Antibiotics under the red mark: A Wake-up call from WHO for Bangladesh

Antibiotic practices and alarming resistance in Bangladesh

Antibiotics are widely accessible and commonly used without adequate medical oversight in Bangladesh; pharmacies and informal drug sellers often act as the first point of care, and self-medication is pervasive. A WHO-DGDA baseline survey and national antimicrobial-use monitoring have documented that a large proportion of retail drug outlets possess limited knowledge about antibiotics and routinely dispense them without prescription.[1] This behavior is compounded by incomplete treatment courses, empirical use for likely viral illnesses, and extensive antibiotic use in animal production and aquaculture, creating broad selection pressure for resistance.[2]

Recent national surveillance and analyses report alarmingly high resistance rates among common pathogens; some critical antibiotic–pathogen combinations in Bangladesh show resistance in the range of ~79–97%, leaving many first-line drugs ineffective for routine infections.[3] Such high resistance leads to longer illness durations, more frequent hospitalizations, the need for costlier and often less-available second- or third-line antibiotics, and increased mortality. Health systems face heavy economic strain as families incur catastrophic out-of-pocket costs. At the clinical level, routine procedures (e.g., cesarean sections, appendectomies) and care of immuno-compromised patients become higher-risk when effective prophylactic or therapeutic antibiotics are missing.[4]

Red-label marking policy

The Directorate General of Drug Administration (DGDA)–WHO red-label initiative mandates a prominent red identification mark on antibiotic packaging, accompanied by the message "Antibiotic: Do not use without prescription of registered physician.[1] The policy is a behavioral and regulatory measure designed to (a) create a universal, easily recognizable visual cue that differentiates antibiotics from other medicines, (b) signal to consumers that professional oversight is required, and (c) give regulators an auditable packaging standard to enforce. The strength of the approach lies in its simplicity and low cost: visible packaging can nudge behaviors across literacy levels and act as a focal point for complementary awareness campaigns. However, labelling is only one element—its effectiveness depends on enforcement (pharmaceutical compliance, retailer behaviors), public education about the label's meaning, and integration with surveillance and stewardship activities.[1,2]

How to overcome the crisis

A multifaceted, One-Health response is essential. Key pillars include:

1. strict regulatory enforcement of prescription-only sales;
2. widespread antimicrobial stewardship programs in both human and animal health;
3. comprehensive public education campaigns to change expectations around antibiotics;
4. strengthened laboratory capacity and surveillance to guide empiric therapy;
5. investments in infection prevention measures (water, sanitation, vaccination);[5]
6. digital prescription verification of the red label with,
7. school-based AMR education;
8. pharmacist re-training and licensing reinforcement;
9. regional cooperation to limit cross-border antibiotic misuse;
10. monitor the red-label initiative's impact through periodic audits of sales practices, consumer awareness surveys, and national resistance and consumption indicators.

At the national level, government actions should prioritize infrastructure, regulation, and system-wide oversight: (a) implement a binding national IPC (infection

prevention and control) standard for all public hospitals with metrics linked to accreditation and funding; (b) invest in safe water, sanitation, medical waste management, and sterilization capacity in district and tertiary hospitals to reduce hospital-acquired infections; (c) scale up laboratory networks so district hospitals can routinely culture and report common pathogens and resistance profiles; (d) expand vaccination and primary-care outreach to reduce infection incidence; and (e) coordinate a One-Health taskforce including health, livestock, fisheries, and environment ministries to regulate veterinary antibiotic use and monitor supply chains. These measures lower infection incidence, reduce antibiotic demand, and enable data-driven stewardship policies.[6]

Private facilities must be brought into national strategies through regulation, incentives, and capacity building: (a) require private hospitals to implement formal Antimicrobial Stewardship Programs (ASPs) with an antimicrobial stewardship committee, formulary restrictions, and routine prescription audits; (b) mandate infection control officers and continuous IPC training for clinical and ancillary staff; (c) adopt electronic prescribing or prescription-audit tools to flag inappropriate antibiotic use and to enable reporting into national surveillance; (d) enforce sterilization, hand hygiene, and isolation protocols with external audits tied to licensing; and (e) require private hospitals to share de-identified antibiotic consumption and resistance data with the national AMR surveillance system so policy can be informed by the private sector's real-world use. These steps will reduce unnecessary antibiotic exposure and contain transmission of resistant organisms in healthcare settings.[7]

Success requires simultaneous national coordination and local community engagement to change the social and economic incentives that drive misuse. If properly enforced and evaluated, the red label can be a highly visible component of a larger, evidence-driven national strategy to preserve antibiotic effectiveness for future generations.

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