

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-19 23:45:27

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 Surrey KT15 3NB Weybridge UNITED KINGDOM
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Name (including Title) of Head of Laboratory (Responsible Official):	Mr I. Hewett, 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	9,811	0
MIC Determination	Yes	1,583	476
Polymerase chain reaction	Yes	212	0
Whole genome sequencing	Yes	294	476

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
Antibiotic impregnated discs	Disc diffusion test	Provided	N/A	N/A	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input 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
Characterisation of Salmonella from wild animals	2 years	Susceptibility of Salmonella	Bangladesh Livestock Research Institute	BANGLADESH

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 and commensal bacteria occurring in animals 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 are 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-2020

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: 8

ABUOUN M; JONES H; STUBBERFIELD E; GILSON D; Shaw LP; Hubbard ATM; Chau KK; Sebra R; Peto TEA; Crook DW; Ready DS; Gweon HS; Walker AS; Stoesser N; SMITH RP (2021) A genomic epidemiological study shows that prevalence of antimicrobial resistance in enterobacterales is associated with the livestock host, as well as antimicrobial usage. *Microbial Genomics* 7 (10) 000630. <https://doi.org/10.1099/mgen.0.000630>

ANJUM MF; Schmitt H; Borjesson S; Berendonk TU (2021) The potential of using *E. coli* as an indicator for the surveillance of antimicrobial resistance (AMR) in the environment. *Current Opinion in Microbiology* 64, 152-158. <https://doi.org/10.1016/j.mib.2021.09.011>

SMITH RP; SHARMA M; GILSON D; ANJUM M; TEALE CJ (2021) Livestock-associated methicillin-resistant *Staphylococcus aureus* in slaughtered pigs in England. *Epidemiology and Infection* 149, e236. <https://doi.org/10.1017/S0950268821002260>

STUBBERFIELD E; SHELDON J; CARD RM; ABUOUN M; ROGERS J; WILLIAMSON S; Kay GL; Pallen MJ; ANJUM MF (2021) Whole-genome sequencing of *Brachyspira hyodysenteriae* isolates from England and Wales reveals similarities to European isolates and mutations associated with reduced sensitivity to antimicrobials. *Frontiers in Microbiology* 12, Article No. 713233. <https://doi.org/10.3389/fmicb.2021.713233>

TEALE C; Borriello P (2021) A proposed scheme for the monitoring of antibiotic resistance in veterinary pathogens of food animals in the UK. *Veterinary Record* 189 (3) e201. <https://doi.org/10.1002/vetr.201>

Wales AD; GOSLING RJ; BARE HL; DAVIES RH (2021) Disinfectant testing for veterinary and agricultural applications: A review. *Zoonoses and Public Health* 68 (5) 361-375. <https://doi.org/10.1111/zph.12830>

DE LUCIA A; CARD RM; DUGGETT N; SMITH RP; DAVIES R; CAWTHRAW SA; ANJUM MF; Rambaldi M; Ostanello F; MARTELLI F (2021) Reduction in antimicrobial resistance prevalence in *Escherichia coli* from a pig farm following withdrawal of group antimicrobial treatment. *Veterinary Microbiology* 258, 109125. <https://doi.org/10.1016/j.vetmic.2021.109125>

Mesa-Varona O; Mader R; VELASOVA M; Madec J-Y; Granier SA; Perrin-Guyomard A; Norstrom M; Kaspar H; Grobbel M; Jouv E; ANJUM MF; Tenhagen B-A (2021)

Comparison of phenotypical antimicrobial resistance between clinical and non-clinical *e. coli* isolates from broilers, turkeys and calves in four European countries. *Microorganisms* 9 (4) 678. <https://doi.org/10.3390/microorganisms9040678>

b) International conferences: 1

Speaker at the scientific online AMR conference of the Russian State Center for Animal Feed and Drug Standardization and Quality (VGNKI), organised with the Regional Office of the World Organization for Animal Health (OIE) in Moscow, November 18th, 2021. Meeting recording available at https://drive.google.com/file/d/1kztDd5J72AYBzLN5MvLvEPL6zr0_mRnL/view?usp=sharing

c) National conferences: 0

No national conferences were attended in 2021. National conferences were impacted because of national covid 19 restrictions.

d) Other:

(Provide website address or link to appropriate information) 1

Data are 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-2020>

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: 1
 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
b	Nigeria	132
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	17025 certificate.pdf

16. Is your quality management system accredited?

Yes

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

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
Scientific online AMR conference of the Russian State Center for Animal Feed and Drug Standardization and Quality (VGNKI), organised with the Regional Office of the World Organization for Animal Health (OIE)	18/11/21	Moscow/Online	Speaker	Antimicrobial resistance in veterinary bacterial pathogens.

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
External Quality Assurance of AMR testing in Salmonella, Campylobacter, Enterococci and E. coli	28	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
External Quality Assurance of AMR testing in MRSA and Staphylococcus aureus	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
External quality assurance of AMR in Enterobacterales	14	<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)
Speaker at OIE regional meeting	Online/ Moscow	Antimicrobial resistance in veterinary pathogens

25. Additional comments regarding your report:

The coronavirus pandemic continued to have an impact on some activities in 2021.