



QUARTERLY World Antibiotic Awareness Week 2021 – Special Edition
NewsLetter

OCT/DEC 2021
VOLUME VIII

Message AMR Focal Person

“AMR has emerged as a serious public health problem worldwide. Systematic misuse of antimicrobials should be discouraged by all healthcare professionals and workers. There is a strong need to prioritise AMR at all levels and implement multipronged strategies, aligned with the Global and National Action Plans, to curb the impact of AMR.

I am pleased to share the ‘**Special Edition**’ of the **AMR Quarterly Newsletter** as we commemorated **World Antimicrobial Awareness Week (WAAW) 2021**. WAAW is observed from 18th – 24th November every year. The theme for 2021 was to ‘**Spread Awareness, Stop Resistance**’ with the slogan “Antimicrobials: Handle with Care”.

Last year, due to the high risk of COVID-19, World Antimicrobial Awareness Week could not have such active participation. However, WAAW 2021 was observed with **a lot of enthusiasm by the NIH and partners across Pakistan and internationally**. This year, WAAW called on One Health stakeholders, policymakers, health care providers and the public (of

all ages) to become Antimicrobial Resistance (AMR) Awareness champions.

I would like to thank all those who organised such diverse activities for the week. Creativity was seen in spreading awareness and stopping resistance through **awareness seminars, walks, competitions and social media campaigns**.

Identification and acknowledgement of a problem is the first step to resolve it. **Under the AMR National Action Plan (NAP) developed in 2017, raising awareness of AMR at the national level, is the first strategic objective**. Implementation of activities, such as those organised in WAAW 2021, allow behavioural strategies to be devised. **The NIH will continue with similar efforts moving forward and encourage the audience to do the same**. This is the only way we will definitely contribute to contain AMR in Pakistan”

Dr Muhammad Salman
Chief PHLD, National Institutes of Health



International Conference on AMR Under “One Health”

The National Institutes of Health (NIH) and the Ministry of National Health Services Regulations and Coordination (MoNHSR&C) in collaboration with the World Health Organisation (WHO) organised the two day conference from 23rd - 24th November 2021. This platform allowed academics, medical professionals, scholars, social and medical students & scientists to present their scientific and intellectual contributions for the prevention and control of AMR. The conference highlighted the different aspects which are increasing the spread of AMR in Pakistan and advocated for rational use of antibiotics. Participants included key international institutions such as the Fleming Fund Country Grant Pakistan, WHO, Centers for Disease Control and Prevention (CDC), Public Health England (PHE) and John Snow, Inc (JSI). Dr Rana Muhammad Safdar (Director General (DG)) and Dr Faisal Sultan (Special Advisor to the Prime Minister), were in attendance and appreciated the efforts of the NIH and all stakeholders involved in constraining AMR.



SESSION 1: Advocacy and Antimicrobial Resistance (Panel Discussion)

“Concrete actions are required for the development of a standard training curriculum on microbiology diagnostic methods, lab-based surveillance, IPC and antibiotic stewardship programs.”

Dr Scott JN McNabb, PhD, MS
Research Professor, Emory University

SESSION 2 Clinical and Laboratories Aspects on AMR

“Antimicrobial resistance: It is a story of science and evolution that looks to history, culture, attitudes, our own individual choices and collective human behavior in creating one of the biggest public health challenges of our time.”

Dr Muhammad Hamid Zaman
Professor, Boston University

SESSION 3 One Health Aspects of AMR

“Countries and organisations need to fill their identified One Health AMR research gaps, so the human-animal interface approaches can be coordinated and harnessed by others or incorporated into regional level, to improve food security and safety.”

Dr Laura Kahn
Co-Founder, One Health Initiative

SESSION 4 Antimicrobial Stewardship (Panel Discussion)

“Antibiotic Stewardship is an effort to measure and improve how antibiotics are prescribed and used. CDC’s Core Elements of Antibiotic Stewardship offer providers and facilities a set of key principles to guide efforts to improve antibiotic use and ensure advance patient safety and improve outcomes.”

Dr Twisha Patel
CDC



Competitions

National Abstract Competition

The academia, residents/fellows, early career physicians, young scientists and eligible personnel from both Human Health (HH) and Animal Health (AH) sectors presented papers in the National Abstract Competition on AMR. The winners were awarded cash prizes and certificates at the closing ceremony.

ABSTRACT SUBMISSION RESULTS

INTERNATIONAL CONFERENCE ON ANTIMICROBIAL RESISTANCE CONTAINMENT UNDER ONE HEALTH

CONGRATULATIONS TO WINNERS ON BOTH DAYS

<p style="text-align: center;">DR. BASEER AHMED MNS UNIVERSITY OF AGRICULTURE MULTAN</p> <p style="text-align: center;">1st Position Oral Presentation Day 1</p> <p style="text-align: center;">Topic: Expression and Purification of Hybrid LL-37Ta1 Peptide in <i>Pichia pastoris</i> and Evaluation of its Immunomodulatory and Anti-inflammatory Activities by LPS Neutralization</p>	<p style="text-align: center;">DR. HASSAN BIN ASIF ICCBS, UNIVERSITY OF KARACHI</p> <p style="text-align: center;">1st Position Oral Presentation DAY 2</p> <p style="text-align: center;">Topic: Prevalence, dissemination and antibiotic resistance associated with soil environmental enterococci</p>
<p style="text-align: center;">MS. ANEELA GUL INSTITUTE OF PSYCHOLOGY & PHARMACOLOGY UA FAISALABAD</p> <p style="text-align: center;">1st Position Poster Presentation Day 1</p> <p style="text-align: center;">TOPIC: Detection of Florfenicol Residues in Goat Meat and Liver Samples</p>	<p style="text-align: center;">MS. MALEEHA UROOJ DEPARTMENT OF MICROBIOLOGY QAU ISLAMABAD</p> <p style="text-align: center;">1st Position Poster Presentation Day 2</p> <p style="text-align: center;">Topic: Insight into chromosomal mechanism of Colistin resistance in indigenous <i>E. coli</i>: an indicator of escalating virulence and drug resistance</p>

NATIONAL INSTITUTE OF HEALTH, PAKISTAN

WINNERS

<p>1st Prize</p> <p>CK Ster</p>	<p>2nd Prize</p> <p>Safullah</p>	<p>3rd Prize</p> <p>Haris</p>
RUNNERS UP		
<p>Uzma Aftab</p>	<p>Amir Riaz</p>	<p>Wajahat</p>

The competition received around 40 entries from leading schools, colleges and medical universities. The top three winners were acknowledged during a prize distribution ceremony led by the Executive Director of the NIH on 22nd November 2021 in Ramada Hotel Islamabad. Aiming to increase participation of youth in the awareness campaign, the winners and runners up were awarded with cash prize. The competition was organised by the NIH, with support from the Fleming Fund Country Grant Pakistan and prize money was sponsored by JS Bank and Dubai Islamic Bank.

Photography Competition for Students



AMR Poster Competition for Veterinary Students

The National Veterinary Laboratories Islamabad in collaboration with the Animal Husbandry Commissioner office and the Fleming Fund Country Grant Pakistan organised the competition. 30 Posters were received from students at all veterinary educational institutes. The students from the University of Veterinary and Animal Sciences Lahore, University of Agriculture Peshawar and University of Agriculture Faisalabad won the 1st, 2nd and 3rd position, respectively. The winners were awarded with cash prizes and offered an internship at the National Veterinary Laboratories Islamabad.

World Antimicrobial Awareness Week

WINNER

**SPREAD AWARENESS
STOP RESISTANCE**

2nd PRIZE

TRIP TO AMR

1991 ANTIBIOTIC SENSITIVITY TEST IN 1950: SHORT RESISTANCE TO DEATH

MUTATION MUTATION OCCURS AT RANDOM AND INCREASING LEVEL

DRUGS METABOLIC PATHS OVERLAP OF DRUGS VIA ORAL AND PARENTERAL ROUTE

DRUG RESISTANT PATHOGENS ANTIBIOTIC RESISTANCE IS A RESULT OF MUTATION OR ACQUISITION OF DRUG RESISTANCE GENE

Antiparasitic resistance ANTIPARASITIC RESISTANCE IS THE RESULT OF MUTATION OR ACQUISITION OF DRUG RESISTANCE GENE

virus ANTIBIOTIC DRUGS ARE NOT EFFECTIVE AGAINST VIRUS

Modification of drugs SCIENTISTS ARE MODIFYING DRUGS TO MAKE THEM MORE EFFECTIVE

1991-2021

1st PRIZE

Antimicrobial resistance: The Next Pandemic

"Antimicrobial resistance: No action today, no cure tomorrow"

What is antimicrobial resistance?

Antimicrobial resistance (AMR) is the ability of a microorganism to resist the effects of antimicrobial drugs.

Why AMR is a pandemic threat?

AMR is a global health threat that will cause an estimated 10 million deaths annually by 2050.

Global Action Plan to Combat AMR

1. Strengthen leadership and governance

2. Improve antibiotic use

3. Incentivize antibiotic R&D

4. Enhance surveillance and monitoring

5. Promote research and innovation

6. Enhance infection prevention and control

7. Optimize antibiotic use in animals

8. Enhance public awareness and education

9. Strengthen regulatory systems

10. Enhance international cooperation

3rd PRIZE

World Antimicrobial Awareness Week

Usama Shakir Goraya
FVS,UAF.ma311009118@gmail.com

Antimicrobial Resistance: The development by a disease-causing microbe, through mutation or gene transfer, of the ability to resist exposure to an antimicrobial agent that was previously an effective treatment.

Antimicrobial Resistance of various bacterial species

Species	Resistance (%)
Staphylococcus aureus	95
Escherichia coli	85
Streptococcus pneumoniae	75
Salmonella enteritidis	65
Shigella flexneri	55
Shigella sonnei	45
Shigella flexneri	35
Shigella sonnei	25
Shigella flexneri	15
Shigella sonnei	5

How AMR occurs:

1. Only use antibiotics when prescribed by a certified health professional
2. Never demand antibiotics from a health worker when you don't need them
3. Always follow your health worker's advice when using antibiotics.

Why resistance is a concern:

- Resistant organisms lead to treatment failure
- Increased mortality
- Resistant bacteria may spread in Community
- Added burden on healthcare costs

Control of Antimicrobial Resistance:

Fight antibiotic resistance - It's in your hands!

Ihtisham-ul-Haq
University of Agriculture Peshawar

Usama Shakir Goraya
University of Agriculture, Faisalabad- UAF

Competition for Children

School children were engaged in the Poster Competition, organised by the NIH. The top 3 winners were awarded with cash prizes.

AMR Awareness Walk

An Awareness Walk was organised by the NIH and WHO on 19th November 2021, to commemorate World Antimicrobial Awareness Week 2021. Dr Palitha Mahipala (WHO representative), Maj General Prof Aamer Ikram (Executive Director, NIH) and Mr Asim Rauf (CEO, Drug Regulatory Authority of Pakistan (DRAP)), warned about the risks of the overuse of antimicrobials and encouraged to spread awareness so that concrete action can be taken by policymakers, practitioners and the general public. Approximately 110 participants enthusiastically took part in the activity.



Dr Palitha Mahipala

'Patients come with a headache or a fever and they end up with antibiotics, this leads to resistance. The NIH's incredible leadership on this is commendable, as they bring all partners together for one cause: tackling AMR.'

Maj General Prof Aamer Ikram

'We should reduce the consumption of antibiotics drastically. They should only be consumed when necessary, after consultation and prescription from a doctor or a specialist'

Mr Asim Rauf

'DRAP has passed a bill to stop unethical prescription practices. We must stop and fine such unethical behaviour, to tackle AMR in Pakistan'

MESSAGE

MINISTER OF NFSR FOR WORLD ANTIMICROBIAL AWARENESS WEEK (WAAW) 2021



The Ministry of National Food Security & Research is mainly responsible for policy formulation, economic coordination, and planning in respect of food safety and security. The presence of resistance in microbes against antibiotics has claimed at least 700000 human lives on a yearly basis and this number is likely to increase to 10 million by 2050 the associated cost is estimated to be US\$100-200 trillion.

Since the use of antibiotics and other similar drugs in the livestock sector has contributed significantly to this rapidly emerging problem of antimicrobial resistance, therefore the responsibility of Ministry of National Food Security & Research is two folds to prevent emergence and spread of antimicrobial resistance. The only option with this ministry to this end is to create awareness and to ensure rational and responsible use of veterinary drugs in animal practice and to avail this option, stewardship at policy level is imperative.

I assure the international and local communities to formulate policies targeting the veterinarian, practitioners and farmers for responsible and rational use of veterinary drugs.

The observance of "World Antimicrobial Awareness Week "WAAW" from 18-24 November with the theme "Spread Awareness, Stop Resistance" for the year 2021 is a symbiotic determination of our ministry to join global efforts to combat this menace. At this occasion, I appreciate the Fleming Fund Country Grant for providing and implementing AMR surveillance program in food animals in Pakistan besides strengthening laboratories and building capacities of our professionals, practitioners and farmers. This will promote responsible use of veterinary drugs as well as early detection of microbes resistant to particular drugs which are the ultimate global objectives.

Syed Fakhar Imam

Federal Minister for National Food Security and Research

MESSAGE

SECRETARY OF MONFSR FOR WORLD ANTIMICROBIAL AWARENESS WEEK (WAAW) 2021



Antimicrobial resistance (AMR) is one of emerging health problems both in human and animal sectors wherein microorganisms like bacteria, viruses and protozoa develop the ability to defeat the drugs designed to kill them. This situation in animal sector is further problematic because it poses a serious threat to food security and farmers' livelihoods due to productivity losses and associated animal mortalities. Since data has shown the presence of resistance microbes in humans, animals, our food and the environment, therefore, prevention and containment of the spread of antimicrobial resistance is imperative.

The Ministry of National Food Security and Research is constantly involved in consultation with major stakeholders and consequently involved in consultation with major stakeholders and consequently signed an MoU entailing implementation mechanism to utilise a Fleming Fund Country Grant. The activities under the grant in animal sector including but not limited to surveillance of AMR to identify the microbes susceptible for developing resistance, capacity building of laboratories to strengthen surveillance system and awareness among farmers, professionals and practitioners on ground,

In order to create awareness among general public to combat this problem, the world is observing "World Antimicrobial Awareness Week (WAAW)" from 18-24 November with the theme "Spread Awareness, Stop Resistance" for the year 2021. The Ministry of National Food Security and Research has accordingly planned multiple uses of veterinary drugs by veterinarians, practitioners and farmers themselves besides promotion of antimicrobial stewardship at police level for suppression of AMR in food animals for food safety and security.

Tahir Khursheed

Secretary, Ministry of National Food Security and Research

Transboundary Animals Diseases, Herd Health Management and Antimicrobial Resistance and Antimicrobial Use

19th November 2021

The Animal Husbandry Commissioner (AHC) in collaboration with the Fleming Fund Country Grant Pakistan and the Food Agriculture Organisation (FAO) Pakistan organised an interactive seminar for veterinarians and paraprofessionals of Rawalpindi district. This involved a group activity on “the actions veterinary professionals can take to reduce AMU/AMR” and all groups described the animal husbandry practices for the infection prevention and control (IPC) in limiting antibiotic use. To further aid understanding, literature on the rational use of antibiotics was shared with participants in Urdu language.



Role of Laboratory Diagnostics in Timely Detection of Transboundary Animal Diseases (TADs) and Its Impact on Antibiotic Use

24th November 2021

The Fleming Fund Country Grant Pakistan, FAO Pakistan and PMAS Arid Agriculture University Rawalpindi (AAUR) organised a seminar for over 100 participants at PMAS AAUR. The seminar aimed to spread awareness among postgraduate and final year veterinary students about the

importance of TADs, diagnostics of TADs & AMR and how they can play their role for the containment of AMR/AMU in the future. The seminar also highlighted the importance of AMR's inclusion in the veterinary curriculum.





Controlling Transboundary Animal Diseases at Farms 22nd - 23rd November 2021

The Fleming Fund Country Grant Pakistan, FAO Pakistan and the AHC office, MNFSR took the first step towards creating awareness amongst farmers on how to control the transboundary animal diseases (TADs) at their farms for limiting the excessive use of antibiotics in the veterinary sector. The participants were given literature on the rational use of antibiotics and control of TADs in Urdu language. The awareness seminars were held at 2 farms:

1. Bagga Shaikhan Buffalo Colony, Rawalpindi -



30 farmers were educated on AMR and how to combat TAD. Key issues in farmer malpractices were discussed and how to mitigate them to improve the health of animals and ultimately humans. The participants showed willingness for routine vaccination and other husbandry practices for the economic animal raising and food safety.

2. Tarnol, District Rawalpindi - 30 livestock farmers agreed for improved husbandry practices including biosecurity, vaccination, cleanliness, quarantine, isolation of diseased animals, use of diagnostic laboratories and use of sterilised syringes at farms.



Strengthening AMR Coordination Unit at the AHC Office, MoNFS&R

22nd November 2021

Keeping in view the integral role of the Ministry of National Food Security and Research, decided in the National Action Plan 2017, a coordination unit was established at the AHC office for the coordination of AMR activities. This unit was strengthened by the Fleming Fund Country Grant Pakistan through the provision of IT equipment.



Webinars

Trends of Antimicrobials sales at National and Provincial levels 18th November 2021

Irrational sale of antimicrobials is among many other factors that contribute towards AMR. Mr Sardar Shabbir (Federal CID) highlighted the challenges in rational sales of antibiotics i.e. quackery, irrational prescription of antibiotics by physicians, incentive policy challenges of pharmaceutical industries and inadequate monitoring by regulatory bodies. The webinar was concluded with a resolution to establish effective antimicrobial stewardship (AMS) plans to minimise the burden of AMR.

Rational use of Antibiotics in the Veterinary Sector 22nd November 2021

Increasing demand of animal protein for human consumption is rising in Pakistan at an unprecedented rate. Therefore the rational use of antimicrobials as growth promoter was advocated and the prophylactic use of antibiotics in veterinary sector was discouraged. Provincial focal persons of AMR and Antimicrobial Use (AMU) from the veterinary sector participated in the session. Dr Salman (Chief PHLD, NIH) concluded the session with recommendations for implementation of the National Action Plan and Reforms to discourage irrational use of antimicrobials and promoting rational use of antibiotics in the Veterinary Sector.

Defeating Antimicrobial Resistance (AMR) Through Awareness, Advocacy and Research 23rd November 2021

The Pakistan US Alumni Network (PUAN), on the platform of US Embassy Pakistan, collaborated with the Fleming Fund Country Grant Pakistan to share insights in raising AMR awareness and discussed best practices among health workers, policymakers and the health communication sector to slow the development and spread of drug-resistant infections. Panelists of the event included: Professor Dr Mo Salman (Veterinary Epidemiology, Colorado State University), Dr Muhammad Hamid Zaman (Howard Hughes Medical Institute Professor of Biomedical Engineering and International Health, Boston University), Dr Muhammad Usman Zaheer (Surveillance Lead, Fleming Fund Country Grant Pakistan), Possawat Jorakate (Microbiologist, Mott MacDonald, Fleming Fund Management Agent, Bangkok, Thailand) and Dr Kashif Sangrasi (Program Officer, Fleming Fund Country Grant Pakistan).

The AMR Relay 24th November 2021

The AMR Insights Ambassador Network concluded the World Antimicrobials Awareness Week 2021 with a 24 hour relay. Makkiya Jawed (Public Health Specialist, the Fleming Fund Country Grant Pakistan), presented the efforts of the Fleming Fund Country Grant Pakistan in combating AMR in Pakistan. The AMR relay offered a series of 96 consecutive, catchy contributions by the global stakeholders involved in curbing antimicrobial resistance (AMR).

Provincial Efforts for WAAW 2021

Khyber Pakhtunkhwa (KP) Activities

The Fleming Fund Country Grant KP team in collaboration with the Department of Health and the WHO celebrated the WAAW 2021. This was a new initiative taken by the Fleming Fund Country Grant team.

Going blue

The Provincial Assembly Hall was lit up “BLUE” by the WHO to increase awareness of AMR. Ministers, MPAs, International NGOs representatives, government secretaries Director Generals (DGs) and senior officials, doctors and private sector hospital representatives attended the launch of the campaign. All participants shared their views, gave their recommendations on how the government can play its role effectively to combat AMR and welcomed recommendations to formulate effective policies. This activity highlighted the importance of health policy in public safety and welfare.



AMR Awareness Seminar KP

The Fleming Fund Country Grant in collaboration with the Department of Population Welfare arranged an Awareness Seminar for over 100 students, academics and health care providers on 24th November 2021. Lectures were delivered by the Fleming Fund Country Grant Pakistan KP team and the Family Planning, Department of

Health. The Pakistan Broad Casting Corporation, Pakistan Television, GTV and Press gave coverage to the event and highlighted the AMR issue as one of the prime concerns to be addressed by government to take effective steps on an urgent basis.



Raising Voices to Tackle AMR across KP

Awareness walks and seminars were held at the University of Peshawar, Abdul Wali Khan University Mardan, Sarhad University Peshawar, Rehman Medical Institute Peshawar, DHQ Hospital Nowshera, Regional Training Institute for Population Welfare Peshawar and the University of Malakand.

Sindh Activities

Awareness Seminar SZABIST, University Karachi

The Fleming Fund Country Grant Sindh team in collaboration with the Public Health Department, Faculty of Bio-sciences of the Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) organised an awareness seminar at the SZABIST University, Karachi to commemorate WAAW 2021. The purpose of the seminar was to raise awareness among health stakeholders, policymakers, health care providers and the public about AMR. More than 200 participants attended the event, including health professionals, public health students, health care providers, faculty members, government officials, civil society organizations, UN agencies and other stakeholders.

Speakers included representatives from the Fleming Fund Country Grant, WHO, Dow University Health Sciences, SZABIST and the Department of Health. The speakers discussed the

main drivers of the spread of AMR including: the misuse and overuse of antimicrobials; lack of access to clean water, poor sanitation and hygiene (WASH) for both humans and animals; poor infection and disease prevention and control in health-care facilities and farms; poor access to quality, affordable medicines, vaccines and diagnostics; lack of awareness and knowledge; and lack of enforcement of legislation. Speakers advocated for urgent multisectoral actions and best practices at the national and provincial level to be adopted, in order to achieve the Sustainable Development Goals (SDGs).

Ms Shahnaz Wazir Ali (President SZABIST) distributed the appreciation certificates and mementos to guest speakers and thanked the Fleming Fund Country Grant and other partners for commemorating WAAW 2021, for the first time in the Sindh Province.



CONTACT DETAILS

Email: munnaza_sarfraz@dai.com, amr@nih.org.pk
Address: National Institutes of Health, Islamabad.



www.nih.org.pk | Contact number – 051 9255238

AMR MEMBERSHIP NETWORK NIH

Please click on the link for AMR Membership form
<https://www.nih.org.pk/amr-membership/>.