



NATIONAL ANTIMICROBIAL RESISTANCE COMMITTEE
ACTIVITIES (ANIMAL HEALTH) (NARC) 2018

NARC

OBJECTIVE 3

SURVEILLANCE AND RESEARCH

Strategy 2.1

Strengthen the national surveillance system that consist of a core set of organisms and antimicrobial medicines from both health care facilities and the community

Action

1. Strengthen National Surveillance of Antimicrobial Resistance in Malaysia (NSAR)
2. WHONET training for participating laboratories
3. Strengthen National Surveillance on Healthcare Associated Multidrug Resistant Organism (HA-MDRO)
4. Establishment of community surveillance of AMR



Strategy 2.2

Strengthen the national surveillance system for AMR by harmonising surveillance system in both human and animal health using standardized tests for identification of resistant microorganisms

Action

1. Standardization of test methods for AMR across microbiological laboratories and conduct training to laboratory personnel
2. Enrolment in Quality Assurance (QA) program for laboratories that are involved in testing for AMR in animal, food and agriculture product
3. WHO Integrated Global Survey on ESBL-producing E.coli using "One Health" approach, "The Tricycle Project"
4. Develop Malaysian Integrated Surveillance Manual on Antimicrobial Resistance

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OBJECTIVE 4

SURVEILLANCE AND RESEARCH

Strategy 2.3

Develop antimicrobial surveillance system in animal health

Action

1. Establish AMR surveillance and monitoring in livestock production
2. AMR surveillance in food of animal origin
3. Strengthen AMR surveillance in food (Food Safety and Quality Division)
4. Conduct AMR study - Linking Human And Animal Health



Strategy 2.4

Establish a comprehensive One Health Surveillance System for AMR that promotes participation in regional and global networks and sharing of information

Action

1. Develop Malaysian One Health Antimicrobial Resistance (MyOHAR) webpage

Strategy 2.5

Develop an alert mechanism for AMR detection and reporting of newly emerged resistance that may constitute a public health emergency of international concern (PHEIC)

Action

1. Establish an alert mechanism for AMR detection and reporting of newly emerged resistance that may constitute a public health emergency of international concern

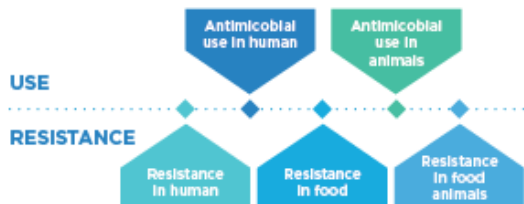
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INTEGRATED SURVEILLANCE OF AMR



COMPONENTS OF AMR SURVEILLANCE

- ▶ Sample source - what animal? what specimen?
- ▶ Target bacteria - what bacteria?
- ▶ Sampling design - source, information, design, frequency
- ▶ Laboratory testing methodology - bacteria culture, isolate identification, AST, QC, recommended antimicrobial for surveillance
- ▶ Data Management, analysis, reporting - sample information, culture result, AST results, software (WHONET)

ANIMAL SURVEILLANCE

- OBJECTIVES**
- 1 To determine the prevalence AMR of *Salmonella* spp. and *Escherichia coli* isolates from food producing animals (poultry and pigs) at farm
 - 2 To determine the prevalence of AMR of *Salmonella* spp. and *Escherichia coli* isolates from food animal products at slaughterhouse (poultry and pork meat) and eggs
 - 3 To determine the prevalence of ESBL producing *E.coli* in poultry. (Pilot project in Selangor and WP, 2018)



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**TARGET ORGANISMS AND SPECIMENS
(SURVELEN)**

Sample Location	Surveillance Sites	Target Age	Target Specimen
Poultry Farm	Broiler Farm	Market Age	Cloacal swabs
	Layer Farm	Peak laying age (20 -30 weeks)	• Cloacal swabs • Eggs
Pig Farm	Fattening Pig Farm	Market Age	Rectal swabs
Slaughterhouse	Poultry slaughterhouse	Slaughter age	• Meat • Caeca
	Pig Abattoir	Porker	Meat

TARGET ORGANISM

- 1 Zoonotic bacteria: *Salmonella* spp
- 2 Commensal bacteria: *E.coli*
- 3 ESBL *E.coli* - start 2019



ANTIMICROBIAL

ANTIMICROBIAL CHOOSE:
The antimicrobial of interest for the sensitivity test is chosen based on antimicrobial used both in human and animal health.

Note: VCIA= Veterinary Critically Important Antimicrobials, VHIA= Veterinary Highly Important Antimicrobials, CIA= Critically Important Antimicrobials, HIA= Highly Important Antimicrobials.

Ref: OIE list of antimicrobial agent of Veterinary Important (2015) and Critically Important Antimicrobial for Human Medicine (2016)

Antimicrobial agents	Animal Health	Human Medicine
Ampicillin	VCIA	CIA
Ceftiofur	VCIA	CIA
Ciprofloxacin	VCIA	CIA
Gentamicin	VCIA	CIA
Streptomycin	VCIA	CIA
Tetracycline	VCIA	CIA
Trimethoprim/ Sulphamethoxazole	VCIA	HIA
Colistin	VHIA	HIA
Cefotaxime	-	CIA
Chloramphenicol	-	HIA

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