WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 28 février 2023 15:26

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Antimicrobial Resistance
Address of laboratory:	Animal and Plant Health Agency, New Haw, Addlestone, Weybridge, Surrey, KT15 3NB, UNITED KINGDOM.
Tel.:	+443000600023
E-mail address:	christopher.teale@apha.gov.uk
Website:	http://apha.defra.gov.uk/apha-scientific/index.htm
Name (including Title) of Head of Laboratory (Responsible Official):	Mr David Holdsworth CEO, Animal and Plant Health Agency.
Name (including Title and Position) of WOAH Reference Expert:	Dr Christopher Teale MRCVS, Head of Antimicrobial Resistance.
Which of the following defines your laboratory? Check all that apply:	Veterinary Surveillance Governmental Research agency

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
0	NO	0	0
Direct diagnostic tests		Nationally	Internationally

Disc diffusion test	YES	9,687	0
MIC Determination	YES	698	0
Polymerase Chain Reaction	YES	87	0
Whole genome sequencing	YES	142	61

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAH?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAH MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Antibiotic discs, MIC test plates	Disc diffusion and MIC susceptibility tests	Provided	NA	NA	1	Africa

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAH Members?

Not applicable

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)

7. Did your laboratory validate diagnostic methods according to WOAH Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOAH Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAH Members?

No

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAH Member?

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAH Members other than the own?

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
AMR in Salmonella in Wild Birds	2 years	Occurrence and AMR of Salmonella in Wild BIrds.	Bangladesh Livestock Research Institute	BANGLADESH
AMR in Enterobacterales	2 years	Antimicrobial susceptibility	University of Ibadan, University of Jos	NIGERIA
AMR in Salmonella	2 years	Susceptibility of Salmonella	University of Accra	DOMINICA

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:
Antimicrobial resistance data covering zoonotic bacteria and commensal bacteria occurring in animals and veterinary bacterial pathogens.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:
Surveillance and monitoring of AMR in zoonotic bacteria (Salmonella, Campylobacter), indicator bacteria (E. coli and enterococci) and veterinary pathogens from animals

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

12

Dierijx C; Borjesson S; Perrin-Guyomard A; Haenni M; Norstrom M; Divon HH; Karinllag H; Granier SA; Hammerum A; Kjeldgaard JS; Pauly N; RANDALL L; ANJUM MF;
Smialowska A; Franco A; Veldman K; Slettemeas JS (2022)

A European multicenter evaluation study to investigate the performance on commercially available selective agar plates for the detection of carbapenemase producing Enterobacteriaceae.
Journal of Microbiological Methods 193, 106418.
https://doi.org/10.1016/j.mimet.2022.106418

Larsen J; Raisen CL; Ba X; Sadgrove NJ; Padilla-Gonzalez GF; Simmonds MSJ; Loncaric I; Kerschner H; Apfalter P; Hart R; Deplano A; Vandendriessche S; Bolfikova BC; Hulva P; Arendrup MC; Hare RK; Barnadas C; Stegger M; Sieber RN; Sov RL; Petersen A; Angen O; Rasmussen SL; Espinosa-Gongora C; Aarestrup FM; Lindholm LJ; Nykasenoja SM;
Laurent F; Becker K; Walther B; Kehrenberg C; Cuny C; Layer F; Werner G; Witte W; Stamm I; Moroni P; Jorgensen HJ; de Lencastre H; Cercenado E; Garcia-Garrote F; Borjesson S; Haeggman S; Perreten V; TEALE CJ; Waller AS; Pichon B; Curran MD; Ellington MJ; Welch JJ; Peacock SJ; Seilly DJ; Morgan FJE; Parkhill J; Hadjirin NF;
Lindsay JA; Holden MTG; Edwards GF; Foster G; Paterson GK; Didelot X; Holmes MA; Harrison EM; Larsen AR (2022)
Emergence of methicillin resistance predates the clinical use of antibiotics.
Nature 602 (7895) 135-141.
https://doi.org/10.1038/s41586-021-04265-w
EFSA Panel on Biological Hazards (BIOHAZ); Koutsoumanis K; Allende A;
Alvarez-Ordonez A; Bolton D; Bover-Cid S; Chemaly M; DAVIES R; De Cesare A;
Herman L; Hilbert F; Lindqvist R; Nauta M; Ru G; Simmons M; Skandamis P; Suffredini E; Arguello H; Berendonk T; Cavaco LM; Gaze W; Schmitt H; Topp E; Guerra B; Liebana E; Stella P; Peixe L (2021)
Role played by the environment in the emergence and spread of antimicrobial resistance (AMR) through the food chain.
EFSA Journal 19 (6) e06651.
https://doi.org/10.2903/j.efsa.2021.6651

MARTELLI F; ABUOUN M; CAWTHRAW S; STOREY N; TURNER O; Ellington M; Nair S; Painset A; TEALE C; ANJUM MF (2022)
Detection of the transferable tigecycline resistance gene tet(X4) in Escherichia coli from pigs in the United Kingdom (letter).
Journal of Antimicrobial Chemotherapy 77 (3) 846-848.
https://doi.org/10.1093/jac/dkab439

MCCARTHY C; Viel A; GAVIN C; Sanders P; SIMONS RRL (2022)
Estimating the likelihood of ESBL-producing E. coli carriage in slaughter-aged pigs.
Microbial Risk Analysis 20, 100185.
https://doi.org/10.1016/j.mran.2021.100185

Mohammed A. Samad, Md Shahjalal Sagor, Muhammad Sazzad Hossain, Md Rezaul Karim, Mohammad Asheak Mahmud, Md Samun Sarker, Fahria A. Shownaw, Zakaria Mia, Roderick M. Card, Agnes Agunos, Lindahl Johanna.
High prevalence of vancomycin non-susceptible and multi-drug resistant enterococci in farmed animals and fresh retail meats in Bangladesh Vet Res Commun. 2022. DOI: 10.1007/s11259-022-09906-7

STOREY N; CAWTHRAW S; TURNER O; RAMBALDI M; LEMMA F; HORTON R; RANDALL L; DUGGETT NA; ABUOUN M; MARTELLI F; ANJUM MF (2022)
Use of genomics to explore AMR persistence in an outdoor pig farm with low
antimicrobial usage.
Microbial Genomics 8 (3) 000782.
https://doi.org/10.1099/mgen.0.000782

Alikhan N-F; Moreno LZ; Castellanos LR; Chattaway MA; McLauchlin J; Lodge M; O'Grady J; Zamudio R; Doughty E; PETROVSKA L; Cunha MPV; Knobl T; Moreno AM;
Mather AE (2022)
Dynamics of Salmonella enterica and antimicrobial resistance in the Brazilian poultry industry and global impacts on public health.
Plos Genetics 18 (6) e1010174.
https://doi.org/10.1371/journal.pgen.1010174

OLORUNLEKE S O; KIRCHNER M; DUGGETT N; ABUOUN M; Okorie-Kanu O; Stevens K; CARD R M; Chah K F; Nwanta J A; Brunton L A;

ANJUM M F (2022)
Molecular characterization of extended spectrum cephalosporin resistant Escherichia coli isolated from livestock and in-contact humans in Southeast Nigeria.
Frontiers in Microbiology 13 937968.
https://dx.doi.org/10.3389/fmicb.2022.937968
Samad MA; Sagor M S; Hossain M S; Karim M R; Mahmud M A; Sarker M S; Shownaw F A; Mia Z; CARD R M; Agunos A; Johanna L (2022)
High prevalence of vancomycin non-susceptible and multi-drug resistant enterococci in farmed animals and fresh retail meats in Bangladesh.
Veterinary Research Communications 46 (3) 811-822.
https://doi.org/10.1007/s11259-022-09906-7

Light E; Baker-Austin C; CARD R M; Ryder D; Alves M T; Al-Sarawi A; Abdulla K H; Stahl H; Al-Ghabshi A; Alghoribi M F; Balkhy H H; Joseph A; Hughes A; LeQuesne W J F;
Verner-Jeffreys D W; Lyons B P (2022)
Establishing a marine monitoring programme to assess antibiotic resistance: a case study from the Gulf Cooperation Council (GCC) region.
Environmental Advances 9 Article number 100268.
https://doi.org/10.1016/j.envadv.2022.100268

Mellor K C; Blackwell G A; CAWTHRAW S A; MENSAH N E; Reid S W J; Thomson N R; PETROVSKA L; Mather A E (2022)
Contrasting long-term dynamics of antimicrobial resistance and virulence plasmids in Salmonella typhimurium from animals.
Microbial Genomics 8 (8) 000826.

b) International conferences:

2
7th World One Health Congress. Singapore. 7-11 November 2022
FAO Fleming Fund Africa Planning Conference. Nairobi, Kenya. 07 December 2022

c) National conferences:

1
Fleming Fund: London Workshop. Virtual Event. 15 February 2022

d) Other (Provide website address or link to appropriate information):

https://www.gov.uk/government/publications/veterinary-antimicrobial-resistance-and-sales-surveillance-2021
National AMR report, published annually.

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH Members?

Yes

a) Technical visit :

b) Seminars :

c) Hands-on training courses: 2

d) Internships (>1 month)

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
C	Ghana	1
C	Nigeria	1

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO17025		17025 certificate.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Disc diffusion susceptibility test	UK Accreditation Service

20. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

Yes

Biorisk management applies for all bacterial pathogens which have acquired AMR.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAH?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOAH Reference Laboratories designated for the same pathogen or disease?

Not applicable (only WOAH Reference Laboratory designated for the disease

24. Are you a member of a network of WOAH Reference Laboratories designated for the same pathogen?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH Reference Laboratories for the same pathogen?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOAH Member Countries
E. coli AMR proficiency testing scheme	Organiser	22	Africa Asia and Pacific
AMR Proficiency Testing Scheme	Participant	28	Europe
Staphylococcus aureus proficiency testing scheme	Organiser	5	Europe

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAH?

No

29. Additional comments regarding your report:

No