

## The World Health Assembly resolution on antimicrobial resistance

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Antimicrobial resistance is a global problem that can only be tackled successfully through strengthened international partnerships. A concerted political, scientific and media campaign has garnered support for the recent World Health Assembly resolution on antimicrobial resistance, mandating the WHO to develop a global action plan. This resolution has the 'One Health' approach at its core, emphasizing collaboration across human and animal health sectors at the international, national and regional levels, coupled with strong leadership and the political will to act. Key themes are communication, prevention of infection, using knowledge to guide action, sustainability and optimizing the use of antimicrobial medicines and diagnostic devices. Implementation of the global action plan will require member states to make a commitment to developing national action plans and strengthening capacity, building on collaborations between the WHO, the World Organisation for Animal Health, the World Bank, Codex Alimentarius and the Transatlantic Task Force on Antimicrobial Resistance.

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### Introduction

Antibiotics underpin all aspects of modern medicine from major surgery, chemotherapy for cancer and organ transplantation through to the treatment of simple bacterial sore throats. Until now we have escaped the dire consequences of resistance because of the stream of new antibiotics introduced in the last century, but there have been few such new drugs over the last 25 years. Now, cautious estimates of the attributable deaths run at 25 000 per year in Europe and 23 000 per year in the USA.<sup>1,2</sup> Emergence of resistance is a natural phenomenon but certain environmental conditions promote its development, including using the wrong antibiotic, the wrong dose or too short a course and using one antibiotic alone when combination therapy would be more appropriate. In addition, international travel allows resistant strains of bacteria such as multidrug-resistant *Mycobacterium tuberculosis* or carbapenem-resistant Enterobacteriaceae, for example those producing NDM-1, to travel rapidly across the globe.<sup>3</sup> Although antimicrobial resistance (AMR) affects every country, the challenges faced by low- and high-income countries are different, as many patients in low- and middle-income countries with treatable infections have little or no access to effective antibiotics. An international resolution must embody the disparate needs and priorities of all member states.

### Why we needed a resolution

AMR is not a new problem and has long been recognized as a threat to effective treatment. For a number of years the priority

focus in many countries was tackling healthcare-acquired infections caused by bacteria such as MRSA and *Clostridium difficile*. Since 1998 there have been a series of World Health Assembly (WHA) resolutions on AMR (Figure 1),<sup>4</sup> paving the way for the 2001 WHO global strategy for the containment of AMR,<sup>5</sup> the 2011 EU AMR Strategic Action plan<sup>2</sup> and the 2012 EU Council Conclusions.<sup>6</sup> Despite these efforts, AMR has continued to escalate and the need to accelerate progress has been acknowledged by the WHO, the USA and the European Commission. To achieve change at the rate required to impact on AMR requires political will and global action, working across human and animal health sectors through an international partnership, known as the 'One Health' approach.<sup>7</sup> The WHO is well placed to coordinate this action, and the existing tripartite relationship between the WHO, the World Organisation for Animal Health and the United Nations Food and Agriculture Organization provides a mechanism for collaboration across sectors, including through the Codex Alimentarius.<sup>8</sup> The WHA resolution is critical because it gives the WHO a mandate to develop a global action plan by 2015, legitimizing action on behalf of the member states.

### Building political momentum

In the UK the first national Strategy and Action Plan on Antimicrobial resistance was published in 2000.<sup>9</sup> It focused on reducing rates of healthcare-acquired infection such as MRSA and *C. difficile* and so stimulated little interest in AMR from either Ministers or senior government. By the time Professor Dame Sally Davies published her independent report as Chief Medical Officer

2009	<ul style="list-style-type: none"> <li>Progress report on 2007 Rational Use of Medicines Resolution</li> </ul>
2007	<ul style="list-style-type: none"> <li>Secretariat's report on Rational Use of Medicines</li> <li>Progress report: WHA A60/28—Progress reports on technical and health matters—Improving the containment of antimicrobial resistance</li> <li>Discussion: Report on Progress of Implementation of Resolution on Antimicrobial Resistance adopted by the Assembly in 2005</li> <li>Resolution WHA 60.16</li> </ul>
2005	<ul style="list-style-type: none"> <li>Background: WHA A58/14—Antimicrobial resistance: a threat to global health security. Rational use of medicines by prescribers and patients</li> <li>WHA58.27 Improving the containment of antimicrobial resistance</li> </ul>
2001	<ul style="list-style-type: none"> <li>Background: WHA A54/17—Revised drug strategy</li> <li>Resolution: WHA 54.11—WHO medicines strategy</li> <li>Background: WHA A54/9—Global health security—epidemic alert and response</li> <li>Resolution: WHA 54.14—Global health security: epidemic alert and response</li> </ul>
1998	<ul style="list-style-type: none"> <li>Background: WHA A51/9—Emerging and other communicable diseases: antimicrobial resistance</li> <li>Resolution: WHA 51.17—Emerging and other communicable diseases: antimicrobial resistance</li> </ul>
Regional Committees Resolutions	<ul style="list-style-type: none"> <li>European strategic action plan on antibiotic resistance Regional Committee for Europe, September 2011</li> </ul>

**Figure 1.** Previous WHA resolutions.

(CMO) in 2011, this had all changed.<sup>10</sup> She highlighted infections and the rise of resistance, drawing national and global attention to this problem and calling for AMR to be put on the National Risk Register. Recognizing the need for faster progress, a new AMR strategy was developed with greater emphasis placed on surveillance and collecting data to measure outcomes.<sup>11</sup> AMR was quickly placed on the risk registers of both the Department of Health and the Department for Environment, Food and Rural Affairs and is being considered for inclusion on the government risk register as part of the national security risk assessment. Although important for the UK, this action alone could not drive the collaborative response and commitment that was required from governments across the world. This demanded a strategic approach: maximizing political influence, engaging with the public and working to develop the scientific evidence base to deliver new antimicrobials.

The UK worked across government to maximize influence and raise AMR on the political agenda worldwide. The CMO capitalized on her high-profile position as independent advisor to the government to convey a compelling narrative on the threat of AMR and reach out to civil society through activities such as her TED talk ‘The Drugs Don’t Work’ and book of the same name.<sup>12</sup> The scientific case was apparent: the burden of drug-resistant Gram-negative infections was increasing, with no new antibiotics

1	to increase political awareness, engagement and leadership in order to accelerate efforts to secure access to effective antimicrobials and to use them responsibly;
2	to take urgent action at national, regional and local levels to strengthen infection prevention and control, by means that include application of basic hygiene measures;
3	to develop or strengthen national plans and strategies and international collaboration for the containment of antimicrobial resistance;
4	to mobilize human and financial resources in order to implement plans and strategies to strengthen the containment of antimicrobial resistance;
5	to strengthen overall pharmaceutical management systems, including regulatory systems and supply chain mechanisms, and, where appropriate, laboratory infrastructure, with a view to ensuring access to and availability of effective antimicrobial agents, taking into account financial and other incentives that might have a negative impact on policies for prescribing and dispensing;
6	to monitor the extent of antimicrobial resistance including regular monitoring of the use of antibiotics in all relevant sectors, in particular health and agriculture, including animal husbandry, and to share such information so that national, regional and global trends can be detected and monitored;
7	to improve, among all relevant care providers, the public and other sectors and stakeholders, awareness of (i) the threat posed by antimicrobial resistance, (ii) the need for responsible use of antibiotics and (iii) the importance of infection prevention and control measures;
8	to encourage and support research and development, including by academia and through new collaborative and financial models, to combat antimicrobial resistance and promote responsible use of antimicrobial medicines, develop practical and feasible approaches for extending the lifespan of antimicrobial medicines and encourage the development of novel diagnostics and antimicrobial medicines;
9	to collaborate with the Secretariat in developing and implementing a draft global action plan to combat antimicrobial resistance, including antibiotic resistance, which is based on all available evidence and best practices;
10	to develop antimicrobial resistance surveillance systems in three separate sectors: (i) inpatients in hospitals; (ii) outpatients in all other health care settings and the community; and (iii) animals and non-human usage of antimicrobials.

**Figure 2.** WHA resolution 67.25.

in the pipeline. Nonetheless it was essential to build the evidence base by obtaining an accurate global picture of the magnitude of AMR and national surveillance capacity through the WHO’s 2014 report on global surveillance, highlighting the need for capacity-building.<sup>13</sup>

## The WHA resolution on AMR (WHA67.25) and global action plan

Sweden and the UK drafted the resolution, which was adopted at the 67th WHA in May 2014.<sup>14</sup> The overarching goal was to slow the development of resistance with focused activities around improving knowledge on and understanding of AMR, conserving and stewarding the effectiveness of existing treatments and stimulating the development of new antibiotics, diagnostics and novel therapies. It emphasized practical measures to support member states to develop national policies, driving global standards on antibiotic stewardship, data collection and infection prevention and control. This is relayed in 10 objectives (Figure 2), which will culminate in the development of a global action plan with metrics to measure progress. As member states have different priorities and needs related to AMR, the plan is being conceived as a series of building blocks so countries can choose the most relevant blocks. A key block relates to communication, improving awareness and understanding to change behaviour and social norms relating to antimicrobial use. A second block focuses on preventing infection through hygiene and vaccination and by developing systems to improve prevention in healthcare settings. Optimizing antimicrobial use is the next theme, developing evidence and protocols to support the delivery of antimicrobials in humans, animals and agriculture. A fourth theme highlights the need for evidenced-based action through data collection and research. Further themes look to the future, developing new market models to distribute products and technologies related to AMR and assessing the long-term economic, developmental and societal costs of AMR. The draft Action Plan is currently undergoing consultation,<sup>15</sup> overseen by the Strategic and Technical Advisory Group on AMR, which the CMO chairs. The aim is to secure support for adoption of the plan at the 68th WHA in 2015.

## Turning the plan into action

A sceptic may question why this plan will make a difference where other strategies have failed. The key issue is that AMR is like climate change—we do not have to let it happen. There is a strong international commitment to act, galvanized through a high-profile campaign to convey key messages on AMR to politicians, opinion leaders and civil society. Our global organizations are starting to rise to the challenge, with the WHO developing strategic action plans and supporting countries developing their own. By talking we can raise this up the political agenda so that government and global action is taken so that we do not lose the wonderful benefits of modern medicine that we have gained through scientific research until now.

## Transparency declarations

S. C. D. is the Chief Medical Officer for England and chairs the WHO Strategic and Technical Advisory Group on Antimicrobial Resistance (STAG-AMR). Both authors declare no financial conflict of interest.

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