AMR Global Health Academy Brief



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When a Blood Culture Needs a Decision: Diagnostic Stewardship in Practice

A blood culture is positive.

For the patient and the care team, the next decision can directly shape the course of care. Is this a true bloodstream infection that requires treatment, or could the organism have been introduced during specimen collection? This distinction can determine whether antibiotics are continued or stopped, whether additional testing is ordered, and potentially whether a patient stays in hospital.

At **Hospital Tengku Ampuan Rahimah in Malaysia**, teams have focused on ordering blood cultures when clinically indicated and improving specimen quality to reduce contamination. **WHO recently highlighted this experience** as an example of **clinical diagnostic stewardship in action** — strengthening patient care, reducing waste, and improving collaboration between microbiology and clinical services.

Recent evidence shows why this matters.

A 2025 study from a public tertiary hospital in Brazil found that **nearly 10% of more than 8,000 blood cultures were contaminated**. Among patients with cultures considered contaminated by coagulase-negative staphylococci, **almost 70% were started on antimicrobial therapy**, with unnecessary treatment lasting a median of seven days. The consequences extended beyond antibiotic exposure to additional laboratory and hospital costs.

The result is only part of the diagnostic pathway.

In June of 2026, WHO released **Strengthening Clinical Diagnostic Stewardship in the Western Pacific Region: A Practical Manual**, emphasizing that good diagnostic stewardship requires more than access to testing. It means getting **the right test, from the right patient, at the right time,** collecting the specimen correctly—and then **interpreting and acting on the result appropriately**. WHO links these decisions to patient outcomes, antimicrobial prescribing, patient safety, and the quality of AMR surveillance data. For those working at **the clinical–laboratory interface**, that raises some very practical questions.

PRACTICE INSIGHT | A positive blood culture: what happens next?

- When a blood culture becomes positive:
- What clues suggest contamination rather than true bacteremia?
- What should the laboratory communicate to the clinical team?
- When should antimicrobial susceptibility testing be performed?
- What should the clinician reassess before continuing antimicrobial therapy?
- What happens to AMR surveillance data when contaminants are misclassified?
- What system changes can reduce contamination in the first place?

These decisions require bringing together microbiology, clinical context, antimicrobial stewardship, specimen quality, and communication between the laboratory and clinical team. Sometimes, however, the systems solution is not as straightforward as identifying a technically effective intervention. **A large 2026 Mayo Clinic study** found that one initial specimen diversion device **reduced blood culture contamination from 1.43% to 0.34%**. Yet uptake among phlebotomists remained low, and usability challenges prevented routine implementation—an important reminder that successful diagnostic stewardship depends not only on effective technologies, but also on implementation and the health workforce.

NEW FROM THE AMR GLOBAL HEALTH ACADEMY



AMR in Practice Decision Points
This month, the AMR Global Health Academy is launching a new continuing professional development series built around exactly these moments. **AMR in Practice Decision Points** present a real-world situation, a decision that needs to be made, and one simple question: **What would you do next?**

Our first Decision Point takes on the blood culture challenge: **Decision Point #1 – Blood Culture Positive: Contaminant or True Infection?** Learners consider the clinical and laboratory evidence before deciding whether a positive culture represents true bacteremia requiring continued treatment, or contamination that should prompt reassessment.

Each Decision Point connects to a structured AMR Academy Learning Pathway: Knowledge → Application → Advanced Decision-Making. Start with the real-world decision, build the underlying knowledge, apply it through case-based learning, and progress to more complex clinical decision-making.

Open Decision Point #1 & Explore The Diagnostics and Laboratory Decision-Making Learning Journey

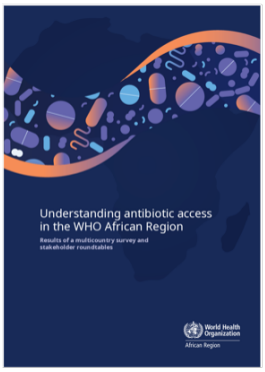
WHY THIS MATTERS FOR AMR STEWARDS

WHO's clinical diagnostic stewardship manual reinforces an important principle: **diagnostics only improve antimicrobial use when their results inform decisions.** That means **strengthening the entire pathway**—from appropriate test ordering and specimen collection to laboratory quality, interpretation, communication, prescribing and reassessment. The challenge for the global health workforce is increasingly not simply **"Do we know what good practice looks like?"** It is: **"Can we translate that knowledge into the right decision when it matters?"** That is the gap the **AMR in Practice Decision Point series** is designed to help address.

ALSO ON OUR RADAR

Antibiotic access in the WHO African Region

WHO released a **new multicountry analysis** in July of 2026 examining barriers to antibiotic access across the African Region. The findings add an important dimension to stewardship discussions: addressing AMR requires both reducing inappropriate antimicrobial use and **ensuring equitable access when treatment is needed**.



A new global framework for the next decade of AMR action

The World Health Assembly has adopted the updated **Global Action Plan on Antimicrobial Resistance 2026–2036**. Among its priorities are stronger surveillance, responsible antimicrobial use, prevention, equitable access and strengthened diagnostics and laboratory services. The updated plan explicitly recognizes diagnostic stewardship as critical to appropriate prescribing, AMR surveillance and outbreak response.

AMR Global Health Academy

Practical learning. Real-world decisions. A global workforce equipped to act.

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