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Lahore



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08/11

Directorate General (Research)
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Notification:

ANTIMICROBIAL RESISTANCE (AMR) SURVEILLANCE
PLAN 2024-25 FOR PUNJAB:

Background:

Antimicrobial resistance (AMR) surveillance plans are critical components of public health strategies aimed at addressing the growing global threat of antimicrobial resistance. In 2016, Pakistan developed a National AMR Framework, AMR National Action Plan, and established a Multi-Sector AMR Steering Committee. AMR surveillance is listed as one of the seven priority areas of the National Action Plan. The Ministry of National Health Services Regulation and Coordination is the designated lead entity to coordinate a multi-sector One Health AMR response and report to GLASS (Global Antimicrobial Resistance and use Surveillance System) on behalf of the Government of Pakistan. However, in decentralized Pakistan, the provinces also have key responsibilities for resourcing and managing AMR surveillance capabilities and use of AMR surveillance data. The background of antimicrobial resistance surveillance plans is rooted in the recognition of the serious threat that AMR poses to public health, the need for comprehensive data to inform strategies, and the global nature of the problem. These plans are essential tools for tracking, understanding, and mitigating antimicrobial resistance to ensure the continued effectiveness of antimicrobial drugs for both human and animal health.

Rationale:

The rationale for antimicrobial resistance (AMR) surveillance is multifaceted and critical in the fight against this global public health threat. AMR surveillance allows for the early detection of changes in the susceptibility of microorganisms to antimicrobial drugs. This data provides guidance to healthcare professionals for selection of appropriate antimicrobial therapies, infection control, information about prevalence and distribution of resistant pathogens, antibiotic stewardship programs, understanding of epidemiological patterns of resistance, identification of the risk factors involved in resistance development, transmission dynamics, geographical variations and evidence-based policy making. AMR surveillance provides the foundation for crafting comprehensive national and international strategies for rational use of antibiotics, monitoring resistance trends and food safety and food security to support a holistic One Health

Perspective that addresses health challenges at the intersection of humans, animals, and the environment.

Objectives:

Antimicrobial resistance (AMR) surveillance in livestock and poultry is crucial to monitor and manage the development and spread of antibiotic resistance in food animal populations. The objectives of AMR surveillance in livestock and poultry are multifaceted and include:

- To track the prevalence and trends of antibiotic resistance in bacteria isolated from livestock and poultry.
- To identify Reservoirs of Resistance in animal populations, including commensal bacteria in the gut or on the skin, and potential pathogens.
- To Investigate and understand the risk factors contributing to the development and spread of AMR in livestock and poultry, such as antibiotic use practices, farm management, and environmental factors.
- To Identify newly emerging resistant strains of bacteria that may pose a threat to animal and human health.
- To Investigate the potential for antibiotic-resistant bacteria in animals to transfer to humans (zoonoses) and assess the associated health risks.
- Provide data to guide responsible antibiotic use in livestock and poultry production, emphasizing the importance of using antibiotics only when necessary and following prescribed treatment regimens.
- To Contribute to the One Health approach by recognizing the interconnectedness of human, animal, and environmental health. Surveillance in livestock and poultry is part of a broader effort to combat AMR across all sectors.

I. ACTIVE AND PASSIVE SURVEILLANCE PLAN FOR AMR IN POULTRY BIRDS

- **Geographical Location:**

- Geographically this plan covers the Punjab Province.

- **Targeted organisms:**
 - E.coli, Salmonella.

Surveillance	Type of Sample	Sampling Targets/ Month/ Division	Sample collection site	Test performance/ data compilation
Active	Cecal contents from slaughtered poultry birds	05	from poultry shops, slaughterhouses/ abattoirs of 09 divisional labs of Punjab	PRI, Rawalpindi
Passive	Cecal contents	Outbreak/ as per farmers demand	Samples from diseases birds received in the labs	Designated poultry labs in Punjab (PRI, PDDL ghakkar, Samundari, Kamalia, Arif wala)

II. ACTIVE AND PASSIVE SURVEILLANCE PLAN FOR AMR IN FOOD ANIMALS:

- **Geographical Location:**
 - Geographically this plan covers the Punjab Province.
- **Surveillance:**
 - Both Active and Passive Surveillance will be conducted in all the food animals.
- **Targeted organisms:**
 - Staphylococcus aureus, E. coli

Mechanism of Surveillance:

- Provincial Diagnostic Laboratory Lahore is designated as a reference/ testing Laboratory for AMR Surveillance in food animals (cattle/ buffalo, Sheep/ Goat).
- Poultry Research institute, Rawalpindi is designated as a reference Laboratory for testing and record keeping for Poultry.
- AMR work will be performed in Bacteriology section of PDL, Lahore.
- All ADIOs are desired to submit the samples before 15th of each month.
- All milk samples should reach PDL with in same day of sample collection by maintaining all protocols of milk sample collection including cold chain requirements.
 - **AMR Provincial focal point:**
 - Directorate General of Research will hold the position of Provisional Focal point.
 - AMR data will be collected on WHO-NET Database and the dashboard will be installed in the office of Director General Research.
 - The data will be shared with Animal Husbandry Commissioner Office Islamabad, and other international agencies including FAO and WHO.

• **AMR Divisional focal point:**

- All the DICOs at divisional level are hereby notified as divisional focal points for the AMR sample collection and submitting/ refereeing to the designated reference laboratories.
- Samples will be collected, and reports will be generated on the prescribed proformas already established by WHO-NET database, PDL, Lahore and PRI, Rawalpindi attached as annexures herewith.

➤ **Sampling Methodology:**

Surveillance	Type of Sample	Sampling Targets/ Month/ Division	Sample collection site	Test performance/ data compilation
Active	Cecal contents from slaughtered cattle/ buffalo,	05 samples per division per month	meat shops, slaughterhouses/	Bacteriological section, PDL, Lahore.
	Sheep / Goat	05 samples per division per month	meat shops, slaughterhouses/	Bacteriological section, PDL, Lahore.
Passive	Milk sample in duplicate	03 samples per division per month	All district / divisional laboratories	AST will be performed by ADIOs/ Vos & duplicate samples will be sent to bacteriological section of PDL for confirmation and reporting.

DIRECTOR GENERAL RESEARCH

No. 2845 /5.V.A

Dated. 30-10- /2024

Copy is forwarded for information and necessary action:

1. The secretary, L&DD, Punjab, Lahore.
- ✓ 2. The Animal Husbandry Commissioner, Islamabad.
3. The Director General (Production), L&DD, Punjab Lahore.
4. The Director General (Extension), L&DD, Punjab Lahore.
5. The Director General (ERP), L&DD, South Punjab Bahawalpur.
6. The Director, Poultry Research Institute, Rawalpindi.
7. All the Divisional Director Livestock in Punjab.
- ✓ 8. The Director, Animal Disease Diagnostic, Reporting & surveillance, Lahore.
9. All the DICOs Working at Divisional Diagnostic Laboratories in Punjab.
10. All the ADIOs Working at Divisional Diagnostic Laboratories in Punjab.

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