

Policy Statement on AMR

PROPOSAL for adoption at AW18 (Bristol)

Antimicrobial Resistance Author:

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Policy Statement

Introduction

The ever-increasing prevalence of microbes resistant to antimicrobials is already causing 700,000 deaths annually worldwide, and leading us rapidly to a post-antimicrobial era, where deaths due to Antimicrobial Resistance (AMR) are more prevalent than deaths from cancer (around 10 million deaths per year) at a global economic loss of \$100 trillion. Resistance is a natural biological phenomenon but its increase in prevalence is accelerated by various factors, including lack of sufficient infectious disease surveillance programs, insufficient standards of prescription policies, the overuse of antibiotics in medicine and livestock-production, and self-medication. Antibiotic resistance alone, if left unchecked will, cause routine procedures such as hip replacements, caesareans and cancer chemotherapy to be too dangerous to undertake, as well as allowing cuts and scrapes to become potentially deadly ailments. Resistance to other antimicrobials such as HIV treatment, antifungals or antimalarials will further increase mortality and morbidity worldwide, with costs and predicted deaths increasing year on year.

SfGH Position

SfGH aligns itself with the IFMSA Antimicrobial Resistance Policy passed at March

Meeting 2018 and believes that Antimicrobial resistance (AMR) is one of the biggest health threats to the human population worldwide. SfGH acknowledges and highlights the importance of controlling AMR to protect public health and reduce the associated premature mortality and morbidity. SfGH commits to improve professional education and training, and public awareness of AMR whilst advocating for strengthening international collaboration to combat AMR. Public education contributes to preventing misuse of antimicrobials. Nevertheless, educating healthcare providers, veterinarians and farmers on appropriate antimicrobial use is key to reducing resistance prevalence,

and SfGH will be taking an active role in promoting the awareness of AMR in the UK. As antimicrobial resistance affects multiple disciplines, SfGH stresses the need to act in collaboration with all stakeholders and disciplines.

Call to action

Students for Global Health Calls to action:

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- Students for Global Health members to:
 - Adhere to ‘antibiotic guardian’ protocols in their future careers, if applicable, including prescription and infection prevention and control guidelines
 - Ensure that they, and their families and friends, adhere to their prescriptions, to lower risk of dissemination of drug-resistant microbes
- Students for Global Health branches to:
 - Promote the ‘antibiotic guardian’ protocols at branch events on AMR
 - Include modules or lessons on AMR in their Global Health short courses
 - Petition their universities to include or increase teaching on AMR in all healthcare courses, including:
 - Infection prevention and control
 - Clinical treatment
 - Epidemiological trends
 - Raise awareness and carry out campaigns about antimicrobial resistance and play an active role in shaping the public knowledge about the proper use of antimicrobials.
- Students for Global Health to:
 - Support branches’ inclusion sessions on AMR in their short courses
 - Engage with wider IFMSA activities on AMR, such as implementing the relevant Global or Regional Priorities’ goals on AMR
 - Engage with the UK Government, and Parliament, as a representative body

of students, to advocate for this policy's call to action

- Implement the One Health approach in fighting AMR through awareness campaigns and collaboration with other student organisations, including healthcare and veterinary organisations.
 - Highlight the need for all drug-resistant infections (including HIV, TB, Malaria, and other viral and parasitic infections, as well as bacterial infections) to be included in conversations about AMR.
 - Engage with UK based stakeholders from all sectors who work on AMR on a national and global level.
- UK Government and Parliament to:
 - Use its status within the World Health Organisation and United Nations to ensure the success of the UN Inter-Agency Coordination Group; and implement the UK's global AMR governance strategy
 - Continue to champion efforts to tackle AMR worldwide, including maintenance of the Fleming Fund
 - Continue to drive reduction of antimicrobial use in healthcare, animal health, agriculture and the environment
 - Empower civil society organisations by providing transparent data on AMR control efforts and holding regular open consultations

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- Highlight the need for all drug-resistant infections (HIV, TB, Malaria, and other viral and parasitic infections, as well as bacterial infections) to be included in global decisions about AMR.
- Drive innovative Research & Development financing frameworks to increase discovery, invention and production of new antimicrobials and diagnostic tools, whilst ensuring equitable access to these products

Position Paper

SfGH Position

As the UK National Member Organisation of the International Federation of Medical Students' Associations (IFMSA), we are included in the effects of the IFMSA policy on AMR (1).

The United Kingdom is the world leader of tackling AMR, being the site of the discovery of the first antibiotic, penicillin (2), and more recently, the UK Government commissioned the O'Neill report to estimate the global burden of AMR (3), the results of which are summarised in the IFMSA position statement on AMR (below). Subsequently the Government of the United Kingdom set up the £195 million Fleming Fund, designed to support research and development of solutions to tackle AMR (4).

UK based academics were also commissioned to lead the creation of the United Nations Food and Agriculture Organisation (FAO) report on AMR (5). The UK Government's Chief Medical Officer, Professor Dame Sally Davies, was also listed as a co-convenor of the UN International Agency Coordination Group on AMR (6). Professor Davies is the Government's de facto ambassador for AMR.

The UK's National Action Plan on AMR uses the One Health approach, being co-led by the Department of Health and Social Care (DHSC) and the Department for Environment, Farming and Rural Affairs (DEFRA), specifically the Chief Medical officer at DHSC and Chief Veterinary Officer at DEFRA. The five year strategy looks at current national progress and international contributions and is led by the UK AMR Strategy High Level Steering Group (7).

IFMSA Position

"Background

According to the World Health Organization (WHO), antimicrobial resistance happens when microorganisms (including bacteria, fungi, viruses and parasites) change when they are exposed to antimicrobial drugs (such as antibiotics,

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antifungals, antivirals, antimalarials and anthelmintics) used to treat the infections they cause. These are sometimes referred to as “superbugs”. As a result, the medicines become ineffective and infections persist in the body, increasing the risk of spread to others (8). Without effective treatment, many standard medical treatments will fail or turn into very high risk procedures. If Antimicrobial Resistance continues on its current trajectory, we may see an increase of deaths due to common bacterial infections. Antimicrobial Resistance can also increase duration of illness, increasing the likelihood of spread to others. In turn, this may increase the disease burden and health costs of infectious diseases.

Discussion

How Antimicrobial Resistance is spreading: Antimicrobial resistance (AMR) has

multiple ways of spreading in the community. It represents one of the basic principles of evolution of bacteria and other pathogens. Due to the selection of resistant bacteria, numerous species evolved in a way they can resist drugs previously used to combat them. Resistance has increasingly become a problem in recent years because the pace at which we are discovering novel antibiotics has slowed dramatically, while antibiotic use is rising, yet at the same time, resistance is developing faster. It is not just a problem confined to bacteria, but all microbes that have the potential to mutate and render our drugs ineffective. The great strides forward made over the past few decades to manage malaria and HIV could be reversed, with these diseases once again spiralling out of control (9). Overuse and misuse of antimicrobials is facilitated in many places by their availability over the counter (without prescription), but even where this is not the case prescribing practices vary significantly between (and often within) countries. Such issues are only made worse by large quantities of counterfeit and substandard antimicrobials permeating the pharmaceuticals markets in some regions (9).

Human population is not the only one contributing to the spread of the resistance. Out of all the antibiotics used, only 30% are consumed by humans, and the rest are consumed by animals. Antibiotics are highly used in aquaculture, leaving residues of antibiotic remains inside fish products as well as remaining in the aquatic environment for a long period of time. For crops, antibiotics are not the main drugs used for the disease prevention; antifungals are, contributing to the spread of resistance to fungicides (10). Addressing the rising threat of AMR requires a holistic and multisectoral (“One Health”) approach because antimicrobials used to treat various infectious diseases in animals may be the same or be similar to those used in humans. Resistant bacteria arising either in humans, animals or the

environment may spread from one to the other, and from one country to another. AMR does not recognize geographical borders, nor differentiate between humans and animals (8). Considering this information, there are several ways how resistance can spread: 1) Patients that use antibiotics

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can develop drug-resistant bacteria in their gut. These bacteria can then spread to other people as a result of poor hygiene or unclean facilities 2) Animals that are given antibiotics can develop drug-resistant bacteria in the gut. These bacteria reach humans through food, environment or direct contact. 3) Vegetables may be contaminated with antibiotic-resistant bacteria from animal manure used as fertilizer. The bacteria then spreads through food to humans and can eventually reach general public (8). Individuals moving from one place to another (patient transfers, international travelling, mass migration, international trade) can carry drug-resistant bacteria from places with higher antimicrobial resistance to their country of destination (11). We reiterate that the antimicrobial resistance does not recognize geographical boundaries, making it a problem that can be tackled only with global effort.

Consequences of Antimicrobial Resistance

Antimicrobial resistance has huge consequences, health and economic ones.

Research of the WHO estimates that a continued rise in resistance by 2050 would lead to 10 million people dying every year and a reduction of 2% to 3.5% in Gross Domestic Product (GDP). It would cost the world up to 100 trillion USD (9). Currently, when most surgery is undertaken, patients are given prophylactic antibiotics to reduce the risk of bacterial infections. In a world where antibiotics do not work, this measure would become largely useless and surgery would become far more dangerous. Many procedures, such as hip operations, which currently allow people to live longer active lives and may enable them to stay in the workforce, might become too risky to undertake. Modern cancer treatments often suppress patients' immune systems, making them more susceptible to infections. Therefore, without effective antibiotics to prevent or treat infection, chemotherapy would become a much riskier proposition (9). This also applies to immunocompromised patients, who also use treatments which suppress the immune system.

Why doctors?

In a majority of countries, antimicrobials are provided only if physician approved prescriptions are presented. They are available as over-the-counter medication in a few countries. Since most countries have a system where prescriptions come from physicians, emergence of resistance, due to irrational prescription and drug misuse is becoming a leading factor for AMR(9, 15). Antibiotics are the most prescribed out of all antimicrobial drugs, and according to the Centers for Disease Control and Prevention, at least 30% of prescribed antibiotics are not needed. Even with the remaining 70% of prescriptions, improvement in selection is needed to prescribe the most appropriate antibiotics (10). Why do doctors prescribe antimicrobials in an irrational way? There are many factors that lead doctors to prescribing antimicrobials when they are not needed, or simply to prescribing the wrong ones for the given situation. Following are some of the

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reasons recognized as major factors: 1) Pressure from the patient to prescribe antimicrobials, and be given a medication that is not an analgesic 2) Decreased time spent with the patient to communicate and explain the circumstances needed to prescribe antimicrobials, and when they are not necessary 3) Having some physicians not taking a full history, performing appropriate physical examination and ordering the right investigations, in order to save time and take in more patients 4) Lack of rapid diagnostic tools to aid in clinical diagnosis and to help differentiate between viral vs. bacterial causes. These reasons, among others, are contributing to the emergence of antimicrobial Resistance (12, 13, 14, 15)."

References

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3. <https://amr-review.org/>
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5. <http://www.fao.org/3/a-i6209e.pdf>
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13. <http://www.who.int/mediacentre/factsheets/fs194/en/> 14.

<http://www.cdc.gov/media/releases/2016/p0503-unnecessary-prescriptions.html> 15.

<http://www.who.int/bulletin/volumes/88/12/10-079004/en/>

Useful links

- SfGH AMR Policy (AW18) Implementation toolkit - <https://studentsforglobalhealth.org/xxxxxxxxxxxxxx/>
- SfGH Policy Statements - <https://studentsforglobalhealth.org/policy-statements/>
- IFMSA Policy on AMR (MM17) - <https://ifmsa.org/wp-content/uploads/2018/03/Antimicrobial-Resistance-.pdf>
- IFMSA Policy Documents - <https://ifmsa.org/policy-documents/>

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- IFMSA Global Priorities 2018/19 - <https://ifmsa.org/policy-documents/>
- Antibiotic Guardian - <http://antibioticguardian.com>

