

Can the WHO Set the Right Course for Antibiotics?

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As a typically awkward teenager, I was, as many are, occasionally afflicted by an outbreak of spots. Whilst these were embarrassing, they were by no means terrible. Even at their worst, they were nothing but a shadow of those of the kid, resident in every school, who is plagued by acne. Despite this, I was often and routinely given the antibiotic doxycycline to alleviate my discomfort. After a few days, the spots would fade, my confidence would return, and I would forget all about my brief outbreak and my even briefer course of antibiotics.

This memory recently returned to me during a consultation of civil society groups held by the World Health Organization (WHO) prior to the 68th World Health Assembly at which WHO member states adopted a [Global Plan of Action on Antimicrobial Resistance](#). One of the issues brought up repeatedly by civil society representatives in attendance was how to promote the rational use of antibiotics in low- and middle-income countries. It would seem that on the opposite side of the globe, people were also not finishing their courses of antibiotics, but for far more serious inflictions and for far more tragic reasons than my own.

These reasons can be as varied as inadequate supply of antibiotics, leading people to take the wrong type for their infection, the cost of a full course of medicine being too expensive, or a lack of information about how the medicine should be taken. Doctors are also routinely offered incentives for prescribing antibiotics and their availability online without a prescription adds to the problem of irrational use in low- and middle-income countries.

Whilst this irrational use may alleviate patients' suffering and symptoms to some degree, it puts them and others in serious danger. Antibiotic use (and especially misuse) has caused many strains of bacteria to develop resistance to antibiotics. This growing lack in effective antibiotics has the potential to affect us all – patients and doctors, farmers and consumers, humans and animals – without any regard to international borders or level of income.

Whilst the WHO action plan is a step in the right direction and goes some way to confronting the role of access and rational use of antibiotics, the recent consultation and the failure of the WHO to heed the points raised give rise to some major concerns. Whilst the plan rightly calls for “effective, rapid, low-cost diagnostic tools”, there is little on how such tools are to be developed or funded. Whilst it is true that in well-funded, well-equipped hospitals in the developed world, it is becoming ever easier to successfully diagnose infections, the same cannot be said for those without such luxuries. The WHO Action Plan, whilst pointing attention in the right direction, gives no true consideration of how that attention is then focused to alleviate the issue.

The same can be said of research and development of new antibiotics themselves. It has

long been accepted that pharmaceutical company marketing has been used to increase use. The profits gained from this area, whilst substantial, do not offer the same cash flows as treatments for chronic diseases where a patient is tied into continued and sustained use of a single medicine. This means that the costly and long-term research needed to develop new antibiotics does not make business sense to the pharmaceutical industry.

This has led us to the point where no major class of antibiotic has been developed since 1987. The issue is getting so dire that a recent [UK report](#) has estimated that, without major breakthroughs in the field, a continued rise in antibiotic resistance will lead to 10 million deaths a year and a financial cost of up to US\$100 trillion by 2050.

Now that the Global Action Plan has been adopted by the World Health Assembly, the WHO must ensure that all parts of the plan are fully and properly implemented. More must also be done to ensure the initiative is successful. Whilst the plan suggests that much of the marketing for antibiotics is counterproductive, it does not suggest an all-out ban. Whilst declaring that R&D of new medicines must be prioritised, it offers no credible alternative to the current system of profit-based research.

Whilst this plan is a milestone in the fight against antimicrobial resistance, without further effort, it will fail, and occasionally spotty teenagers are going to be the least of our concerns.