

Antimicrobial Resistance: The Slow-Motion Pandemic in Respiratory Medicine

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Dear Editor,

Long before SARS-CoV-2, another pandemic had begun, one measured not in weeks but in decades. Antimicrobial resistance (AMR) now causes more deaths globally than HIV, malaria, or breast cancer¹. Yet within respiratory medicine, the crisis remains under-recognised. Pneumonia, bronchiectasis, tuberculosis, and pleural infections sit at the epicentre of resistance, but stewardship efforts have lagged. This stagnation is striking when compared with the transformative breakthroughs in other respiratory diseases: targeted biologics in asthma, CFTR modulators in cystic fibrosis, and immunotherapy in lung cancer, each of which has revolutionised outcomes within a generation.

Recent WHO and ECDC reports highlight healthcare-associated infections as a major cause of rising AMR. Hospital-acquired pneumonia is one of the main contributors. In European ICU surveillance, *Pseudomonas aeruginosa* is the most frequent organism in ICU-acquired pneumonia. *Klebsiella* species are also prominent. Resistant gram-negative pathogens threaten respiratory care². Community prescribing is problematic. A recent systematic review shows that nearly half of antibiotic prescriptions for outpatient respiratory tract infections may be inappropriate³. There is a need to curb empiricism and shorten courses where it is safe.

The consequences are both clinical and systemic. Physicians face more patients colonised with resistant organisms. These patients are often excluded from trials or outpatient pathways. New inhaled and intravenous agents show promise but cannot keep up with emergent resistance without a parallel cultural shift in prescribing.

From a national perspective, Ireland's One Health National Action Plan on Antimicrobial Resistance (iNAP2, 2021–2025) provides a strong framework for action, prioritising rapid

diagnostics, surveillance, and antimicrobial stewardship⁴. Implementation within respiratory medicine must extend beyond formularies to include targeted diagnostics, early sampling and review, shorter antibiotic courses, and audit-integrated stewardship in respiratory wards and clinics. Strengthening links between respiratory clinicians, microbiology, and infection-prevention teams would accelerate progress, as would embedding stewardship education within specialist training.

Without coordinated surveillance and sustained investment in infection-prevention infrastructure, the “slow-motion pandemic” of AMR will erode decades of clinical progress. Respiratory clinicians, accustomed to thinking globally since the COVID-19 pandemic, are uniquely positioned to lead. The lungs are where AMR meets the world: in the ICU, the community clinic, and beyond. To treat empirically without stewardship is no longer neutral; it is contributory negligence to the next generation of patients.

Declarations of Conflicts of Interest:

None declared.

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