

An AMR Crisis and the Need for Greater Awareness

Welcome to
**The AMR Global
Health Academy**
May/June 2024

Welcome to the bimonthly AMR Global Health Academy Newsletter, May/June edition. The AMR Global Health Academy serves the global health professional and antimicrobial steward in low- and middle-income countries with a free online educational curriculum designed to advance AMR knowledge and best practices. Every two months we will share recent updates from the AMR field, especially as it might relate to AMR testing, diagnostics, and surveillance. We also present AMR case studies and feature laboratories and AMR champions battling real-world AMR problems.



The AMR field needs more scientific talent



The lack of investments in AMR research and development is leading to scientists leaving the field, as stated in a recent Nature article by Lilly Tozer (February 2024), and reported by the [AMR Industry Alliance](#). The lack of investments by governments and pharmaceutical companies could not come at a worse time – AMR continues to rise dramatically as a major health concern.

The report noted a few challenges in particular:

- **AMR R&D workforce decline:** In 1995 there were 3,600 total authors on all AMR publications. In 2020, only 1,800.
- **Fewer antibiotics developed:** In the 1980s and 1990s, generally 3 or more antibiotics (up to 8 in 1992) were approved by the FDA each year. Since 1994, all but three years have seen only 1 drug approved each year.
- **Less research:** In 1995, there were 586 papers on antimicrobials. In 2022, there were only 187 papers published on antibiotics, 29 on antifungals.

This trend adds to the urgency to preserve current antibiotics for future generations. This requires everyone working together:

- **Clinicians** and other **healthcare providers** need access to a **laboratory** where antimicrobial susceptibility testing can be performed to ensure that the most appropriate antibiotics are selected to treat the infection.
- The **recipient of care** has to complete the course of treatment to decrease the risk of emergence of resistance as drug concentrations decline.

Educational courses to strengthen the AMR response

All this may sound indisputable, but the AMR situation continues to get worse globally, likely because these actions do not happen consistently, or perhaps at all, in some settings. With our first course on the [Microbiology Laboratory in the AMR Response](#), we advocate for increasing

Article Spotlight

AMR stewardship in the community



In a recent spotlight from [Nature](#), entitled *The fight against antimicrobial resistance*, Bianca Nogrady delves into the current challenges of the significant increase and impact of AMR in India. AMR directly caused 300,000 deaths in 2019 alone, with a further one million deaths likely caused in part by AMR. Nogrady suggests that the increase in AMR in India has been caused by the “booming pharmaceutical industry” and a “pressure to prescribe”. Additionally, Nogrady points out that more than half of all prescribed antibiotics came from the WHO AWaRe **watch list**. The WHO [AWaRe](#) classification system allows for three categories of antibiotics taking into account the impact on AMR:

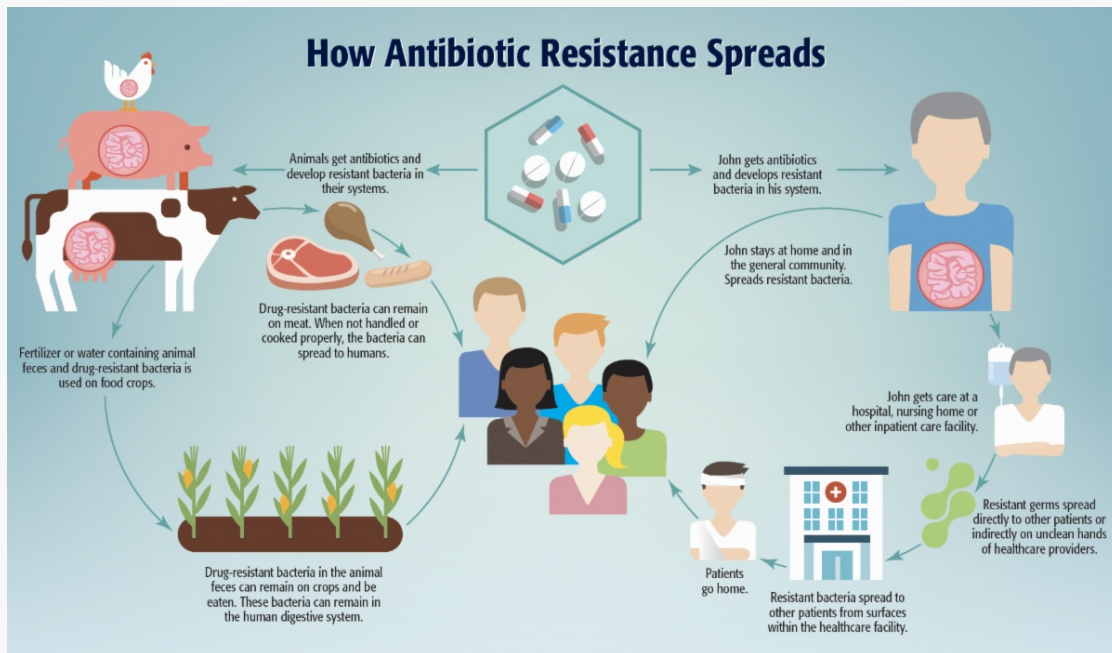
- **Access** antibiotics that have a narrow spectrum of activity and a good safety profile in terms of side-effects.
- **Watch** antibiotics that are broader-spectrum antibiotics and are recommended as first-choice options for patients with more severe clinical presentations or for infections where the causative pathogens are more likely to be resistant to Access antibiotics.
- **Reserve** antibiotics that are last-choice antibiotics used to treat multidrug-resistant infections.

One response from India has been to develop a National Action Plan on AMR that includes testing for resistance before giving antibiotics. However, as Nogrady notes, outside of specialist-

care hospitals, laboratory capacity is limited. Another response has been to try and better understand community AMR awareness with AMR committees that exist at the village level (state of Kerala).

Creating AMR awareness

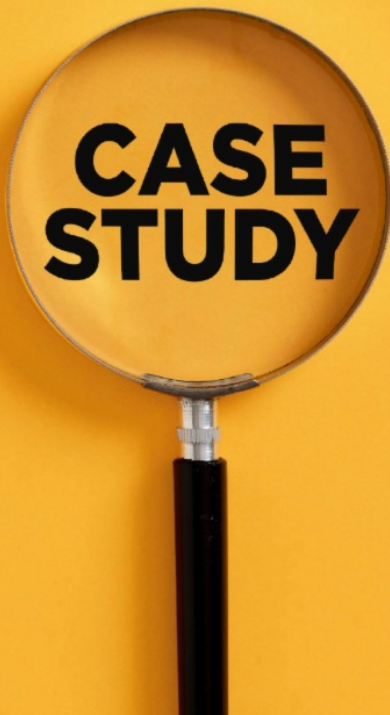
In our course on [The Laboratory in the Prevention and Control of Healthcare Associated Infections \(HAIs\): Making health care facilities safer](#), we discuss the complex interactions and transmission dynamics of resistant bacteria between communities, healthcare settings, animals and the environment. In particular, The excessive use of antibiotics in communities selects for antibiotic resistance that can then threaten the safety of healthcare settings. At the same time, antibiotics are frequently used in healthcare settings leading to emergence of resistant bacteria that are then transmitted into the community when patients are discharged.



Raising awareness of AMR in communities and building more laboratory capacity to perform antimicrobial susceptibility testing are important first steps in our fight against AMR and ensuring the safety of our healthcare facilities and our communities.

What's Next

These articles and the WHO AWaRe watch list emphasizes the need for stronger advocacy for more investment towards AMR now, for developing new antibiotics, keeping researchers and the health workforce in AMR, but also for diagnostics and AMR stewardship programmes.



Want to test your knowledge in AMR?

See case study 1 here to solve a case of healthcare associated infection with *Acinetobacter baumannii* complex ventilator-associated pneumonia (VAP) in the intensive care unit of a referral hospital in India.

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Don't Miss

As part of the Global Antimicrobial Resistance and Use Surveillance Systems (GLASS), WHO recently launched a data visualization [dashboard](#) on antimicrobial resistance and use. There are actually two dashboards in one – one for AMR surveillance systems (AMR) and one for annual national antimicrobial use.

Also, see this [link](#) for the GLASS manual for antimicrobial resistance surveillance in common bacteria causing human infection.

The American Veterinary Medical Association (AVMA) released [resources](#) on antimicrobial resistance susceptibility testing.

To join the AMR Global Health Academy, enroll in the Global Health Continuing Professional Development (GHCPD) free online AMR courses [here](#).

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