

# Bangladesh AMR Newsletter



## ‘MOH&FW is taking rigorous initiatives to contain AMR’

Mr. Zahid Maleque, MP, Honourable Minister, Ministry of Health and Family Welfare, Bangladesh shared his opinions on AMR containment strategies during a press conference on October 6, 2022.

The honourable minister stressed that AMR is a silent pandemic and warrants urgent attention for its containment. He said the irrational use of antibiotics needs to be stopped; the quack doctors are not qualified to prescribe antibiotics and will no longer be allowed to do so. The antibiotics will be marketed in red packaging to raise consumer awareness on antibiotics. The over-the-counter sale of antibiotics will be soon prohibited by law. The Drug Act 2022 is about to be completed, and once the law is passed in parliament, it will be implemented immediately. A draft antimicrobial stewardship guideline is currently being tested in ten hospitals across the country. Standard treatment guidelines for common infectious diseases have also been developed. Guidelines for infection prevention and control have been developed for all types of healthcare providers. The promotion of AMR containment involves contributions from several professional associations.



A number of steps have been taken to ensure the responsible use of antibiotics by the community, including holding of regular advocacy meetings at the divisional, district, and upazila levels with participation of all stakeholders, distribution of flyers, posters, and regular newspaper and TV scroll advertising to raise public awareness on dangers of AMR and judicious use of antibiotics. These collective efforts are expected to strengthen country's ability to contain AMR.

[https://www.dhakapost.com/health/145842?fbclid=IwAR1f\\_3dTP0Pe4grLRL6RyP3MHdpwLk2S0MC10-AtIEComqkv7Hp7EQNv44](https://www.dhakapost.com/health/145842?fbclid=IwAR1f_3dTP0Pe4grLRL6RyP3MHdpwLk2S0MC10-AtIEComqkv7Hp7EQNv44)

Source: HSD-207 AMR Resolution-1

## Editorial



The quadripartite organisations (FAO, UNEP, WHO and WOA) and all stakeholders agreed upon the theme of WAAW 2022 as "**Preventing AMR together**". The National AMR Containment (NARC) Programme will ensure continued collaboration and coordination across sectors in the fight against AMR. The NARC will work together in celebrating World Antimicrobial Awareness Week (WAAW) 2022 to further increase awareness and understanding of AMR. We have the highest level of political commitment. Her Excellency Sheikh Hasina, Prime Minister of Bangladesh and co-chair of the Global Leader Group on AMR and Mr. Zahid Maleque, MP, Honourable Minister, Ministry of Health and Family Welfare, Bangladesh attended the side event at UN General Assembly on AMR and committed to contain AMR.

**Prof. Dr. Md. Nazmul Islam**

Chief Editor, Director, Disease Control and Line Director, CDC

## Bangladesh is regarded as a 'One Health' success story

Dr Nahid Rashid, Secretary of the Ministry of Fisheries and Livestock, while addressing the 3rd UKRI GCRF One Health Poultry Hub (OHPH) Annual Conference 2022 as the chief guest, said that "One Health" is "slowly being recognized globally in terms of everything it can accomplish from infectious disease to food safety." "In 2007, One Health activities began in Bangladesh, contributing to this global effort by working to achieve optimal health for people, domestic animals, wildlife, plants, and our environment," she added. The three-day international conference was held at a Hotel in Dhaka on October 25-27, 2022.

The 'One Health Poultry Hub' is a five-year research and impact-driven program funded by the UK Research and Innovation fund that began in 2019. It comprises experts from around 30 institutions in Asia, Australia, Europe, and the United Kingdom. It investigates how the rapid expansion of poultry production creates conditions for the emergence and spread of zoonotic diseases. Bangladesh partners include Chattogram Veterinary and Animal Sciences University (CVASU), Bangladesh Livestock Research Institute (BLRI), and the Institute of Epidemiology, Disease Control, and Research (IEDCR).

At the inaugural session of the 3-day conference, many eminent speakers spoke, including Prof. Goutam Buddha Das, Vice Chancellor, CVASU, Bangladesh; Dr. S M Jahangir Hossain, Director General, BLRI; Prof. Fiona Tomley, Director, UKRI GCRF One Health Poultry Hub; Matt Cannell, Development Director, British High Commission, Bangladesh; Prof. Nitish. C. Debnath, Team Lead, Fleming Fund Country Grant and National Coordinator, One Health, Bangladesh, Prof. Md Ahasanul Hoque, national coordinator for the One Health Poultry Hub. The session was chaired by Dr Monjur Mohammad Shahjada, Director General, Department of Livestock Services, Bangladesh.

The event was also attended by representatives from One Health Poultry Hub research institutions and technical partners from Bangladesh, India, Sri Lanka, Vietnam, Australia, Singapore, Hong Kong (China), Belgium, France, and the United Kingdom. This conference had a special focus on the research findings and intervention on AMR at the human-poultry-environmental interface.



Dr Nahid Rashid, Secretary of the Ministry of Fisheries and Livestock, addressing the 3rd UKRI GCRF One Health Poultry Hub (OHPH) Annual Conference 2022 as the chief guest



Matt Cannell, Development Director, British High Commission, Bangladesh addressing the audience.



Dr Monjur Mohammad Shahjada, Director General, Department of Livestock Services, Bangladesh addressing as the Chair of the inaugural session



Prof. Fiona Tomley, Director, UKRI GCRF One Health Poultry Hub, addressing the audience



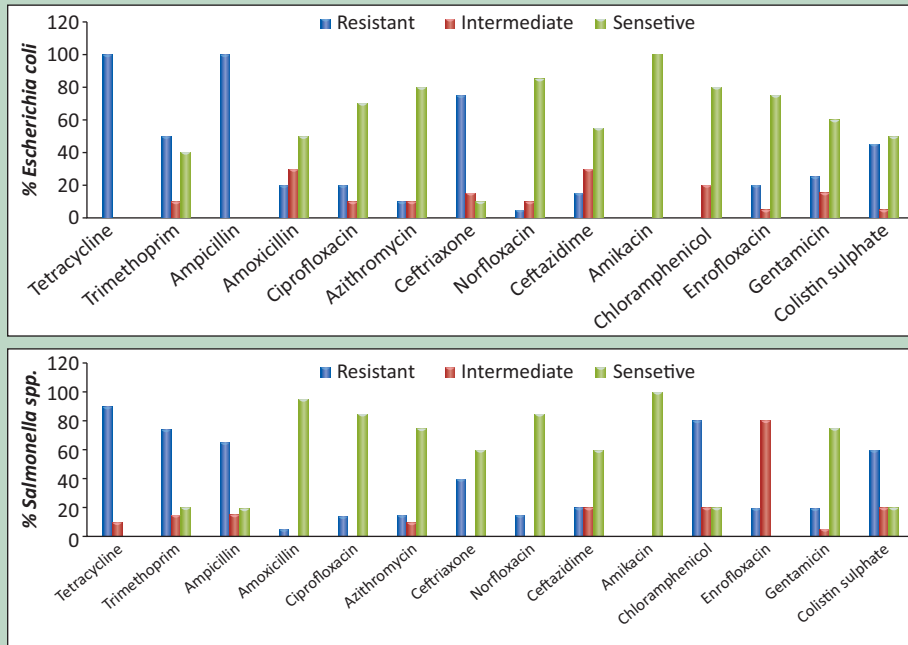
Prof. Nitish C. Debnath presenting the contribution of the Fleming Fund to the one health framework in Bangladesh

Source: ["One health poultry hub annual confce begins in city - Bangladesh Post](#)



## AMR in pathogens from pet animals in Bangladesh

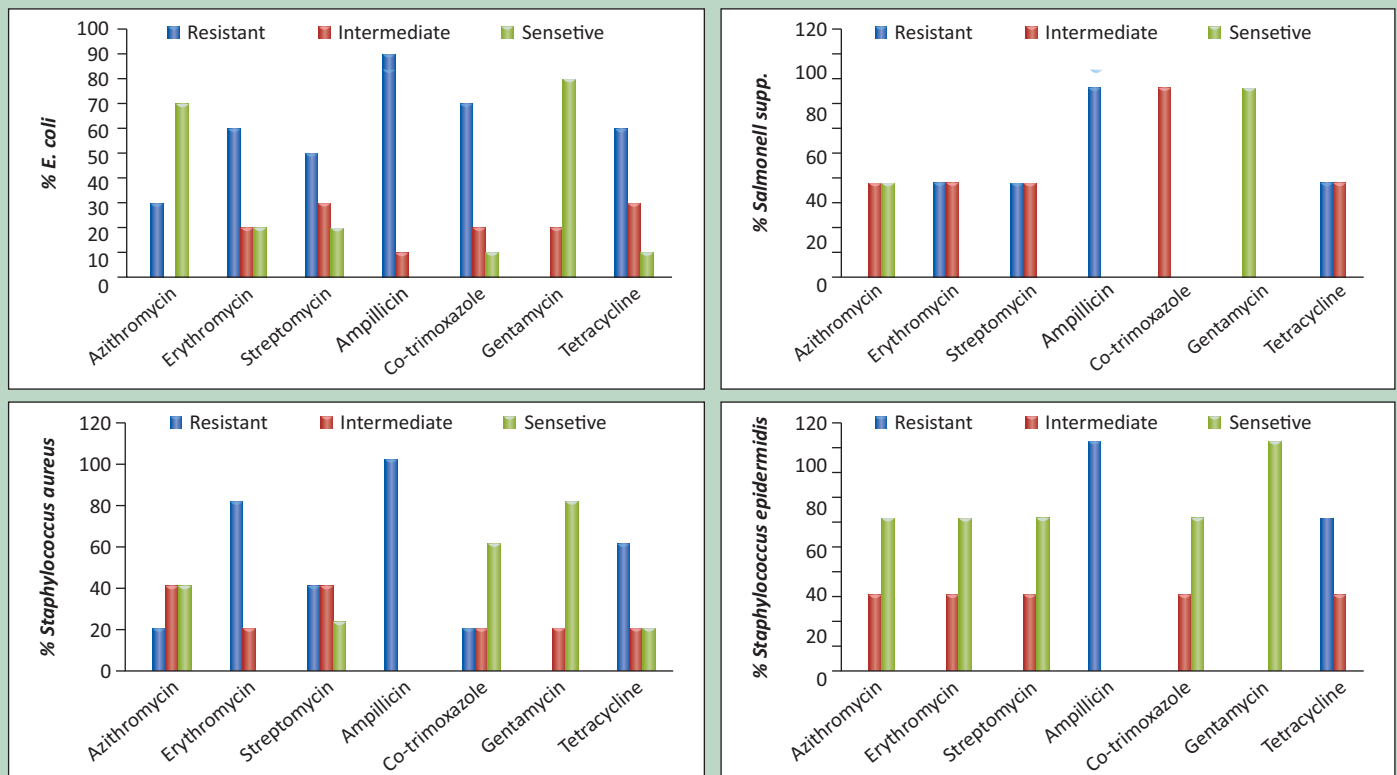
Pet keeping is gaining popularity in Bangladesh. As pets or companion animals have a close bond with humans, there is a major risk of health hazards from pets. Pets may be infected with various pathogens requiring treatment with antimicrobials and consequently develop AMR. AMR is also a problem in companion animals; there is an increasing number of reports of companion animals being infected with different multiple-drug-resistant organisms, such as methicillin-resistant *Staphylococcus aureus* (MRSA). To know the AMR status in pathogens from pet animals in Bangladesh, a study was conducted with financial support from Krishi Gobeshona Foundation (KGF). AMR profiles of *E. coli*, *Salmonella spp.*, *S. aureus* and *S. epidermidis* isolated from pet birds and cats in Dhaka are reported here.



Figures 1 and 2 show the resistance patterns of pathogens from pet animals against different classes of antibiotics. The highest resistance was found against tetracycline (50-100%) and ampicillin (70-100%). Resistance to erythromycin and streptomycin was also observed in bacteria isolated from cats. The figures also show multidrug resistance for most of the organisms tested. Resistance of pet birds originated *E. coli* and *Salmonella spp.* to colistin sulphate, a reserve drug for human medicine, is very alarming. Resistant bacteria may easily transmit from pets to humans. Therefore, awareness among pet owners about the transfer of resistant bacteria from pets to humans and vice versa is very important.

Dr. Jahangir Alam, Chief Scientific Officer, National Institute of Biotechnology

**Figure 1.** Antimicrobial resistance profiles of *E. coli* (upper panel) and *Salmonella spp* (lower panel) isolated from pet birds



**Figure 2.** Antimicrobial resistance profiles of different bacteria isolated from a cat

## Laboratory Infrastructure Enhancement in Bangladesh by the Fleming Fund Country Grant

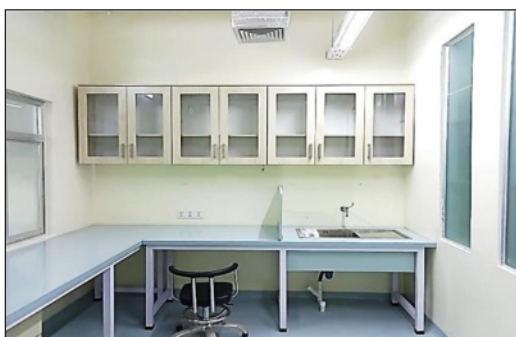
Strengthening antimicrobial resistance (AMR) surveillance is the foundation of the Fleming Fund Country Grant to Bangladesh. Fleming Fund's approach is underpinned by principles of country ownership, sustainability, One Health and alignment. Here are the key highlights of the Fleming Fund Country Grant support in terms of laboratory refurbishment.

The microbiology labs included for refurbishment were Dhaka Medical College (DMC), Mymensingh Medical College (MMC), Chittagong Medical College (CMC), Rangpur Medical College (RMC), Khulna Medical College (KMC), Institute of Epidemiology, Disease Control and Research (IEDCR), Dhaka, Central Disease Investigation Lab (CDIL), Dhaka and Field Disease Investigation Lab (FDIL), Joypurhat, Bangladesh Livestock Research Institute (BLRI), Savar, Field Disease Investigation Lab, Feni and Poultry Research and Training Center (PRTC), Chattogram.

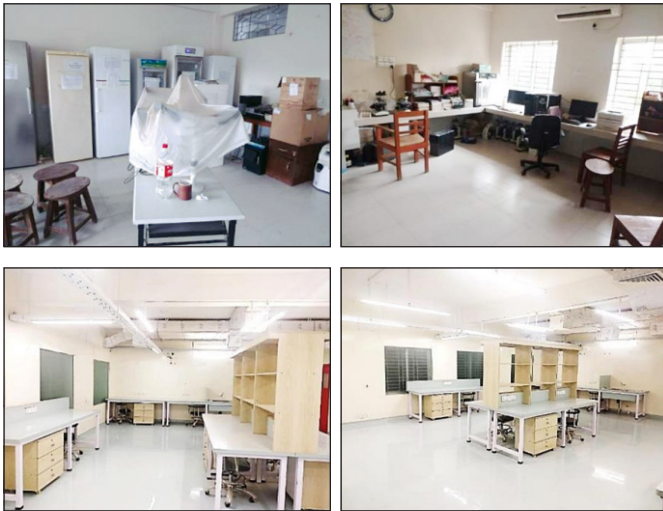
National (icddr,b) and international (DAI-USA, LSTM-UK)

experts were consulted to design the labs complying with biosafety, Biosecurity and safety standards. The renovation included dismantling and reorientating room spaces, epoxy painting of walls and floors, plumbing and sanitary work, electric work, and HVAC (Heat, Ventilation and Air Conditioning) installation with appropriate ducting and water purification systems. Furniture work comprising tables, lab stools and cabinets. Biometric and card access control system, fire detectors, emergency lights, evacuation lights, fire extinguishers, eye-wash and safety shower stations. BSL2 architectural finishes were done to ensure the laboratories can perform at scale in a safe environment. The infrastructure enhancement of the animal and human health laboratories under the AMR surveillance network has equipped them with the BSL2 standards and will enable them to generate and share AMR data nationally and internationally. The total cost of the refurbishment is approximately BDT 80 million (£ 0.76 million). Some previous and present pictorial views of the upgraded labs are depicted below:

**Rangpur Medical College: Before and after renovation**



**Mymensingh Medical College: Before and after renovation**



**Field Disease Investigation Laboratory (FDIL), Joypurhat: Before and after renovation**



**Strengthening Clinical Engagement in Khulna Medical College**

The Fleming Fund Country Grant supported the Khulna Medical College Microbiology laboratory for capacity development in the form of laboratory refurbishment, training of the laboratory staff on basic and on new equipment operation and the supply of laboratory equipment and consumables. A Workshop on 'Strengthening Clinical Engagement and Antimicrobial Stewardship' in Khulna Medical College on 29 September 2022 was held to advocate increased utilisation of the modern services available in the newly refurbished Microbiological Laboratory and to initiate AMR stewardship activities in the hospital.

Prof. Dr Md Nazmul Islam, Director of Communicable Disease Control (CDC), Directorate General of Health Services (DGHS), was the chief guest in this workshop. Prof. Nitish Debnath

Team Lead, Fleming Fund Country Grant Bangladesh (FFCGB), who is also the Coordinator of One-Health Bangladesh accompanied him in this meeting. A team comprised of high officials from the CDC, the Institute of Epidemiology, Disease Control and Research (IEDCR), FFCGB and icddr,b, participated in the workshop. After the workshop, the participants visited the Microbiology laboratory, which has been transformed into a modern laboratory to the state-of-art level following the refurbishment. This program is expected to give impetus to create more demand for Khulna Medical College Microbiology laboratory services from the clinicians of the Khulna hospital leading to generation of sufficient AMR data, which would be used for preparing antibiograms that will be useful for promoting antimicrobial stewardship in the hospital



Prof. Dr Md Nazmul Islam, Director, CDC, DGHS, presenting his remarks on clinical engagement and antimicrobial stewardship



## Visit to IBN SINA Diagnostic Centre

IEDCR has been conducting AMR surveillance in human health sector since 2017 using case-based approach in nine public health sentinel sites. However, the data generated on AMR in country by the existing system does not reflect the reality, because more than 70% of microbiological tests are carried out in the private sector laboratories. So, the CDC DGHS and IEDCR have initiated the inclusion of leading qualified public and private sector laboratories into the AMR Surveillance system as passive reporting sites. This initiative has been widely known as the “Public Private Partnership” on AMR surveillance. A One Health National Surveillance Data Platform has been developed for the integration of AMR data based in IEDCR. As part of the activity to bring the private laboratories to the national platform, a team of microbiologists, epidemiologists, and data specialists from IEDCR, CDC- DGHS and Fleming Fund Country Grant Bangladesh visited IBN SINA laboratory on 16 October 2022.

The Assistant General Manager, Branch Head of IBN SINA Diagnostic Centre informed that the visiting branch was the main branch and has 13 independent IBN SINA branches in Dhaka. Additional nine (9) branches are serving throughout the country. The data from all the branches of the laboratory can be available through the main branch and will provide a greater geographical representativeness. The IT specialist of IEDCR explained that the National AMR Surveillance Platform needs data for a few specific variables for surveillance. The IT consultant of IEDCR proposed to share that data once a month and the response from IBN SINA was very positive. The IBN SINA management was assured by IEDCR on the maintenance of data confidentiality and its usage only for national surveillance. IBN SINA agreed to share AMR data every week. Some synchronisation of the variables with the national platform was needed. After the discussion, the visiting team visited the microbiological laboratory.



## Development partners (DPs) Meeting on AMR Containment

The WHO recognises AMR as one of the top ten public health problems. Taking this into account, Bangladesh has already developed its National Action Plan for AMR containment. In addition, a Costed Action Plan for AMR Containment is being developed and will come up very soon. Funds have also been allocated from the government in the CDC 'Operational Plan' of the DGHS. Various Development Partners (DPs) are also working on different fronts of AMR containment. In this complex situation, it is very tough to understand who is doing what and how long the support will continue. To get a glimpse

of the AMR activities done by different partners, the 'Fleming Fund Country Grant to Bangladesh' (FFCGB) arranged a meeting of development partners in the FFCGB conference room on 10 October 2022 to map out the AMR Containment activities in the country with the following objectives – 1) To know what are all AMR activities going on in the country; 2) To get an idea of where we are and for how long we will be able to contribute to AMR containment. Following the meeting AMR activity mapping is done.

## Joint IPC training towards AMR Containment in Bangladesh

The Communicable Disease Control (CDC) of the Directorate General of Health Services organised a joint Infection Prevention and Control (IPC) training for the hospital-based care providers with USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program's facilitation in September 2022. The purpose of the training was to develop the capacity of the authorities and local IPC committee members, along with other support staff, to contribute to the prevention of the spread of hospital-acquired infections, to the patients, providers, and attendants. The goal of the training was to improve their knowledge on IPC, ensure the right IPC practice, and prevent infectious disease consequences. The experienced trainers, CDC and MTAps representatives facilitated the trainings at Narail, Jhenaidah and Jhalokathi district hospitals, Sher-E-Bangla Medical College Hospital, Borishal and Lohagara Upazila health complex, Narail.



Director, Principal, PM-QIS, Professor, Assistant Director-CDC At SBMCH, Borishal

A total of 150 participants received the training and provided feedback on the training's quality, necessity, and regularity. Most of the participants were selected from facility-based IPC committees that constituted professors, associate professors, assistant professors, consultants, resident medical officers, resident physicians, nursing supervisors, senior staff nurses and others. The director of the medical college hospital, principal, hospital superintendent, Program Manager - QIS were present in training as resource persons. The rational use of antimicrobials and effective IPC is the major interventions to contain AMR in Bangladesh.



Dr. Md. Abu Sayem, USAID-MTAps, Global Health Security Agenda, Bangladesh



## Fleming Fund Grantees' Coordination Meeting

The seventh coordination meeting of Fleming Fund grantees and partners working in Bangladesh was held on 13 October 2022 via MS Teams. Participants from various Fleming Fund grants and programs such as External Quality Assurance (EQASIA), African Society of Laboratory Medicine (ASLM), Policy and Advocacy- IVI, (RADAAR) etc., and development partners including WHO, FAO, WOAHA, MSF and USAID attended the meeting. The main goal of the meeting was to share important AMR-related activities in Bangladesh carried out by the Fleming Fund Country Grant and regional grants, as well as local development partners, in order to achieve coordinated action against AMR.



Introductory remarks by Dr Rashid Zaman, Health Adviser, Foreign, Commonwealth and Development



Participants of the meeting

## Editorial Board

### Chief Editor

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

### Advisors (Not according to seniority)

Prof. Tahmina Shirin, Director, IEDCR  
 Dr. Md. Belal Hossain, Director, Hospitals and Clinics, DGHS  
 Mr. Md. Salahuddin, Director DGDA  
 Dr Md. Abu Sufian, Director, DLS  
 Prof. Shamsuzzaman, Department of Microbiology, DMC  
 Prof. Ahmed Abu Saleh, Department of Microbiology, BSMMU  
 Prof. Sayedur Rahman, Department of Pharmacology, BSMMU  
 Prof. Zakir Hossain Habib, Chief Scientific Officer, IEDCR  
 Prof. Nitish Debnath, Fleming Fund Country Grant Bangladesh

### Managing Editor

Dr Aninda Rahman, Deputy Program Manager (AMR), CDC, DGHS

### Contributors (Not according to seniority)

Dr. Mozaffar Gani Osmani, Head Epi Unit DLS  
 Dr Mohammed Abdus Samad, Principal Scientific Officer, BLRI  
 Dr Koly Mustafa, Upazila Livestock Officer, DLS HQ  
 S.M. Shahriar Rizvi, Evaluator, CDC, DGHS  
 S. M. Sabrina Yesmin, Assistant Director, DGDA  
 Dr. Hurul Jannat, MO, CDC, DGHS  
 Dr. Piash Kumer Deb, MO, DGHS  
 Dr S.M. Abu Zahid, MTaPS  
 Dr Zobaidul Haque Khan, Fleming Fund Country Grant Bangladesh  
 Dr Kazi Mohammad Hassan Ameen, Fleming Fund Country Grant Bangladesh  
 Dr Kazi Kamaruddin, Fleming Fund Country Grant Bangladesh  
 Farzana Rahman, Fleming Fund Country Grant Bangladesh  
 Dr Arif Hussain, icddr,b. Fleming Fund Country Grant Bangladesh

### Communication Advisor

Dr Khaleda Islam, Fleming Fund Country Grant Bangladesh

### Design & Graphics

Nizam Khan, Dhaka, Bangladesh. Cell: 01712571681

### Supported by



This material has been funded by UK Aid from the UK government; government's social policies.

### Contact Details

Dr Aninda Rahman, DPM, CDC, DGHS  
 Mobile: +880-1817541797 Email: dr.turjossmc@gmail.com