

# Antimicrobial resistance is not a silent pandemic

**Shobha Shukla - CNS**  
Antimicrobial Resistance directly kills more than 1 million people and is associated with almost 5 million deaths every year, that are expected to increase by 50% in the next 25 years. It also threatens our economies, with an estimated global annual cost of up to US\$ 3.4 trillion by 2030 and 28 million people pushed to poverty by 2050. Every death and suffering due to antimicrobial resistance (AMR) is unacceptable and is essentially preventable.

**Human health and AMR**  
Thomas Joseph, Head, AMR Awareness, Campaigns and Advocacy, at the World Health Organization (WHO), and Chairperson of AMR Awareness Working Group for the Quadripartite Joint Secretariat on AMR, explains that antimicrobials are different kinds of medicines- like antibiotics which treat infections caused by bacteria like TB; antiviruses which treat infections caused by viruses like HIV; anti-parasitics that treat infections caused by parasites like malaria; antifungals that treat infections caused by fungi like ringworm. When these medicines stop working we say antimicrobial resistance occurs. In other words, AMR occurs when bacteria, viruses, fungi and parasites no longer respond to medicines. As a result, infections (sometimes even minor ones) become difficult or even impossible to treat.

Speaking at the 4th Edition of the Annual Global Media Forum around World AMR Awareness Week (WAAW), Thomas listed the drivers of AMR. Misuse and overuse of antimicrobials; lack of access to quality, medicines, vaccines and diagnostics; lack of

access to clean water, sanitation and hygiene; poor infection and disease prevention and control in healthcare facilities; improper waste disposal by healthcare facilities, pharmaceutical units and farms; coupled with lack of awareness and knowledge- all of these contribute to AMR and lead to increase in sickness, morbidity and mortality in humans and animals, as well as huge economic and productivity losses and increased healthcare expenditure, he said.

antimicrobials can also lead to medicine stock outs, making effective treatments unavailable to other patients who need them desperately. "We also have the paradox that misuse and overuse of antimicrobial medicines coexists alongside a lack of access to effective antimicrobials. In low and middle-income countries, lack of access to medicines is causing more deaths than AMR itself."

AMR can affect anyone. None are immune from it. It can happen to any-

eventually to third-line antibiotics (meropenem) but with no improvement in his condition. Then a genetic test was done and it took 6 weeks to get the results that he had congenital short bowel syndrome- a rare genetic condition. It took a very long time to make this correct diagnosis, and by then it was too late. He also had hospital-acquired infections. While there is no cure for this disease, the disorder usually can be treated effectively. So timely and correct diagnosis is key.

"As a pediatrician and caregiver, I would like to share that we should give antibiotics or other antimicrobials only when we have a confirmed diagnosis. We should be aware of hospital-acquired infections and do all what we can to stop the transmission of infections", advises Liauw.

**Environment and AMR**  
According to Wondwosen Asnake Kibret, Policy and Partnerships Coordinator, United Nations Environment Programme (UNEP), the environment plays a key role in the development, transmission and spread of AMR. Increased use and misuse of antimicrobials and other microbial stressors, such as pollution, create favourable conditions for microorganisms to develop resistance from sources such as sewage.

The environmental dimensions of AMR include pollution from hospital and community wastewater, effluents from pharmaceutical production, and waste originating from agriculture and livestock. These may contain not only resistant microorganisms, but also antimicrobials, microplastics, metals and other chemicals, all of which increase the risk of AMR in the environment, he added.

**“The problem is further compounded by the use of substandard and falsified medicines which are widely prevalent, especially in low and middle-income countries. Substandard and falsified medicine is a form of misuse that is often invisible to the provider,”** opined Alexandra Cameron, Unit Head, Impact Initiatives and Research Coordination, Antimicrobial Resistance Division, WHO.

## AMR is reversing the gains made by modern medicine

It threatens our ability to treat common infections and to perform life-saving procedures including cancer chemotherapy and caesarean section, hip replacements, organ transplant, and other surgeries.

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one, anywhere. Even a minor injury, routine surgery, or a common lung infection could unexpectedly escalate into a life-threatening situation.

'AMR is invisible, but I am not' - So goes the slogan by WHO Task Force of AMR Survivors - who have survived drug-resistant infections or cared for those with such infections.

Felix Liauw, a pediatrician from Indonesia and a member of WHO Task Force of AMR Survivors, shared the traumatic story of his 3 month old son who passed away due to delay in diagnosis and extensive misuse of medicines. Right after his birth, Liauw's son suffered from chronic diarrhoea and fever. He was initially diagnosed with sepsis. His sepsis treatment changed from first-line to second-line and

## BJP's Organizational Elections: Ensuring Fairness and Transparency

The BJP is currently engaged in its organizational election process, beginning with the booth committee elections. Following these, elections for Mandal, Rural, and District Presidents will take place. To ensure fairness and consensus, the party has established internal rules and regulations, supplemented by periodic guidelines from the high command.

Discussions within BJP circles indicate that election in-charges have been directed to conduct the elections for booth, Mandal, and District Presidents in a fair and unanimous manner. There is a clear message that attempts by MLAs or MPs to position their supporters or relatives within the organization should be thwarted. This move aims to prevent any public representative or official from monopolizing the organization for personal gain.

Moreover, election in-charges have been instructed to avoid conducting organizational elections from the residences of public representatives. The BJP's strong organizational presence in Madhya Pradesh, particularly in the Mahakoshal region, has historically enabled it to excel in elections and face challenges effectively.

### Mahakaushal's Notes

Avinash Dixit

Consequently, top party leaders are closely monitoring the ongoing organizational elections to ensure no oversight occurs. Despite the ongoing booth-level elections and the uncertainty regarding who will become the booth president in various areas, many party members are actively strategizing behind the scenes to maintain their influence within the organization.

### Jabalpur Police Dept: Transition under New Leadership

Currently, two significant discussions are unfolding within the Jabalpur police department. The first revolves around DIG Tushar Kant Vidyarthi, whose impactful initiatives during his brief tenure have resonated with both the public and junior police staff. Notably, Vidyarthi pioneered the celebration of police personnel's birthdays, a tradition that marked a first for many officers at the DIG level. Recently transferred to Bhopal, he also showed compassion towards elderly individuals separated from their families. Just days before his transfer, he personally intervened in a case involving a young salon owner who faced digital harassment, resolving the issue

without passing it off to subordinates. Through these actions, Vidyarthi has left a lasting impression on both the police force and the community with his empathetic approach.

In addition to discussions about Vidyarthi's transfer, the new directives from Superintendent of Police Sampat Upadhyay are generating considerable attention. Upadhyay has introduced a revamped patrolling strategy aimed at crime prevention. Previously, one police station in-charge was responsible for night patrolling across five divisions of the city. However, the police captain has now restructured the city into two zones, effectively doubling the number of officers on patrol. Additional responsibilities have also been assigned to ASPs and RIs for patrolling duties.

While the effectiveness of this new patrolling plan will become clearer over time, it has already sparked mixed reactions within the department. In-charges of rural police stations are expressing dissatisfaction as they are now required to shift their focus toward patrolling the city, which they find burdensome. Conversely, officers who had been consistently patrolling and struggling to find time for rest are now pleased with the changes, as the new system may provide them with some much-needed relief.

Founder: Late Shri Ramgopal Maheshwari  
Inspiration: Late Shri Prafulla Kumar Maheshwari

## EDITORIAL

### Undertrial prisoners

The recent announcement by Union Home Minister Amit Shah that prisoners who have served one-third of their sentence in jails will not be undertrials by 26 November, Constitution Day, is extremely important and welcome. Unfortunately, currently 75 percent of the prisoners in jail are undertrials. Obviously, this is a very important initiative and this initiative should be welcomed. However, the government is going to face a lot of difficulties in doing so. The biggest problem is that despite recent legislative reforms like Section 479 of the Indian Civil Defence Code, inconsistencies remain. In fact, due to the sluggish functioning of the bureaucracy, the release of undertrial prisoners in jail has been delayed. This is the reason why despite supportive schemes like provision of financial assistance for poor prisoners, implementation remains inconsistent. Due to which a large number of undertrial prisoners are lodged in jails. The root of the problem lies in the criminal justice system, which gives priority to punitive measures instead of justice with reformative and rehabilitative priorities. While judicial hesitancy to liberalise bail conditions and systemic delays in identifying eligible prisoners complicate the issue, the scheme's reliance on district collectors rather than legal service authorities has made this priority secondary. In fact, the country needs to go beyond symbolic deadlines to decongest prisons. To ensure justice, the initiative of the Home Ministry to provide justice should be welcomed. In nutshell, the announcement regarding the release of prisoners who have served one-third of their sentence by 26 November, Constitution Day, is a significant and positive development. Currently, a staggering 75 percent of prisoners are undertrials, making this initiative particularly crucial. While it is an important step forward, the government is likely to encounter several challenges in its implementation. One of the main issues is the ongoing inconsistencies that persist despite recent legislative reforms, such as Section 479 of the Indian Civil Defence Code.

improving the condition of undertrial prisoners is also a test of the country's commitment to human dignity. In such a situation, the voice of about five lakh prisoners behind bars should not be ignored. This is also the time to take logical and concrete action. Only then will the undertrial prisoners get a chance to breathe in the open air. This fact is not hidden from anyone that most of the prisoners who are overcrowded in jails are from the poor and deprived sections. Among them, the number of such poor people is high who have no one to bail them out. Policy makers should remember that the purpose of jails is to improve the lives of people who have slipped into the lanes of crime due to circumstances and not just to punish them. Leaving aside the dreaded and professional criminals, the first purpose of jails should be to change the thinking of prisoners who have committed crime in adverse circumstances or in anger and make them responsible citizens. In the past, the Supreme Court had also directed that a report be prepared on the social and economic conditions of undertrial prisoners, so that the conditions of release can be relaxed. In such a situation, to run the overcrowded jails smoothly, there is a need to provide justice to the undertrial prisoners in time. Undoubtedly, in a democratic country like India, the face of the judicial system should be human. In such a situation, the initiative of the Home Ministry to provide justice should be welcomed. In nutshell, the announcement regarding the release of prisoners who have served one-third of their sentence by 26 November, Constitution Day, is a significant and positive development. Currently, a staggering 75 percent of prisoners are undertrials, making this initiative particularly crucial. While it is an important step forward, the government is likely to encounter several challenges in its implementation. One of the main issues is the ongoing inconsistencies that persist despite recent legislative reforms, such as Section 479 of the Indian Civil Defence Code.

Although Home Minister Amit Shah's assurances raise hope, implementation needs to be accelerated. Undoubtedly, the judiciary, law enforcement agencies and representatives of civil society must work together to remove systemic obstacles.

It is important to remember here that delay in getting justice is not only a denial of justice to prisoners but it is also an encroachment on the right to personal liberty enshrined in the Constitution. Undoubtedly,

## Satire

### Beggar arranged a lavish feast



Friend said to us, "Have you ever imagined that a beggar can be so wealthy that he can feed a lavish feast to 20,000 people? This scene was seen in Gujranwala, Pakistan. On the 40th day of his grandmother's death (which Muslims call Chelham), the beggar spent Rs 1.25 crore to feed people which included various types of dishes. From sweet rice to non-vegetarian dishes, the feast was organized in a grand tent near the railway station. 250 goats were sacrificed for this." We said, "You do not need to praise the beggar so much. Pakistan itself is a beggar country which earlier lived on alms from America and now is living on the charity of China. His international image has become that of a beggar. Thousands of Pakistani beggars have become a problem for Saudi Arabia. These people go to Mecca-Medina in the name of Hajj and then instead of returning, they stay there and start the business of begging. Hajj pilgrims from many countries keep giving them huge amounts of money in their begging bowl. Saudi Arabia has decided to send these beggars back to Pakistan and has reprimanded the

Pakistan government. Shahbaz Sharif's government assured Saudi officials that it will take steps to end the network of sending beggars from Pakistan to Saudi Arabia."

The friend said, "It is understandable if someone becomes a beggar out of compulsion, but Pakistanis have made it a business. Such international beggars earn crores of rupees by pretending to be poor and miserable. So you must have understood how the beggar of Gujranwala spent more than 1 crore rupees to host a feast for thousands of people. The one who begs in front of someone by stretching his hands first loses his self-respect. It is said in our country that the best is farming, the middle is ban, the worst is chakari, the best is bhikh nidan i.e. farming is the best, then business, then doing a job and begging at the end."

The neighbor said, "Nishanbaaz, if farming was the best, then why would thousands of farmers commit suicide? If begging was bad, then how did the beggar throw such a lavish feast? Old sayings have no power now."

## Science Fact

### Refurbished heart pacemakers work like new

A program to refurbish used pacemakers could expand access to the lifesaving devices. In a clinical trial of nearly 300 people, patients who received refurbished pacemakers fared just as well as those who received new ones, scientists reported November 17 at the annual American Heart Association meeting. The work could make pacemakers available to people who could not otherwise afford them, cardiac electrophysiologist Thomas Crawford said in a news briefing. The hope, he said, is to scale up the team's operation and "deliver pacemakers to patients in low- and middle-income countries free of charge."

Doctors use pacemakers to treat people with abnormal heartbeats (SN: 4/23/23) The tiny, battery-powered devices are typically implanted in the chest, with wires that thread through a vein and touch the heart. Electrical signals traveling down the wires kick the heart into a steady rhythm.

"We insert thousands and thousands of devices every year," said Miguel Leal, a cardiac electrophysiologist at Emory University School of Medicine in Atlanta who was not involved with the work. But the devices are not equally available to patients. Annually in the United States, nearly 800 people per million receive pacemakers.

In some countries, that number drops to the single digits. Crawford sees two potential solutions. The first is designing low-cost pacemakers with basic functions. The second is what his team at the University of Michigan Medical School in Ann Arbor is trying: reusing old devices.



## Spiritual

### Yog erases all mental and emotional disturbances

There are two types of toxins in humans: those that affect the body and those that affect the mind. From an ayurvedic perspective, the word 'toxin' refers to anything that our body cannot process or eliminate. This comprises natural, biological waste from cells and internal processes in the body and waste and bacteria from foods we haven't been able to digest fully. These toxins or residues arise from environmental, cellular waste products and microorganisms in our digestive system. They can cause us to feel disoriented, nervous, and tired in addition to physical symptoms, which include bloating with gas, an excessive coating on the back of the tongue, poor breath, and foul-smelling sweat. Such a toxin-ridden human body is unfit for sadhana, spiritual practice; it will get coarse and cause modifications. Because of this, purifying the body is highly valued in yogic science - not just for sadhana but also to support the body in doing what it's supposed to do naturally.

According to ayurved, our bodies eliminate these waste products quite effectively and naturally. The main organs are the digestive tract, liver, skin, kidneys, lymphatic and circulatory systems. Toxins can be eliminated by doing regular cardiovascular exercise to build up a bit of sweat, which helps to eliminate toxins through the circulatory pathways; dry brushing massage to move the lymphatic system; drinking plenty of fluids, which helps to flush out the lymphatic system and move toxins through the kidney system; eating foods that we can digest completely before the food turns into gas; choosing fibre-rich foods that encourage healthy elimination; and eating a diet that is appropriate for our body type so we don't create stress on any one organ in our system. More than these processes, eating organic, wholesome, fresh vegetarian food and creating a congenial structure around it can reduce the toxic load in the body.



## Letters to the Editor

### Allegations against Adani and his associates

Sir, Adani Group Chairman Gautam Adani, his nephew Sagar Adani and six others were indicted by US prosecutors in New York on Wednesday (November 20) in an alleged Rs 2,029 crore bribery case that could be a much bigger blow for business than the Hindenburg report. Side by side it could upset the group's global expansion ambitions, hinder capital-raising, and tarnish fundraising abilities of other Indian firms by association. Though the White House expressed confidence in the resilience of India-US ties despite allegations against industrialist Gautam Adani and his associates of orchestrating a \$265 million bribery scheme to secure state energy contracts. But it is unclear whether the US president-elect, Donald Trump, will take any action against the Adani Group or go light on the businessman given his great friendship with Narendra Modi. Moreover, another point to ponder is whether Trump, who is a perpetual offender in the business world, will find anything wrong with Adani's actions, especially as the latter has promised to invest more than \$10 billion dollars and create around 15,000 jobs in the US. Even after all this, citizens of the country strongly believe that whether Adani paid the bribe or not is to be probed by the agencies. When Indian agencies failed, a US court indicted him for bribery. If BJP is not part of Adani or Adani is not part of BJP, why it's IT cell chief Amit Malaviya and Modi Bhaktas coming to defend Adani. Let Adani & his companies defend themselves or in the US Courts. If Adani has invested in the non-BJP ruled states, that is only for the minerals, forests, lands and other resources of those states but all money being paid to his Year in BJP. Where Indian compromised agencies failed, the US caught him on the wrong foot. Let him and his other conspirators face the music. Let Adani face the music in the US courts and international financiers or hawala money suppliers.

Bidyut Kumar Chatterjee

## Tech

### Apple Mac mini (2024) review: Small but brilliant in everything

I am a huge fan of tiny homes, a concept that has recently gained popularity in the West. However, the more I watch interviews with architects and homeowners, the more I realise how challenging it can be to balance space efficiency with ambitious design goals. In fact, designing a small space is a monumental task in itself—managing size constraints and the desire for economical solutions is far more complicated than designing a large home. Similarly, the new Apple Mac mini seems to embody the same back-to-basics approach to creating a modern computer with a small footprint. It combines minimalist design, cost-effectiveness, and sustainability, making it accessible to everyone. This inspired me to switch to the Mac mini—a compact, almost discreet device powered by the impressive M4 series chip. Here's my review.

Apple Mac mini price in India: The M4 variant starts at Rs 59,900, while the M4 Pro model is priced at Rs 1,49,900 and above. If you ever visit my home and step into my room, you will notice that every corner is occupied by a computer—mostly vintage Macs that have completely taken over my space. This leaves me with little to no room for another computer. I could have bought another iMac; it's sleek, colourful, and perfectly suited to my computing needs.



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