforts to combat AMR, rapid point-of-care tests (POCTs) play a vital role in supporting appropriate antibiotic prescribing within this setting. These diagnostic tests provide timely data to support healthcare professionals with informed clinical decision-making on patient therapy. From a pharmacoeconomic perspective, POCTs are cost-effective tools because they can help reduce overall antibiotic use, which not only supports AMR management, but also minimizes potential side effects for patients.⁸

bioMérieux: How can healthcare professionals advocate for the use of diagnostic testing to improve patient prescribing practices? Is this effort impacted by patients' lack of awareness about AMR and the consequences of antibiotic misuse/overuse?

J. Morton: In addition to education about appropriate use of antibiotics, healthcare professionals can help educate their patients and the public about the value of clinical diagnostics, including the role diagnostics play in guiding antibiotic use. Through the use of fast and accurate diagnostics, a distinction between viral, bacterial, or other types of infections can be made. Appropriate utilization of diagnostic tests provides clinicians and AMS programs with the necessary information to better inform patient care and the need for antibiotics in general. It is important that clinicians and patients understand that antibiotics are not benign. They can be a frequent cause of adverse effects and allergic reactions, in addition to contributing to AMR. Diagnostics can facilitate clinical decision-making regarding when antibiotics are truly needed. Studies show that AMS plans centered around rapid diagnostics are associated with reductions in mortality, length of hospital stays, and overall healthcare costs.⁹

bioMérieux: How are bioMérieux AMS Centers of Excellence optimizing use of clinical diagnostics to improve patient care and outcomes?

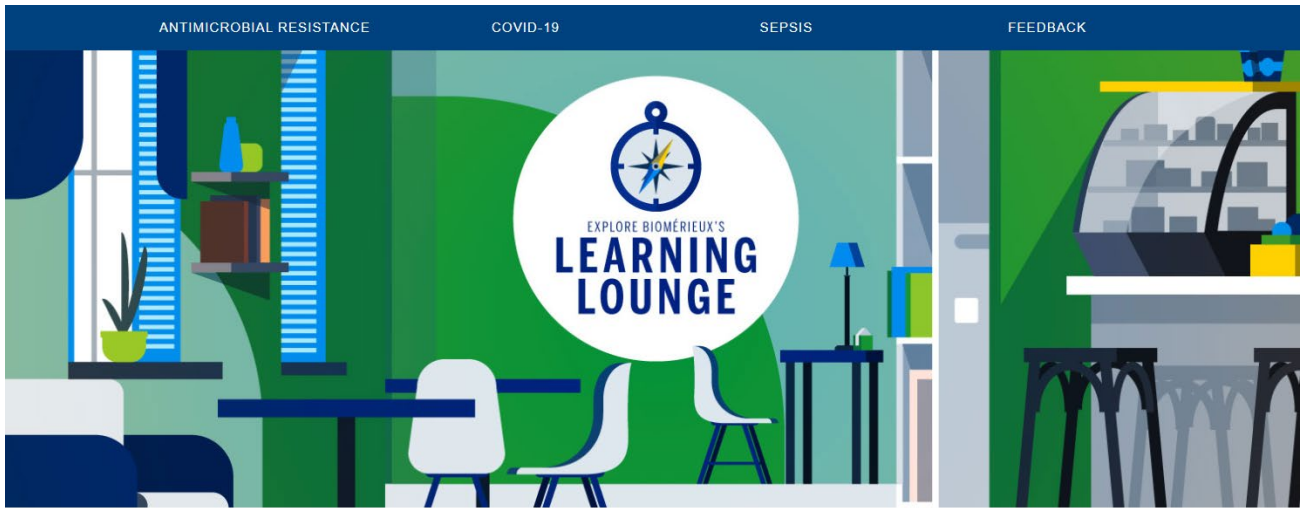
J. Morton: The Antimicrobial Stewardship Centers of Excellence are committed to slowing the spread of antibiotic resistance (AMR) and improving antimicrobial stewardship (AMS). bioMérieux partners with leaders in AMS worldwide to demonstrate the medical and economic impact of diagnostics, education, process improvement, and information technology tools in the fight against AMR. Through this partnership, these Centers of Excellence are working to increase AMR awareness, advocate for AMS best practices, and build capacity to fight AMR in their respective countries and regions of the world. The laboratories within these health systems work closely with clinicians, and truly bring to light the contribution of diagnostics in patient management.

bioMérieux: How can healthcare providers leverage public health initiatives, such as World AMR Awareness Week, to raise awareness and understanding of AMR within their communities and among patients?

J. Morton: World AMR Awareness Week, held annually in November, along with other public health initiatives are a great opportunity for the healthcare community to rally behind a common message and continue to increase public awareness of the threat of AMR. However, advocacy for AMR should not begin and end with a single event. Rather, these initiatives should continue to renew and strengthen the continuous work in the community and their healthcare systems. Public health campaigns⁶ are shown to be effective and, while still limited, AMR awareness is beginning to increase worldwide.

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