# Routine infections are harder to treat in India

**Mains**: *GS II | Health*

## Why in News?

*According to findings from the Indian Council of Medical Research's (ICMR) Antimicrobial Resistance Surveillance and Research Network (AMRSN) Annual Report 2025, high resistance is no longer confined to big tertiary hospitals; it is also showing up in smaller secondary-care facilities.*

## What is antimicrobial resistance?

- Antimicrobial resistance (AMR) occurs when microorganisms such as bacteria, viruses, fungi, and parasites evolve or acquire traits that stop antimicrobial medicines from killing them or slowing their growth.
- Because the germs survive treatment, standard infections become harder or impossible to cure, raising the risk of severe illness, spread of disease, and death.
- Pathogens like *Escherichia coli* (*E. coli*) and *Klebsiella pneumoniae* which cause common infections as well as serious hospital or bloodstream infections show low effectiveness against several widely used antibiotics.
- For the first time, the 2025 report incorporated data from **34 secondary-care hospitals** alongside **30 large, specialised hospitals**, showing high resistance to commonly used third-generation cephalosporins even in smaller facilities.
- **Higher risk for vulnerable patients -** Critically ill patients, intensive-care unit (ICU) patients, and **newborns** face particularly serious risks when first-line medicines lose effectiveness and doctors have to turn to costly, toxic, or limited last-resort options.

## What are the findings from the ICMR AMRSN report 2025?

| Pathogen | Key Resistance Pattern | Public Health Implication |
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| ***Escherichia coli* (*E. coli*)** | Low susceptibility to commonly used antibiotics such as cefotaxime (**18.4%**), ceftazidime (**24.7%**), and ciprofloxacin (**9%**); resistance also seen in outpatient samples | Urinary tract, intestinal, and bloodstream infections may not respond reliably to standard empirical drugs |
| ***Klebsiella pneumoniae*** | Low susceptibility to carbapenems (around **35–40%**, and even lower in ICUs) and other key drugs; leading bacterium in newborn bloodstream infections | High risk of severe pneumonia, sepsis, and high mortality in ICUs and neonatal care |
| ***Acinetobacter baumannii*** | High carbapenem resistance (**91.1%** of revived isolates tested) | Major threat for severe hospital-acquired infections in critically ill patients |

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| **Secondary-Care Hospitals (34 facilities)** | High resistance to third-generation cephalosporins (e.g., ceftriaxone susceptibility dropping sharply across hospital tiers) | Resistance is widespread beyond large referral centers, requiring local stewardship even in smaller hospitals |

## What is driving drug resistance in India?

- **Misuse and Overuse of Antibiotics -** Taking or prescribing antibiotics for conditions where they do not work such as most viral fevers or many diarrhoeal illnesses or using them without proper diagnosis speeds up resistance.
- **Weak Infection Prevention and Control (IPC) -** Inadequate handwashing, surface cleaning, instrument sterilization, and hospital infection control allow resistant bacteria to spread easily in healthcare settings.
- **Antibiotics beyond Human Clinics-** Routine or improper use of antibiotics in animal farming and food production adds to the wider pool of drug-resistant microbes.
- **Slow diagnostics and empirical over-reliance-** Without fast laboratory tests or local resistance data (**antibiograms**), doctors often have to start broad or strong treatment empirically and may not always step down or adjust once lab results arrive.

## What are the key challenges for healthcare delivery?

- **Limited Last-Resort Options -** When first- and second-line drugs fail, third-line or last-resort antibiotics tend to be more expensive, carry heavier side effects, and may be less effective.
- **Capacity Gaps in Smaller Facilities -** District and secondary hospitals need stronger infection-control committees, antimicrobial stewardship teams, and diagnostic turnaround times.
- **Protecting Newborns and ICU Patients-** High resistance in bacteria like ***Klebsiella pneumoniae*** **and** ***Acinetobacter baumannii*** complicates care for the most fragile patients.

## What is the way forward?

- Set up hospital infection-control and antimicrobial stewardship committees across smaller and district hospitals, alongside mandatory training/certification for prescribers.
- Invest in faster diagnostic tests and track local hospital/regional resistance patterns so doctors tailor treatment accurately rather than relying blindly on broad or last-resort drugs.
- Pair responsible antibiotic use with strict hospital hygiene, clean sanitation/handwashing, and recommended vaccinations (such as flu, typhoid, and pneumococcal vaccines) to prevent infections before they start.
- Encourage citizens never to self-medicate, share leftover antibiotics, or demand antibiotics for viral illnesses.

**Reference**

Indian Express | Common infections are becoming harder to treat in India

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