Antimicrobial Resistance (AMR)

The emergence and spread of AMR is one of the biggest issues in modern medicine and public health. According to the World Health Organization (WHO), “AMR is one of the top 10 global public health threats facing humanity”.¹ As antimicrobials are “the bedrock of many of the greatest medical advances of the 20th century”, without urgently addressing AMR, we risk going back to a pre-antibiotic era, where life expectancy was 20 years shorter, and 43% of the population died of infections.² The ongoing COVID-19 pandemic is an example of what infectious diseases can do to the existing health systems in the absence of an effective treatment. AMR, a silent pandemic, will also have a significant negative impact beyond the health sector just like the COVID-19 pandemic, it threatens food security, the economy, and human development, diminishing the gains of the Sustainable Development Goals (SDGs). In 2016, Global Leaders pledged to fight AMR at the 71st United Nations General Assembly (UNGA). This commitment at the highest level moved many countries to develop National Action Plans (NAPs) to combat AMR. However, the implementation of NAPs has proven to be challenging for many countries. Meanwhile, AMR killed more people than HIV/AIDS or malaria in 2019, accounting for 1.27 million direct deaths and 4.95 million associated deaths.³ ⁴ Without any immediate action, this figure will dramatically increase to 10 million lives annually, costing our world economy 100 trillion dollars by 2050.⁵

Tackling AMR while progressing towards UHC: The link between UHC and AMR

Dr Tedros GHEBREYESUS, Director-General of WHO, stated that “progress toward UHC is vital for tackling the threat of AMR”.⁶ When the goal of Universal Health Coverage (UHC) has been achieved, everyone should have access to necessary healthcare services without facing financial hardships.⁷ This would include access to appropriate and affordable antimicrobial medicines. UHC not only ensures people’s

¹ https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance
² https://publications.parliament.uk/pa/cm201719/cmselect/cmhealth/962/96204.htm
⁴ https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2902724-0
⁵ https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf
⁷ https://www.worldbank.org/en/topic/universalhealthcoverage#1

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access to health services and protects them from financial hardships, but it is a tool to combat AMR. In 2018, Asia-Europe Foundation Public Health Network (ASEF PHN), together with Ministry of Foreign Affairs of Japan, hosted a conference that highlighted the link between UHC and AMR. Most health systems have been developed based on the assumption that effective and affordable antimicrobials would be readily available. However, due to AMR, the effectiveness of antimicrobials is no longer guaranteed. This places the sustainability of health systems in jeopardy. It is estimated that the cost of AMR in the European Union is 1.5 billion euros per year in health care costs and productivity losses. At the same time, without adequate stewardship of antimicrobial use, the increased access associated with UHC could increase the risk of AMR. This means that strategies aimed at strengthening health systems and at making progress towards UHC need to take AMR into account.

The market for antibiotics, Health Systems, and the use of antimicrobials

R&D as well as the commercialisation of new antimicrobials are an essential aspect of the fight against AMR. The COVID-19 pandemic has demonstrated the economic benefit of acting early against public health threats. It is generally more cost-effective to spend money on pandemic preparedness than on dealing with an outbreak. The development and commercialisation of new antimicrobials face financial obstacles as new drugs would need to be sold in large quantities to recoup their cost. This is not desirable as it is important to slow the emergence of resistance by limiting the use of new antimicrobials. Since the last antibiotic class was discovered in 1987, we have been stuck in a “discovery void” period. Health Systems need to support R&D as well as the commercialisation of new antimicrobials while ensuring that they are used prudently. We argue that new approaches are needed to achieve this.

One lesson stemming from the response to COVID-19 is that it is essential to have the necessary infrastructure and pool of scientists available to be able to respond to large increases in funding, as needs arise. That requires investment in the creation and maintenance of the capacity of research institutions to employ the most up-to-date scientific tools to discover new antimicrobial agents. Companies then need an incentive to develop these agents for clinical use. In the United Kingdom, the National Health Service (NHS) and the National Institute for Health and Care Excellence (NICE) introduced a new subscription-style payment model for two new antibiotics, cefiderocol and ceftazidime-avibactam. Under this scheme, often referred to as a “Netflix-style” payment model, GBP 10 million per year will be paid by NHS England as a fixed annual fee for access to the two medicines. This sum reflects the value of these medicines, regardless of the quantity used to treat patients. This model aims to overcome the low commercial attractiveness of new antibiotics, which are subject to strict controls on their use. More countries would need to introduce similar approaches to provide sufficient incentives for the development of new antimicrobials.

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9 https://asef.org/publications/high-level-meeting-on-universal-health-coverage-uhc-uhc-as-a-tool-to-combat-infectious-diseases/
11 https://www.reactgroup.org/toolbox/understand/how-did-we-end-up-here/few-antibiotics-under-development/#:~:text=Time%2Dline%20of%20the%20discovery,Adapted%20from%20%5B11%5D.
Positioning UHC and AMR under Global Health Security (GHS) for stronger collaboration: The need for solidarity

Elements required within health systems in order to effectively address AMR, such as surveillance and the capacity to develop and produce new therapeutic agents, are also useful features in the context of Pandemic Preparedness and Response (PPR). Addressing AMR will strengthen PPR capacities leading to Global Health Security (GHS). In this regard, AMR is not a stand-alone issue: addressing AMR using a health system approach will contribute directly to PPR and GHS.

The current catastrophic situation results from irresponsible actions focused on short-term benefits, ignoring predictable long-term damage – something comparable to climate change, as AMR is often referred to as the “climate change of health”. Collaboration on a global scale with the contribution of every key stakeholder is essential to overcome this crisis in order to avoid further devastation to humanity, society, and the economy. Global collaboration requires an effective coordination mechanism based on high-level commitment and with enough financial means.

This agenda also requires high-level political commitment as the COVID-19 pandemic has highlighted the importance of global health governance. The inequities revealed and worsened by the pandemic call attention to the need for global solidarity. The international community needs a global, multisectoral governance structure supporting solidarity and universal preparedness for health. Said governance structure will enable better coordination, leading to concrete action and tangible outcomes on mitigating AMR.

Objectives

The overall aim of this conference is to facilitate a much-needed dialogue between governments and other stakeholders on practical ways to integrate a concern for AMR into UHC, as unlike short-term measures and funding schemes, health systems are here to stay. Actionable AMR strategies that address the need for support for high quality science and provide incentives to develop and produce new antimicrobials will also be discussed. The links between AMR mitigation under UHC and pandemic preparedness will be explored. Possible international collaborations and effective coordination mechanisms will also be sought, as AMR cannot be solved by a single country on its own.

The specific objectives of the conference are:

- To hardwire AMR into UHC via practical action points/ actions leading to AMR mitigation and UHC strengthening.
- To generate a dialogue amongst different stakeholders in order to push the AMR agenda within the scope of pandemic preparedness and response, especially in relation with UHC.

16 https://www.bmj.com/content/372/bmj.n59

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• To agree on priorities for international cooperation between Asia and Europe in order to support progress towards sustainable UHC while containing the risks of emerging infectious diseases, including AMR.

This conference will prepare a communiqué with a set of recommendations targeting higher political forums, including the G7 process taking place in 2023 in Japan as well as the relevant High-level Meetings at the United Nations General Assembly.

**Target Audience**

This conference will address three target audiences: 1) senior-level health officials who are working in the area of UHC; 2) senior-level health officials who are working in the area of AMR; and 3) senior level officials who are working in the area of Pandemic Preparedness and Response (PPR). The target audience more specifically includes:

- Senior-level officials, advisors, and/or other decision-makers from Ministries of Health of ASEM Partners or equivalent who work in the area of UHC, AMR and/or PPR;
- Chief/directors from national health agencies of ASEM Partners or equivalent who work in the area of UHC and/or AMR;
- Senior-level officials from Ministries of Finance, Foreign Affairs and other relevant ministries of ASEM Partners;
- Representatives of international organisations (IOs), non-profit organisations (NGOs) and academia;
- Representatives of private sectors whose work is closely related to AMR, such as pharmaceutical industries.

**External cooperation for this meeting**

The planning of this meeting has been developed in cooperation with the following experts/organisations;

- Dr Gerald BLOOM, Professorial Fellow, Institute of Development Studies
- Dr Malin GRAPE, AMR Ambassador, Ministry of Health and Social Affairs, Sweden
- Dr Norio OHMAGARI, Director, AMR Clinical Reference Center, and
- Professor Göran TOMSON, Professor of International Health Systems Research, Karolinska Institutet, and UN Agenda 2030 councilor Presidents Office Karolinska Institutet

Chaired by Ms Riko KIMOTO, Manager for International Public Health, Asia-Europe Foundation (ASEF).
Organiser
Asia-Europe Foundation (ASEF) & ASEF Public Health Network

The Asia-Europe Foundation (ASEF)\textsuperscript{17}, founded in 1997, is an intergovernmental not-for-profit organisation representing the 53 ASEM\textsuperscript{18} Partners: 30 European and 21 Asian countries, plus the European Union and the ASEAN Secretariat. Following the 6\textsuperscript{th} ASEM Summit (ASEM6; 2006; Helsinki, Finland), where the leaders expressed their determination to combat avian influenza and a possible human influenza pandemic, the \textit{ASEM Initiative for the Rapid Containment of Pandemic Influenza}, financially supported by the Government of Japan, was officially launched at the 9\textsuperscript{th} ASEM Foreign Ministers’ Meeting (ASEM FMM9; 2009; Hanoi, Viet Nam). Since then, the 2 components of the Initiative (ASEM Stockpiling of Anti-viral Drugs and Personal Protective Equipment, as well as ASEF Public Health Network) have contributed to strengthening ASEM Partners’ capacity to manage public health emergencies.

Co-Organiser
AMR Clinical Reference Center

The AMR Clinical Reference Center was established in April 2017 as a project commissioned by the Ministry of Health, Labour and Welfare to implement measures based on the action plan for antimicrobial resistance (AMR) and to promote measures against AMR. The Center mainly conducts work related to clinical epidemiology based on the antimicrobial resistance (AMR) action plan, and work related to information and education.

Co-Organiser & Sponsor
Ministry of Foreign Affairs Japan (MOFA)

The Government of Japan has supported the “ASEM Initiative for the Rapid Containment of Pandemic Influenza” with approximately USD 32 million of initial funding. The initiative consists of two components: the ASEM Stockpiling of Anti-Viral Drugs and Personal Protective Equipment, and the ASEF Public Health Network. The former delivers necessary drugs and equipment to wherever necessary within and around the ASEM area if an outbreak of pandemic influenza is detected. The latter aims to complement the stockpile component by enhancing preparedness and quick response through workshops and trainings. This Conference is an ASEF Public Health Network event under the ASEM Initiative.

\textit{ASEF PHN is funded by the Government of Japan}

\textsuperscript{17} \url{http://www.ASEF.org} \\
\textsuperscript{18} \url{https://www.ASEMinfoboard.org/about/partners}