

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-24 13:49:07

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Antimicrobial resistance
Address of laboratory:	Animal and Plant Health Agency, New Haw, Addlestone, Weybridge, Surrey, KT15 3NB, UNITED KINGDOM
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Name (including Title) of Head of Laboratory (Responsible Official):	Mr C. Hadkiss, Chief Executive, Animal and Plant Health Agency.
Name (including Title and Position) of OIE Reference Expert:	Dr Christopher Teale MRCVS, Head of Antimicrobial Resistance.
Which of the following defines your laboratory? Check all that apply:	Governmental Research Other: Veterinary Surveillance

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

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 OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
0	No	0	0
Direct diagnostic tests			
Disc diffusion susceptibility test	Yes	8,545	0
MIC Determination	Yes	601	0
Polymerase chain reaction	Yes	50	0
Whole genome sequencing	Yes	150	0

ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards. To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.

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

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

No

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

No

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Collaborative Management Platform for detection and analysis or (re)-emerging and foodborne outbreaks in Europe (Compare)	60 months	To improve rapid identification, containment and mitigation of emerging infectious diseases and foodborne outbreaks and to develop a cross-sector and cross-pathogen analytical framework and globally linked data-and informationsharing platform	DTU, EMC, SSI, FLI, ANSES, RKI, ISS, RIVM, APHA, U EDIN, U K-BONN, AMC, U A, ARTEMIS, U CAM, TIHO, U CLM, FMER, AUTH, IFREMER, EUR, ANU, WIGNER, CIVIC, RT, UNIBO, DSMZ, WTSI.	AUSTRALIA BELGIUM DENMARK FRANCE GERMANY GREECE HUNGARY ITALY SPAIN THE NETHERLANDS UNITED KINGDOM
Antibiotic Resistance Dynamics: the influence of geographic origin and management systems on resistance gene flows within humans, animals and the environment.	3 years	Examines the dynamics of AMR in the human, animal, food and environment in 6 European countries	BfR Germany, Robert Koch Institute (RKI) French Agency for Food, Environmental and Occupational Health & Safety (ANSES) Animal and Plant Health Agency (APHA) Institut Pasteur Norwegian Veterinary Institute (NVI) Complutense University of Madrid (UCM)	FRANCE GERMANY NORWAY SPAIN THE NETHERLANDS UNITED KINGDOM
Improving phenotypic Antimicrobial Resistance Testing by development of sensitive screening assays for emerging resistances, and setting missing ECOFFs.	2 years	Consists of four topics related to the development and harmonization of phenotypic methods for detection of antimicrobial resistance.	BfR Germany, French Agency for Food, Environmental and Occupational Health & Safety (ANSES) Danish Technical University (DTU) Animal and Plant Health Agency (APHA) State Serum Institute (SSI) Norwegian Veterinary Institute (NVI) National Institut for Public Health and the Environment (RIVM)	DENMARK FRANCE GERMANY NORWAY POLAND SWEDEN THE NETHERLANDS UNITED KINGDOM

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:
Antimicrobial susceptibility of Salmonella, Campylobacter, commensal ("indicator") Escherichia coli and veterinary pathogens.

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:
Data collected as part of EU harmonised monitoring is published annually in the EU Summary Report on Antimicrobial Resistance. Data collected as part of national monitoring is published annually in the UK-VARSS report.

**13. What method of dissemination of information is most often used by your laboratory?
(Indicate in the appropriate box the number by category)**

a) Articles published in peer-reviewed journals: 10

ANJUM MF; MARCO-JIMENEZ F; DUNCAN D; MARIN C; SMITH RP; EVANS SJ (2019)

Livestock-associated Methicillin-resistant Staphylococcus aureus from animals and animal products in the UK. Frontiers in Microbiology 10 Article 2136.

Dimitriu T; Medaney F; Amanatidou E; Forsyth J; ELLIS RJ; Raymond B (2019)

Negative frequency dependent selection on plasmid carriage and low fitness costs maintain extended spectrum β -lactamases in Escherichia coli. Scientific Reports 9 Article No. 17211.

Mellor KC; PETROVSKA L; Thomson NR; HARRIS K; Reid SWJ; Mather AE (2019)

Antimicrobial resistance diversity suggestive of distinct Salmonella typhimurium sources or selective pressures in food-production animals. Frontiers in Microbiology 10 Article No. 708.

MENSAH N; TANG Y; CAWTHRAW S; ABUOUN M; FENNER J; Thomson NR; Mather AE; PETROVSKA-HOLMES L (2019)

Determining antimicrobial susceptibility in Salmonella enterica serovar Typhimurium through whole genome sequencing: a comparison against multiple phenotypic susceptibility testing methods. BMC Microbiology 19:148

Sevellec Y; Felten A; Radomski N; Granier SA; Le Hello S; PETROVSKA L; Mistou M-Y; Cadel-Six S (2019)

Genetic diversity of Salmonella derby from the poultry sector in Europe. Pathogens 8 (2) 46.

van Duijkeren E; Schwarz C; Bouchard D; Catry B; Pomba C; Baptiste KE; Moreno MA; Rantala M; Ruzauskas M; Sanders P; TEALE C; Wester AL; Ignate K; Kunsagi Z; Jukes H (2019)

The use of aminoglycosides in animals within the EU: development of resistance in animals and possible impact on human and animal health: a review. Journal of Antimicrobial Chemotherapy 74 (9) 2480-2496.

DAVIES R; Wales A 2019

Antimicrobial resistance on farms: a review including biosecurity and the potential role of disinfectants in resistance selection. Comprehensive Reviews in Food Science and Food Safety 18 (3) 753-774

Martina Velasova, RP Smith, Fabrizio Lemma, Robert A Horton, NA Duggett, J Evans, SC Tongue, Muna F Anjum, LP Randall

Detection of extended-spectrum β -lactam, AmpC and carbapenem resistance in Enterobacteriaceae in beef cattle in Great Britain in 2015 J of Applied Microbiology 126(4), 1081-1095

Rui Figueiredo, Roderick M Card, Javier Nunez-Garcia, Nuno Mendonça, Gabriela Jorge da Silva, Muna F Anjum

Multidrug-Resistant Salmonella enterica Isolated from Food Animal and Foodstuff May Also Be Less Susceptible to Heavy Metals Foodborne pathogens and disease 16(3) p166-172

Michaela J Day, Katie L Hopkins, David W Wareham, Mark A Toleman, Nicola Elviss, Luke Randall, Christopher Teale, Paul Cleary, Camilla Wiuff, Michel Doumith†, Matthew J Ellington, Neil Woodford, David M Livermore
Extended-spectrum β -lactamase-producing Escherichia coli in human-derived and foodchain-derived samples from England, Wales, and Scotland: an epidemiological surveillance and typing study. Lancet Infect Dis 2019; 19: 1325-35

b) International conferences: 2

Storey N., Lemma F., Randall L., Horton R., Cawthraw S., Rambaldi M., Martelli F., Anjum M. AMR Persistence on a Pig Farm with Reduced Antimicrobial Usage. Proceedings of the 1st Annual Scientific Meeting of the One Health European Joint Programme on Foodborne Zoonoses, Antimicrobial Resistance and Emerging Threats, Dublin

Gulf Workshop on Antimicrobial Resistance (AMR) in the Marine Environment: A One Health Perspective, 12th-13th November 2019. Oman

c) National conferences: 1

Pig Veterinary Society 2018 Autumn Meeting, 13-14/11/2019, Leeds, UK.

d) Other:

(Provide website address or link to appropriate information) 2

UK-VARSS report available at

<https://www.gov.uk/government/publications/veterinary-antimicrobial-resistance-and-sales-surveillance-2018>

Reception at British Embassy in Paris during OIE General Session 2019

ToR 7: To provide scientific and technical training for personnel from OIE Member Countries

To recommend the prescribed and alternative tests or vaccines as OIE Standards

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

Yes

a) Technical visits: 1

b) Seminars: 0

c) Hands-on training courses: 0

d) Internships (>1 month): 2

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
a	Ghana	1
d	Nigeria	2

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

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

16. Is your quality management system accredited?

Yes

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

17. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

Yes

National/ International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	Reception at British Embassy in Paris during OIE General Session	OIE	27/05/2019	Paris	100

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

No

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

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

Not applicable (Only OIE Reference Lab. designated for disease)

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

Not applicable (Only OIE Reference Lab. designated for disease)

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

Not applicable (Only OIE Reference Lab. designated for disease)

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: <http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
MRSA and Staphylococcus aureus EQAS	5	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

Kind of consultancy	Location	Subject (facultative)
Review of OIE standards	UK	Review of Terrestrial Code Chapter 3.1 LABORATORY METHODOLOGIES FOR BACTERIAL ANTIMICROBIAL SUSCEPTIBILITY TESTING.

25. Additional comments regarding your report: