



Food and Agriculture
Organization of the
United Nations



Hands-on Training “Standardized and Harmonized Surveillance Methods for Antimicrobial Resistance in Food Animals in South Asia”

May 28-31, 2019; Bangkok, Thailand

CONCEPT NOTE

Background:

In response to the increasing emergence of antimicrobial resistance (AMR) in bacteria, surveillance of AMR in pathogens and commensals should be established as a routine task of public veterinary services globally. National AMR surveillance program is a fundamental requirement to monitor changes and variations in AMR either geographically or over time. Systematic collection, analysis and interpretation of AMR data is essential to the planning, implementation and evaluation of control and prevention strategic plan. In South Asia, the systematic national surveillance of AMR in bacterial pathogens and commensals from livestock has been initiated in some countries but not yet been established as a routine task of public veterinary services in many countries. To form part of the global surveillance on AMR, laboratories must use a standardized, well-defined method for performing antimicrobial susceptibility testing (AST) in order to produce comparable results. At the same time, the results of AST studies carried out by academic institutions are often difficult to compare due to methodological differences.

Food and Agriculture Organization of the United Nations (UN FAO) and Faculty of Veterinary Science, Chulalongkorn University Veterinary (CU VET) have worked in close collaboration to assess and strengthen AMR laboratory capacities in livestock sector and to reinforce national AMR action plans associated with food animals and their products in Asia and Pacific. The UN FAO and CU VET are taking steps to address the AMR issue in South Asia. The training workshop on “Standardized and harmonized surveillance methods for antimicrobial resistance in livestock and their products in South Asia” will be held at Faculty of Veterinary Science, Chulalongkorn University, Bangkok, Thailand during May 28-31, 2019.

Objectives:

1. familiarize the laboratory staff with standardized and well-defined methods for performing veterinary antimicrobial susceptibility testing.
2. share scientific and technical information including sampling design, sample collection and AMR data analysis for the harmonized schemes of AMR surveillance.
3. expand and strengthen collaboration for AMR testing and surveillance in South Asia.

Responsible Institution:

CU VET AMR, Faculty of Veterinary Science, Chulalongkorn University

Timing/Duration:

4 days; May 28-31, 2019

Venue:

CU VET AMR, Faculty of Veterinary Science, Chulalongkorn University

Expected participants:

The participants will be key laboratory staff tasked with carrying out AST in national laboratories or relevant governmental authorities that are responsible for national AMR surveillance from member countries including Maldives, India, Pakistan, Sri Lanka, Nepal, Bhutan and Bangladesh (1-2 participants from each country).

Training activities:

The training workshop will alternate between lecture, hands-on laboratory practice and computer laboratory practice. Standard antimicrobial susceptibility test methods according to CLSI will be covered. Tentative training agenda is as follows:

May 28, 2019

Time	Topic	Responsible person
08:15-08:30	Registration	CU VET AMR
08:30-09:00	<ul style="list-style-type: none"> • Opening remarks from FAO • Welcome from CU • Group photo • Participant introduction 	CU VET AMR
09:00-10:00	Introduction to AMR laboratory capacities and surveillance	FAO
10:00-10:30	Coffee break	
10:30-12:00	Global guideline for AMR monitoring	CU VET AMR
12:00-13:00	Lunch	
13:00-14.30	Overview on standard AST	CU VET AMR
14:30-15:00	Coffee break	
15.00-17:00	<ul style="list-style-type: none"> • AST lab practice <ul style="list-style-type: none"> ○ Health and Safety in Laboratory (HSL) ○ Multimedia: CLSI standard AST • Preparation for AST <ul style="list-style-type: none"> ○ Disk diffusion tests ○ Agar dilution method ○ Broth microdilution method ○ ESBL detection 	CU VET AMR

May 29, 2019

Time	Topic	Responsible person
08:30-10:00	Statistics for AMR monitoring & surveillance (Sample calculation and sampling design)	CU VET AMR
10:00-10:30	Coffee break	
10:30-12:00	Computer lab. practice: Statistics for AMR monitoring & surveillance Sample collection	CU VET AMR
12:00-13:00	Lunch	
13:00-14.00	AST for last line antibiotics	CU VET AMR
14:00-15.00	AST lab practice (cont.)	CU VET AMR
15:00-15:30	Coffee break	

15.30-17:00	AST lab practice (cont.)	CU VET AMR
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May 30, 2019

Time	Topic	Responsible person
08:30-10:00	Sample collection	CU VET AMR
10:00-10:30	Coffee break	
10:30-12:00	Isolation of target bacteria (<i>Salmonella</i> , <i>Escherichia coli</i> , <i>Campylobacters</i> , <i>Enterococcus</i> spp.)	CU VET AMR
12:00-13:00	Lunch	
13:00-14.00	AST data interpretation	CU VET AMR
13:00-14.00	Troubleshooting and common mistakes made in AST	CU VET AMR
15:00-15:30	Coffee break	
15.30-17:00	AST lab practice (cont.)	CU VET AMR

May 31, 2019

Time	Topic	Responsible person
08:30-10:00	AST lab practice (cont.) Result reading	CU VET AMR
10:00-10:30	Coffee break	
10:30-12:00	AMR data analysis	CU VET AMR
12:00-13:00	Lunch	
13:00-15.00	Quality assurance in AST/ Proficiency test	CU VET AMR
15:00-15:30	Coffee break	
15.30-16:30	Discussion and conclusion	CU VET AMR

Evaluation:

Pre- and Post-test will be conducted for knowledge testing and self-evaluation. Participants must attend at least 90% of training period to receive certificate.