

Antibiotics: achieving the balance between access and excess



Hardly a week goes by without antimicrobial resistance being in the news. Increasing recognition that the problem has become a serious public health threat has prompted Presidents and Prime Ministers, together with global health leaders, to prioritise antibiotic resistance in their speeches and communiqués.¹ The consequence has been a welcome surge of declarations, announcements, and campaigns. There is, for example, now a Global Action Plan on Antimicrobial Resistance.² Antimicrobial resistance is at last fashionable. The subject has come of age. The issue of resistance, and the threat of resurgence of previously controlled infectious diseases, has the political visibility that it so desperately needed. However, this *Lancet Series*, *Antimicrobials: access and sustainable effectiveness*,³⁻⁷ seeks to add an important and missing dimension to the prevailing debate about antibiotic resistance.

This *Lancet Series* follows 2 years on from the *Lancet Infectious Diseases Commission, Antibiotic resistance—the need for global solutions*,⁸ and coincides with the first World Antibiotic Awareness Week on Nov 16–22, 2015, the theme of which is *Antibiotics: handle with care*. The overarching message is now a familiar one: antibiotics are a precious resource that we should be concerned to preserve. However, this *Lancet Series*³⁻⁷ is not simply another report on antimicrobial resistance. Our intention is to redefine and reposition antimicrobial resistance into a broader and more appropriate context, especially given the new era of sustainable development. The focus on resistance alone is too narrow. It misunderstands the challenge of antibiotics, and fails to take a global perspective on the needs of those for whom antibiotics are indeed such a precious resource. Our Series defines two dimensions: sustainable access, as well as sustainable effectiveness.

The threat to human and animal health from antimicrobial resistance is well established. But overlooked is the fact that more people die from the lack of access or delayed access to antimicrobials than from resistant bacterial pathogens. The first paper in our Series, by Ramanan Laxminarayan and colleagues,³ shows that for human health lack of access to essential and effective life-saving antibiotics is as important an issue as antibiotic resistance. In an analysis of community-acquired pneumonia in children younger than 5 years, Laxminarayan and colleagues estimate that universal provision of antibiotics could avert 445 000 deaths out

of an estimated total of 590 000 deaths from pneumonia across 101 countries—a 75% reduction in deaths from pneumonia. Conversely, not using antibiotics to treat pneumonia in the same age group, but instead scaling up vaccines against pneumococcus and *Haemophilus influenzae* type b (Hib), thereby conserving antibiotics and reducing selection pressure, could prevent up to 11.4 million days on antibiotics per year—a 47% reduction in days on antibiotics in 75 countries.

But access to antimicrobials cannot happen on its own. Access to diagnostics, health services, prevention measures, reliable guidance and education, quality-assured medicines, and sustainable financing all need to take place together, at the same time as curbing inappropriate antimicrobial use.

Currently, it is unclear how much of the recent high-level rhetoric on antimicrobial resistance will translate into actionable measures in programmes and practice. The Global Action Plan on Antimicrobial Resistance² provides a good blueprint but, disappointingly, there are insufficient technical and financial mechanisms (including incentives and accountability instruments) for the plan to gain real traction in countries.

Following the World Health Assembly Resolution on antimicrobial resistance in 2015, a process has begun to write (and pass) a resolution on antimicrobial resistance for the UN General Assembly in 2016. This resolution should not only repeat the recommendations of the Global Action Plan on Antimicrobial Resistance. It should have the added value of concrete proposals for extending access

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For World Antibiotic Awareness Week see <http://www.who.int/mediacentre/events/2015/world-antibiotic-awareness-week/event/en/>



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to antimicrobials as a key life-saving commodity for, most especially, the millions of children most at risk of treatable conditions, such as pneumonia and diarrhoea.⁹ Furthermore, as our Series highlights, antimicrobial resistance must also be taken out of the realm of being a purely biomedical matter. Instead, resistance is an issue of One Health, integrating human with animal health, and encompassing a wide array of environmental determinants and concerns.

This Series aims to prove that the value of the antimicrobial coin is reflected in its two sides—effectiveness *and* access. The Series makes an urgent case for global collective action to achieve both goals. The questions are: will a current global health fashion be translated successfully into present and future tangible actions; and will the enthusiasm for that fashion be balanced with an equal zeal to see those without access to antibiotics being appropriately served? We hope our Series can trigger a debate to answer both of these pressing concerns.

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