

OIE Reference Laboratory Reports Activities

Activities in 2020

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Antimicrobial resistance
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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 test	Yes	8,605	
MIC determination	Yes	362	165
Polymerase chain reaction	Yes	32	
Whole genome sequencing	Yes	595	165

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?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Microtitre plates and antimicrobial discs	Broth microdilution MIC and disc diffusion susceptibility testing.	Provided	NA	NA	3	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

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
AMR in Salmonella	1-2 years	Susceptibility of Salmonella	University of Accra	GHANA
AMR in Enterobacterales.	1-2 years	Antimicrobial susceptibility.	University of Ibadan, University of Jos	NIGERIA

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 resistance data covering zoonotic bacteria (Salmonella, Campylobacter), commensal bacteria (E. coli) and veterinary bacterial 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 is published annually in the UK-Veterinary Antibiotic Resistance and Sales Surveillance Report, available at https://www.gov.uk/government/publications/veterinary-antimicrobial-resistance-and-sales-surveillance-2019

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: 6
DUGGETT N; ABUOUN M; RANDALL L; HORTON R; LEMMA F; ROGERS J; Crook D; TEALE C;

ANJUM MF (2020)

The importance of using whole genome sequencing and extended spectrum beta-lactamase selective media when monitoring antimicrobial resistance.

Scientific Reports 10, Article number: 19880.

NEWTON K; GOSLING B; RABIE A; DAVIES R (2020)

Field investigations of multidrug-resistant Salmonella Infantis epidemic strain incursions into broiler flocks in England and Wales.

Avian Pathology 49 (6) 631-641.

ABUOUN M; O'CONNOR HM; STUBBERFIELD EJ; NUNEZ-GARCIA J; SAYERS E; Crook DW; SMITH RP; ANJUM MF (2020)

Characterizing antimicrobial resistant Escherichia coli and associated risk factors in a cross-sectional study of pig farms in Great Britain.

Frontiers in Microbiology 11, Article number 861.

Wales A; DAVIES R (2020)

Review of hatchery transmission of bacteria with focus on Salmonella, chick pathogens and antimicrobial resistance.

World's Poultry Science Journal 76 (3) 517-536.

The O-Antigen Epitope Governs Susceptibility to Colistin in Salmonella enterica Vito Ricci, Dexian Zhang, Christopher Teale, Laura J. V. Piddock mBio Jan 2020, 11 (1) e02831-19; DOI: 10.1128/mBio.02831-19

DUFF JP; ABUOUN M; Bexton S; ROGERS J; Turton J; Woodford N; IRVINE R; ANJUM M; TEALE C (2020)

Resistance to carbapenems and other antibiotics in Klebsiella pneumoniae found in seals indicates anthropogenic pollution.

Veterinary Record 187 (4) 154.

b) International conferences: 2

Attendance at international conferences was limited in 2020 because of the coronavirus pandemic. Two conferences were attended (both held virtually) and papers presented at each:

One Health European Joint Programme Annual Scientific Meeting 2020.

The 6th World One Health Congress, Edinburgh, Scotland.

c) National conferences: 0

Attendance at national conferences was limited in 2020 because of the coronavirus pandemic.

d) Other:

(Provide website address or link to appropriate information) 1

Antimicrobial resistance data is published annually in the UK-Veterinary Antibiotic Resistance and Sales Surveillance Report, available at

<https://www.gov.uk/government/publications/veterinary-antimicrobial-resistance-and-sales-surveillance-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: 0

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
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)
ISO 17025	17025 certificate.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Disc diffusion 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?

No

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	4	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Susceptibility of Enterobacteriaceae	In progress	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input 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)
Update to Manual of diagnostic tests and vaccines for terrestrial animals in 2019.	Remote	Manual of diagnostic tests and vaccines for terrestrial animals 2019, 1-19 https://www.oie.int/fileadmin/Home/eng/Health_standards/tahm/2.01.01_ANTIMICROBIAL.pdf

25. Additional comments regarding your report:

The coronavirus pandemic has impacted on some activities in 2020.