National AMR Coordination Centre

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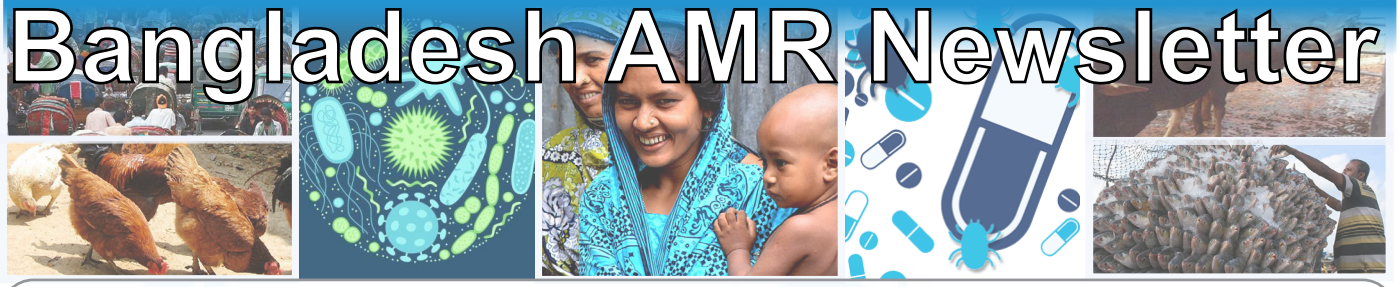
Bangladesh AMR Newsletter



Prime Minister is Nominated as Co-Chair of the One Health Global Leaders Group on Antimicrobial Resistance

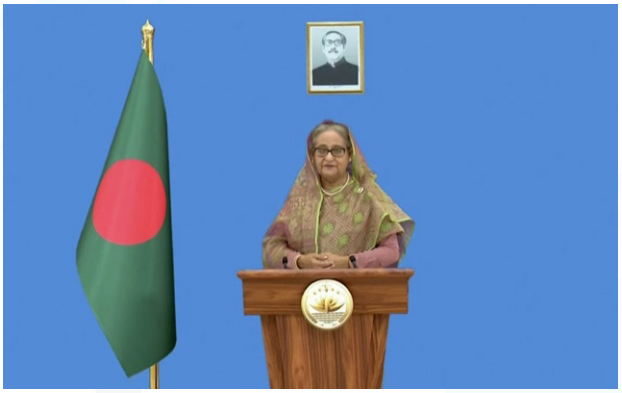
The Food and Agriculture Organization (FAO), the World Organization for Animal Health (OIE), and the World Health Organization (WHO) have jointly launched the One Health Global Leaders Group on Antimicrobial resistance (AMR) on 20 November 2020. This group aims to coordinate actions and collective global governance to address the challenges of AMR. Honorable Prime Minister of the Peoples' Republic of Bangladesh, Her Excellency Sheikh Hasina is nominated as the Co-chair of the group.

In a press event on the launching session, the Prime Minister said, "*We need worldwide coordinated actions to monitor the nature of infections, to implement required control measures and raise global awareness against the widespread use of antibiotics*"

The first virtual meeting of the newly formed group was held on 26 and 27 January 2021, where the Prime Minister put forth a six-point proposal to combat AMR, that includes:

1. Legislation to control improper antimicrobial use implemented
2. Laboratory-based Antimicrobial resistance (AMR) surveillance supported
3. Preventing the sale of antimicrobial drugs without prescription by authorized persons
4. Promote research activities on AMR
5. Support advocacy, communication, and social mobilization for containing AMR
6. Seek attention from international entities to implement actions against AMR

In the second meeting of the group on May 4, 2021, the Prime Minister said, "*The COVID-19 pandemic is the defining public health crisis of our time that has already taken more than three million lives. However, the impending pandemic, in the form of Antimicrobial resistance, will cause even more harm to the global health.*" In this regard, the Prime Minister put forth seven recommendations:



1. To set global, regional, and national targets
2. To introduce/implement inclusive monitoring and reporting system
3. To develop guidelines, policies and sharing of scientific knowledge and technical assistance for AMR surveillance and capacity building
4. To ensure equitable access to affordable and effective antibiotics and other medical and or diagnostic facilities through technology transfer
5. To provide country ownership, sufficient and sustainable financing for AMR-specific and AMR-sensitive actions
6. To set up public-private partnerships for AMR containment; and
7. To ensure inclusive, affordable and sustainable universal health care coverage

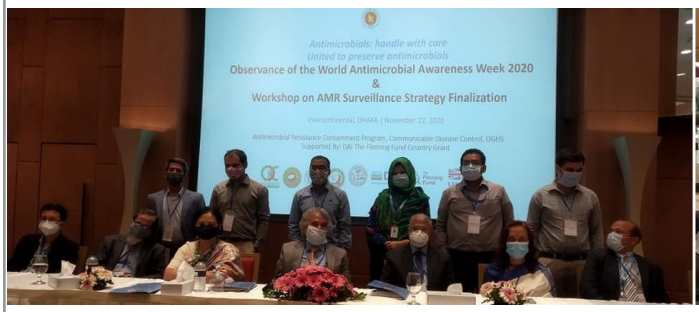
The One Health Global Leaders Group on Antimicrobial resistance is working to formulate global strategies on AMR through a comprehensive and collaborative approach. To find more, please visit: https://www.who.int/groups/one-health-global-leaders-group-on-antimicrobial-resistance

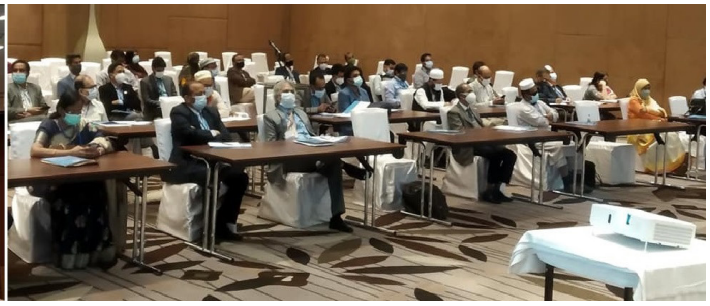
Editorial

Antimicrobial resistance (AMR) is a global threat which is a silent pandemic involving human, animals and environment. AMR containment needs One Health approach with strong evidence base for convincing consumers of antibiotics, physicians, veterinarians and policy makers who are dealing with all these sectors. Bangladesh moved one step ahead with the Honorable Prime Minister, Sheikh Hasina being the Co-chair of the "One Health Global Leaders Group on AMR". The government has taken steps to fight against AMR specifically strengthening capacity for AMR surveillance in the human, animal, aquaculture sector and promoting advocacy for policy implementation. We are publishing the Bangladesh AMR Newsletter from the National AMR Coordination Centre which will be a platform for sharing information. It is an immense pleasure to introduce this the 1st issue and hope the newsletter will keep us updated on the latest development of the AMR containment programs and research findings from all sectors.

Prof. Dr. Md. Nazmul Islam
Chief Editor
Director, Disease Control and Line Director, CDC

Government and Development Partners' Initiatives

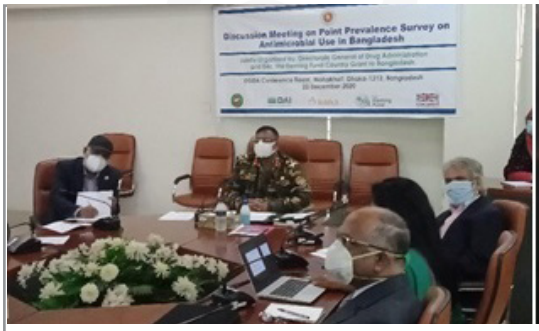


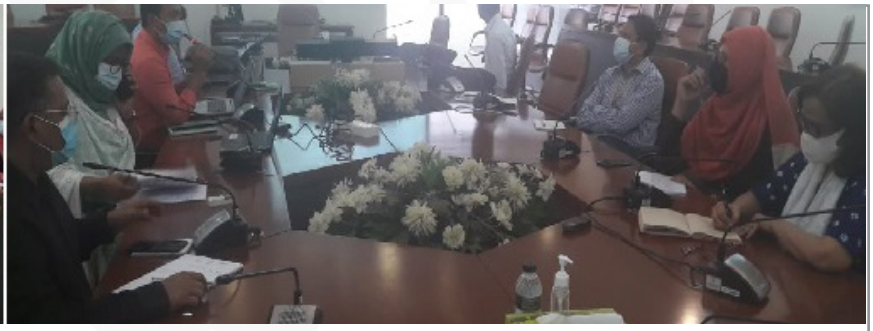


World Antimicrobial Awareness Week

The Communicable Diseases Control (CDC), Directorate General of Health Services (DGHS) with support from the Fleming Fund Country Grant Bangladesh (FFCGB) organized a workshop on 22 Nov 2020 in Dhaka to observe the World Antimicrobial Awareness Week. Dr. Abul Bashar Mohammad Khurshid Alam, Director General, DGHS and Chairperson of the National Technical Committee (NTC) on the AMR Containment Program chaired the workshop.

Representatives from Human Health, Animal Health and fisheries sector institutions and development partners attended the workshop. The document on National AMR Surveillance Strategy was presented to the relevant stakeholders and a technical working group was formed to finalize the document and get it approved from the NTC.





National Taskforce to Monitor Antimicrobial Consumption

The Directorate General of Drug Administration (DGDA) called a meeting with FFCGB on 23 December 2020 to determine the role of DGDA on Antimicrobial Consumption (AMC) data sharing. Maj Gen Md. Mahbubur Rahman, Director General, DGDA chaired the meeting with representatives from CDC, DGHS, IEDCR, DLS, BLRI, CDIL, DoF, USP-PQM and IDD of icddr, b. Study protocol of Survey on AMU assessment in human health, pharmacies, poultry and fish firms with One Health approach was discussed in the meeting.

The National Taskforce on Monitoring Antimicrobial Consumption and Antimicrobial use in Bangladesh was formed on 12 January 2021 by the Ministry of Health and Family Welfare. The taskforce assigned the Director General of DGDA as Chairperson and Directors of CDC and DLS as Co-chair with their terms of references. In the meeting, the taskforce approved the protocols on AMU assessment. It was proposed that BSMMU will provide support to DGDA in developing AMC surveillance protocol and in conducting the surveillance.

The DGDA organized a meeting on 29 March 2021 to review AMC data collection tools. The meeting emphasized aligning their work with the National AMR Containment Strategy. DGDA decided to update the list of pharmaceutical companies and their products in the AMC data collection tools. A matrix was prepared to identify the roles and responsibilities of the development partners to support AMC surveillance in Bangladesh.

Fleming Fund Country Grant to Bangladesh

The Fleming Fund Country Grant to Bangladesh (FFCGB) is funded by the UK Department of Health and Social Care. It aims to support the Government of Bangladesh to devise and implement the National Strategy on Antimicrobial resistance (AMR) Containment with a One Health approach, through coordination in Human Health, Animal Health and Aquaculture sectors.

The FFCGB helps Bangladesh to strengthen the capacity on national AMR surveillance and promotes advocacy for policy implementation.To read more, please visit: https://www.flemingfund.org/grants/bangladesh-country-grant/

Core Principles of FFCGB

One Health: Taking a One Health approach encompassing public health, animal health, agriculture and the environment.
Country Ownership: Supporting implementation of country National Action Plans, usually through a National AMR Coordination Committee.
Alignment of Approach: Funding is aligned with that of other donors and conforms with broader global initiatives, for example GLASS and the Global Action plan on Antimicrobial resistance.
Sustainability: Ensuring that sustainable systems are a critical part of funding decisions.

Capacity Building Training

The Fleming Fund Country Grant to Bangladesh supported resource person development training programs for microbiology diagnostic laboratory personnel working under the Antimicrobial resistance (AMR) Surveillance Network. Participants were invited from Human Health, Animal Health and Aquaculture laboratories under the One Health platform.

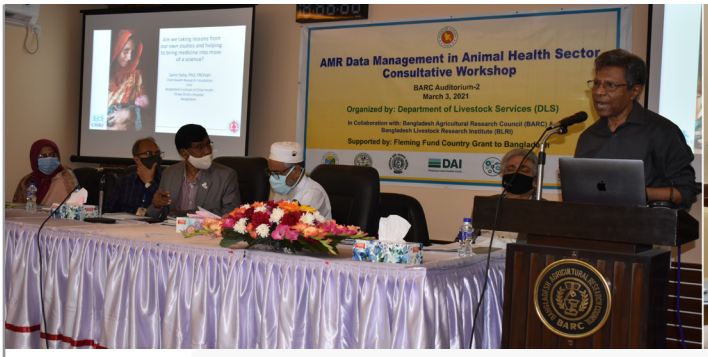
The training programs were implemented by the International Centre for Diarrhoeal Disease Research Bangladesh (icddr,b) between 14-31 Dec 2020 over an online platform for 65 participants; and from 17-21 Jan 2021 through hands-on training at the Quality Control Laboratory of the Department of Livestock Services and at the icddr,b for 25 participants.

A comprehensive curriculum was covered in these two training which included biosafety, biosecurity, laboratory quality management, basic and advanced skills in bacterial culture and antimicrobial susceptibility testing, molecular diagnostics and use of mass spectroscopy for pathogen identification and whole-genome sequencing and analysis for bacterial characterization.

The pre- and post- training assessment scores of the participants exhibited significant knowledge enhancement.

The training aimed to develop a pool of qualified resource persons in the field of bacteriology and AMR surveillance. By doing so laboratory personnel will able to generate good quality data for patient care and National AMR Surveillance. This will eventually support the implementation of the National Action Plan on AMR. Another aim of the training was to develop leadership quality among the laboratory personnel so that they could take initiatives in their respective laboratories to implement training learning.

Coordination Highlights: Governance, Coordination and Revitalization



AMR Data Management in Animal Health Sector

With the support from the Fleming Fund Country Grant to Bangladesh, the Department of Livestock Services (DLS), Bangladesh Agricultural Research Council (BARC) and Bangladesh Livestock Research Institute (BLRI) jointly organized a consultative workshop on AMR Data Management in Animal Health (AH) Sector on 3rd March 2021 in Dhaka. Representatives from different departments of Animal Health and fisheries sectors attended the workshop.

Eminent Microbiologist Prof. Samir Kumar Saha in his keynote speech stressed the need to disseminate AMR data to inform evidence-based policy decisions to implement AMR containment measures. Specialists from DLS, BLRI, BARC, CAPTURA, FAO-ECTAD and IEDCR gave presentations on the technical aspects of AMR data collection in different sessions of the workshop.

Recommendations from the workshop included forming a Sectoral Coordination Committee (SCC) in Animal Health (AH) Sector for AMR data surveillance, with DLS as the lead in active participation from BLRI, BARC and representatives from veterinary faculties of different agriculture universities/colleges. Also, to develop an AMR data surveillance protocol for quality data generation and data harmonization in the AH Sector based on National AMR Surveillance Strategy. A consensus was made on sharing of AMR data generated from different institutions using the Bangladesh Animal Health Intelligence System (BAHIS).

Sectoral Coordination Committee (SCC) in Animal Health Sector

The DLS organized a meeting to set up an SCC in Animal Health (AH) sector on 9 March 2021. The SCC shall aim to coordinate the collection and sharing of AMR data in the AH sector. During the meeting, a Technical Expert Committee was formed to develop an AMR surveillance protocol aligned with the National AMR Surveillance Strategy. The SCC will review and finalize the manual on AMR Surveillance protocol in the Animal Health sector. It was decided that, a separate module for AMR will be developed and added in to BAHIS, so that BAHIS could be used as a platform for AH sector AMR data management.

In-Country Research Highlights

One Health comprehensive approach is needed for containment of AMR in Bangladesh

Antimicrobial resistance (AMR) against life-saving drugs is threatening the world to enter into the 'pre-antibiotic era', with a devastating effect on individual and public health. The Southeast Asian countries, including Bangladesh, are considered to have the highest risk of AMR among all the WHO regions due to the wide availability of antimicrobials as over-the-counter drug. The situation in Bangladesh is more complicated due to the presence of a 'pluralistic' health system with the involvement of untrained health providers in the informal sector. Forceful and immoral marketing practices of the pharmaceutical companies also aggravate the situation. Hoque et al. (2020) reviewed 47 articles (during January 2010 -August 2019) in Human Health (dealt with prescribing and/or using antimicrobials, self-medication, non-compliance of dosage and on the sensitivity and resistance patterns of antibiotics), on use of antimicrobials in food animals and the environment. The study reveals widespread availability of antimicrobials without prescription in the country including a rise in its irrational use across sectors (human, animal and environment) and consequent contamination of environment and spread of resistance. The development and transmission of AMR is deep-rooted in various supply and demand side factors. Implementation of existing policies and strategies remains a challenge due to poor awareness, inadequate resources and absence of national surveillance. The authors conclude that AMR is a multi-dimensional problem involving different sectors, disciplines and stakeholders requiring a One Health comprehensive approach for containment.

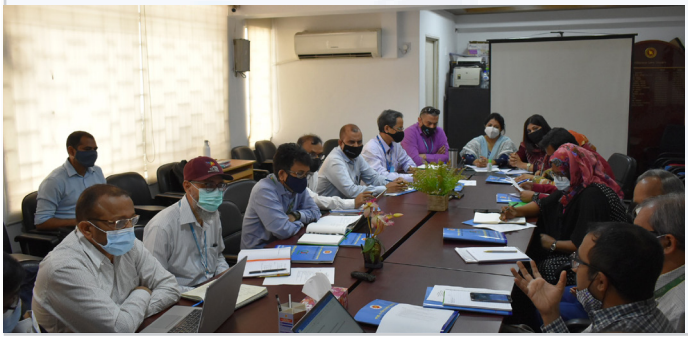
Reference: Hoque R, Ahmed SM, Naher N, Islam MA, Rousham EK, Islam BZ, et al. (2020) Tackling Antimicrobial resistance in Bangladesh: A scoping review of policy and practice in human, animal and environment sectors. PLoS ONE 15(1): e0227947. https://doi.org/10.1371/journal.pone.0227947

Strengthening Surveillance: Achievements through Partnership

Updating National AMR Strategy

The Communicable Disease Control (CDC), Directorate General of Health Services (DGHS) organized the Core Working Group (CWG) meeting of the National Technical Committee on Antimicrobial Containment Program on 16 March 2021.

The meeting was presided over by Prof. Dr. Md. Nazmul Islam, Director, Disease Control and facilitated by Dr. Aninda Rahman, Deputy Program Manager, CDC.



Around twenty CWG members and representatives from DLS, Department of Environment, WHO, USAID and FFCGB attended the meeting. The meeting decided to co-opt new members in the CWG and update the National AMR Strategy with a costed Action Plan. The CWG also approved the formation of the Sectoral Coordination Committee in the Animal Health sector.

AMR Data Management Under One Health Approach

The Institute of Epidemiology Disease Control and Research (IEDCR) organized a virtual meeting with CDC, DGHS, DGDA, DLS, icddr,b, CAPTURA, USAID MTaPS and FFCGB to discuss about AMR data management on 29 April 2021.The meeting decided to improve the National Reference Laboratory- IEDCR's Epi-Data Management System for hosting AMR data on Human Health and synchronize it with other human and animal health data providers considering a One Health approach.

Editorial Board

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