



drishti

## The Problem of Drug Resistance in India

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This editorial is based on the article 'Drug-resistant diseases could kill 10 million a year by 2050' which appeared in "The Hindu" on April 29, 2019. The article talks about how drug-resistant diseases are increasing day by day and the potential threat it poses to humankind globally.

### What Made the News?

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**A warning in a report released by the UN Ad Hoc Interagency Coordinating Group (IACG) on Antimicrobial Resistance said that drug-resistant diseases could cause 10 million deaths each year by 2050.** The findings of this report has suddenly placed the problem of drug-resistance side-by-side with other big global problems like climate change.

The lack of knowledge and preparation on this problem, in policy making across the world, has to be noted here. Neither the scientific community nor the governments of the world have a ready answer to this problem right now, and the release of this report is serving towards hastening the process of finding a solution to drug resistance.

### The Short Gist

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**Antimicrobial (including antibiotic, antiviral, antifungal and antiprotozoal) agents are critical tools for fighting diseases in humans, terrestrial and aquatic animals and plants, but they are becoming ineffective.** Alarming levels of resistance have been reported in countries of all income levels, with the result that common diseases are becoming untreatable, and lifesaving medical procedures riskier to perform.

Antimicrobial resistance therefore poses a formidable challenge to achieving Universal Health Coverage and threatens progress against many of the Sustainable Development Goals, including in health, food security, clean water and sanitation, responsible

consumption and production, and poverty and inequality.

Inadequate access to clean water, sanitation and hygiene in health care facilities, farms, schools, households and community settings; poor infection and disease prevention; lack of equitable access to affordable and quality-assured antimicrobials, vaccines and diagnostics; and weak health, food and feed production, food safety and waste management systems are increasing the burden of infectious disease in animals. In this scenario, misuse and overuse of existing antimicrobials in humans, animals and plants are accelerating the development and spread of antimicrobial resistance.

- Drug-resistant diseases could cause 10 million deaths each year by 2050;
- By 2030, antimicrobial resistance could force up to 24 million people into extreme poverty;
- Currently, at least 7,00,000 people die each year due to drug-resistant diseases, including 2,30,000 people who die from multidrug-resistant tuberculosis;

## Opinions from the Editorial

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The UN deputy secretary-general had said that '*antimicrobial resistance is one of the greatest threats we face as a global community*'.

- **The IACG report noted that the world is already feeling the economic and health consequences as crucial medicines become ineffective.**  
Without investment from countries in all income brackets, future generations will face the disastrous impacts of uncontrolled antimicrobial resistance.
- **The report also noted that more and more common diseases, including respiratory tract infections, sexually transmitted infections and urinary tract infections, are becoming untreatable; lifesaving medical procedures are becoming riskier, and food systems are getting increasingly precarious.**
- The report has now recommended that countries prioritise national action plans to scale-up financing and capacity-building efforts, **put in place stronger regulatory systems and support awareness programs** for responsible and prudent use of antimicrobials by professionals in human, animal and plant health. Also, invest in ambitious research and development for new technologies to combat antimicrobial resistance.

## What is Antimicrobial Resistance?

- Antimicrobial resistance is the resistance acquired by any microorganism (bacteria, viruses, fungi, parasite, etc.) against antimicrobial drugs (such as antibiotics, antifungals, antivirals, antimalarials, and anthelmintics) that are used to treat infections.

- As a result, standard treatments become ineffective, infections persist and may spread to others.
- Microorganisms that develop antimicrobial resistance are sometimes referred to as "**superbugs**".
- Antimicrobial resistance is now regarded as a major threat to public health across the globe.

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## To Conclude

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The following can be done to mitigate the drug resistance problem

- Strengthening **infection prevention** and control in health care facilities and farms using available tools and ensuring access to clean water, sanitation and hygiene in health facilities, farms, schools, household and community settings.  
 These are central to **minimizing disease transmission** and the emergence and transmission of antimicrobial resistance in humans, animals, plants, food and the environment.
- **Strengthening surveillance, regulatory frameworks, professional education and oversight of antimicrobial prescription and use**, and increasing awareness among all stakeholders are also significant challenges that need to be urgently addressed to ensure the **responsible use of antimicrobials** and to minimize resistance in humans, animals, plants, food and the environment.
- Additional effort, investments and incentives are needed to **spur innovation in antimicrobial medicines**, diagnostics, vaccines, waste management tools, safe and effective **alternatives to antimicrobials** and alternative practices, as well as operational and implementation research, in human, animal and plant health.
- Stronger political leadership, advocacy, coordination and accountability are needed at all levels to enable a sustained response to antimicrobial resistance.  
**All stakeholder groups – including governments, civil society and the private sector – need to be engaged** and to collaborate in an unprecedented effort across the human, animal, plant, food and feed production and environmental sectors, based on a shared vision and goals.

WHO recommends that countries **immediately stop the use of the antimicrobials on the WHO List of Highest Priority Critically Important Antimicrobial Agents for Human Medicine as 'growth promoters'** as an essential first step towards completely phasing out the use of antimicrobials for growth promotion. *[certain antibiotics are given to farm animals to make them grow faster; these animals, like farm chicken for example, are given antibiotics at low doses over long periods of time which make them grow faster or help them survive crowded, stressful, and unsanitary conditions]*

## What Makes This Topic Important for UPSC?

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- Any topic that involves the future of the planet or of human society is very important from the UPSC perspective. For example, a few years back when stem cell research and use became a hot topic, this question was asked by the UPSC: *“Stem cell therapy is gaining popularity in India to treat a wide variety of medical conditions including Leukaemia, Thalassemia, damaged cornea and several burns. Describe briefly what stem cell therapy is and what advantages it has over other treatments?”* [CSE Mains 2017 - GS III]
- Our current topic is no less important. If drug resistance is not mitigated timely, the future of the entire human civilisation could be in jeopardy. Thus, the UPSC will have great interest on this topic, and it would do good to aspirants if they cover this topic as holistically as possible.

### **Drishti Input: Practice Question for Mains**

'Antimicrobial resistance is one of the greatest threats we face as a global community'. Explain what is antimicrobial resistance and discuss what steps can be taken to mitigate the problem of drug-resistant diseases. [250 words]