

## Antimicrobial Resistance: What It Is and Why it Matters

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### Antimicrobial resistance threatens to revert decades of medical progress



What if the medicines we have relied on for decades suddenly stopped working? A future where common infections become untreatable and routine surgeries turn into high-risk gambles is not far-fetched- it's happening now. This is antimicrobial resistance, a silent crisis unfolding across India, where microorganisms are evolving faster than our ability to fight them. The question is no longer if antimicrobial resistance will affect us, but when.

### What is Antimicrobial Resistance

Antimicrobial resistance (AMR) also known as drug resistance, occurs when microorganisms like bacteria, viruses, fungi and parasites evolve over a period and become resistant to the effects of antibiotics or antimicrobials that once were used to kill them. When microorganisms become resistant to most antimicrobials they are referred as superbugs or technically referred to as MDROs – Multi-Drug-Resistant Organisms. This means that standard treatment becomes ineffective, infections persist and the risk of spreading these resistant strains to others increases dramatically especially in the hospital setting.

### The Indian Landscape: A Growing Crisis

India faces one of the highest burdens of antimicrobial resistance globally. The country noted the most deaths due to antimicrobial resistance among those aged 70 and above in 2021. The misuse and overuse of antibiotics, along with self-medication, have accelerated the rise and spread of antimicrobial resistance in microorganisms. Antibiotics have been used to treat viral infections like fever, cough, cold and acute diarrhea. WHO reports, 50% of antibiotic prescriptions worldwide are inappropriate with India being one of the largest consumers of antibiotics.

The menace of antimicrobial resistance extends beyond bacteria. Multidrug resistant fungi like *Candida auris* infiltrated Indian ICUs with case fatality rate of 60% in 2020. This is a global threat because of its ability to colonize skin, persist in environments and causes healthcare associated infections from within the healthcare facility.

### The silent Crisis at our doorstep

Antimicrobial resistance threatens to revert decades of medical progress. Routine surgeries, cancer chemotherapy and organ

transplants, could become high risk procedures without effective antibiotics to prevent infections. Simple cuts or minor infections could become life threatening. This is not a distant threat rather an imminent crisis silently eroding the foundation of modern medicine.

Every infection that cannot be treated with routine antibiotics, every surgery that becomes high risk, and every family pushed into poverty by healthcare costs, represents the real cost of antimicrobial resistance. Recognising its urgency and impact today, determines whether we can preserve the miracle of modern medicine for tomorrow.

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