

## **Regional Director's Message on World Health Day 2011 — Use Antibiotics Rationally**



This year, World Health Day focuses on the problem of antimicrobial resistance, or AMR. Simply put, the microbes that cause many diseases are becoming resistant to the drugs that are the mainstay of treatment of communicable diseases. The development of resistance is a natural process, because organisms evolve ways to adapt to threats. But we have vastly accelerated the emergence and spread of resistance by careless, unwise and profligate use of antibiotics for everything from the common cold (which they cannot cure) to “preventive” uses in livestock.

The medical management of communicable diseases was revolutionized some seven decades ago with the advent of antibiotics. These “wonder drugs” prevented deaths and reduced the duration of illness, and became the mainstay in the battle against communicable disease. Other modern advances in health care, such as complex surgeries, organ transplants and care for people living with HIV and cancers, have benefited tremendously from the effective use of antibiotics.

But the wonder of the wonder drugs has worn off, and the cavalier use and abuse of these precious medical tools is now presenting a serious menace to public health. People start taking antibiotics but stop once they begin to feel better, abandoning the prescribed course of treatment; doctors prescribe them under pressure from patients, relatives, or suppliers, often without adequate evidence showing that they are indicated; and patients hoard unused medicine for a rainy day—in effect, prescribing for themselves the next time illness comes around (this is known as “self-medication”). In many developing countries, pharmacies—and sometimes even ordinary stores and shops—sell antibiotics over the counter without a prescription. All of these actions tend to favour the development of antibiotic resistance.

The consequences are severe—economically, socially and personally. Resistance in microorganisms costs money, livelihoods and lives, and threatens to undermine the effectiveness of health delivery programmes. Recent decades have seen the development of pharmacological treatments for deadly diseases such as malaria, TB and HIV. The first two are curable and HIV is now a manageable condition—but AMR could erode or even erase these achievements. Were that to happen it would be catastrophic not only for millions of people, but would have larger social consequences, including hampering efforts to reduce poverty and improve quality of life for people all over the world.

When infections become resistant to first-line antimicrobials, treatment has to be switched to second- or third-line drugs, which are nearly always much more expensive and sometimes more toxic as well. For example, the drugs needed to treat MDR-TB are over 100 times more expensive than the first-line drugs used to treat the non-resistant form. In some countries, this high cost is prohibitive, with the result that some of these cases can no longer be treated. That means that patients become victims.

Resistant organisms can move across and between countries through travel and trade. Therefore, antimicrobial resistance is a global problem, and combating it will require concerted efforts at the national and global levels to preserve the efficacy of the available antibiotics.

The emergence and spread of antimicrobial resistance are complex problems intertwined with the knowledge, expectations, and interactions of prescribers and patients, as well as the regulatory environment. Patient compliance with recommended treatment is a major problem. Easy access to antimicrobials in developing countries and myths about their effectiveness in all conditions that give rise to fever also have an important influence on the emergence of resistance.

Several problems continue to plague prevention and containment of antimicrobial resistance, which continues to be neglected despite of its profound impact on health and the economy. National approaches to combating AMR are generally lacking, and regulatory mechanisms are weak. There is also a lack of education, whether for prescribers or for patients. Incentives for pharmaceutical manufacturers to undertake the enormously costly development of new drugs is insufficient as well. Infection control practices in health-care facilities in developing countries are often deficient, and these too play a role. Finally, collaboration between stakeholders is weak at best, and often entirely lacking,

The global pattern of misuse, in both developed and developing countries, has offered an undue advantage to microorganisms and needlessly depleted humanity's arsenal in its battle against disease. To catalyze national actions, a regional strategy to combat AMR has already been developed by WHO. It gives particular attention to the introduction of legislation and policies governing the use of antimicrobial agents, establishment of laboratory-based networks for the surveillance of resistance, and ensuring the rational use of these drugs at all levels of health-care settings.

The global community can no longer take antibiotics for granted, nor ignore the emergence of AMR. The good news is that not only policy-makers, but also individuals, can make a difference. Coordination and involvement of all stakeholders is key, however; the time for sustained, global action is now, since we are slowly but surely drifting towards a reversion to the dreadful pre-antibiotic era. That would be disastrous. In fact, it would represent the biggest threat to global poverty alleviation and efforts to make this world a better and more healthy place. Hence we must save antibiotics to save human lives



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