# Dealing with Antimicrobial Resistance

## What is the issue?

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- Antimicrobial resistance (AMR) is emerging as a global public health concern with Antibiotics becoming inefficient against a wide range of pathogenic bacteria.
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- This calls for a multi-disciplinary approach and a co-ordinated response from the global nations.
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## What are the causes?

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- Usage - There is an increasing use of antibiotics for human and veterinary purposes in the recent period.
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- In India, there is high consumption of a broad spectrum of antibiotics, antibiotic fixed-dose combinations and antibiotic consumption in animal food.
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- This is leading to a condition of development of antibiotic-resistant bacteria (ARB) in the guts of humans and animals.
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- And these are subsequently released into the environment.
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- Regulation - Notably, India and China are the largest producers of antibiotics and contributes for 80% of total antibiotics production globally.
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- In India, effluents generated from these industries are treated as per the pharmaceutical wastewater discharge guidelines as prescribed by the Central Pollution Control Board.
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- But the current standards do not include antibiotic residues, and they are not monitored in the pharmaceutical industry effluents.
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- There is also no consensus guideline on the antibiotic residue discharge limits in industrial waste globally.
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- The existing good manufacturing practices (GMP) under the WHO (2016) framework is restricted to drug safety alone and does not recognise the environmental risk with pharmaceuticals products.
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- Waste Discharge - The uncontrolled discharge of untreated urban waste is another major source for AMR in many low and middle income countries.
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- Wastewater from hospitals, communities and urban runoff is discharged untreated or partially treated.
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- And they finally ends up in rivers, lakes and seas.
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## What is the concern?

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- Without exception, all classes of antibiotics have been reported for resistance in at least some of the pathogens they have been intended to treat.
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- Thus, AMR poses significant challenges to treating even common infectious diseases, resulting in prolonged infection, disability and death.
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- AMR makes checking and treating infections ineffective without antimicrobials to treat.
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- Hence, medical procedures such as organ transplantation, chemotherapy, diabetes management and major surgeries become high-risk affairs.
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- Importantly, being a public health issue, AMR certainly undermine the achievement of the UN’s Sustainable Development Goals.
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## What is the way forward?

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- In 2015, a global action plan (GAP) on AMR was developed by the WHO, the Food and Agricultural Organization and the World Organization for Animal

Health.
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- As highlighted in the National Health Policy 2017, AMR is one of the top 10 priorities for the health ministry.
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- In India, a national action plan in this regard focuses on six priority areas:
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1. awareness and understanding through education, communication and training.
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2. strengthening knowledge and evidence through surveillance.
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3. infection prevention and control.
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4. optimised antimicrobial use in health, animals and food.
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5. AMR-related research and innovation.
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6. strengthened leadership and commitment at international and national level.
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- Given the complex nature of the AMR problem, no individual nation has the capacity to address this problem independently.
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- There is thus a need for an integrated approach in multiple sectors such as human health, animal husbandry, agriculture and environment globally.
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**Source: BusinessLine**

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