OIE Reference Laboratory Reports Activities

Activities in 2016

This report has been submitted : 2017-01-31 15:46:42

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
Tel.:	+44-1743 46 76 21
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E-mail address:	Christopher.Teale@apha.gsi.gov.uk
Website:	http://ahvla.defra.gov.uk/apha-scientific/index.htm
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	
Indirect diagnostic tests		Nationally	Internationally
0	0	0	0
Direct diagnostic tests		Nationally	Internationally
Disc diffusion susceptibility test	Yes	>6,383	
MIC Determination	Yes	>278	
Polymerase chain reaction	Yes	>100	
Whole genome sequencing	Yes	>100	

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
The European Union Summary Report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2015	2015	Surveillance of AMR in the EU in 2015	European Food Safety Authority	AUSTRIA BELGIUM BULGARIA CROATIA CYPRUS CZECH REPUBLIC DENMARK ESTONIA FINLAND FRANCE GERMANY GREECE HUNGARY ICELAND IRELAND ITALY LATVIA LITHUANIA LUXEMBOURG MALTA NORWAY POLAND PORTUGAL ROMANIA SLOVAKIA SLOVENIA SPAIN SWEDEN SWITZERLAND 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

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

Yes

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: 21
HORIGAN V; KOSMIDER RD; HORTON RA; RANDALL L; SIMONS RRL 2016
An assessment of evidence data gaps in the investigation of possible transmission routes of extended spectrum Beta-lactamase producing Escherichia coli from livestock to humans in the UK.
Preventive Veterinary Medicine 124, 1-8.

HORTON RA; CARD R; RANDALL LP; TEALE CJ 2016
Differentiation of UK endemic strains of Salmonella enterica serovar Newport from epidemic North American strains by PCR detection of a truncated bapA chromosomal gene.
Research in Veterinary Science 104, 113-116.

Lahuerta-Marin A; Guelbenzu-Gonzalo M; Pichon B; Allen A; Doumith M; Lavery JF; Watson C; TEALE CJ; Kearns AM 2016
First report of lukM-positive livestock-associated methicillin-resistant
Staphylococcus aureus CC30 from fattening pigs in Northern Ireland.
Veterinary Microbiology 182, 131-134.

Medaney F; Dimitriu T; ELLIS RJ; Raymond B 2016
Live to cheat another day: bacterial dormancy facilitates the social exploitation of Beta-lactamases.
ISME Journal 10, 778-787.

READMAN JB; Dickson G; COLDHAM NG 2016
Translational inhibition of CTX-M Extended Spectrum Beat-Lactamase in clinical strains of Escherichia coli by synthetic antisense oligonucleotides partially restores sensitivity to cefotaxime.
Frontiers in Microbiology 7: 373.

Lysnyansky I; AYLING RD 2016
Mycoplasma bovis: mechanisms of resistance and trends in antimicrobial susceptibility.
Frontiers in Microbiology 7:595.

Parker D; LEMMA F; RANDALL L 2016
Industry survey of Great Britain-sourced broilers for extended-spectrum
beta-lactamase and Amp C beta-lactamase-producing Escherichia coli.
Veterinary Record 178 (19) 474-475.

Day MJ; Rodriguez I; van Essen-Zandbergen A; Dierikx C; Kadlec K; Schink A-K; WU G; Chattaway MA; DoNascimento V; Wain J; Helmuth R; Guerra B; Schwarz S; Threlfall J; Woodward MJ; COLDHAM N; Mevius D; Woodford N 2016
Diversity of STs, plasmids and ESBL genes among Escherichia coli from humans, animals and food in Germany, the Netherlands and the UK.
Journal of Antimicrobial Chemotherapy 71 (5) 1178-1182.

Bosse JT; Li Y; Crespo RF; Chaudhuri RR; ROGERS J; Holden MTG; Maskell DJ; Tucker AW; Wren BW; Rycroft AN; Langford PR; BRaDP1T Consortium 2016
ICEApl1, an integrative conjugative element related to ICEHin1056, identified in the pig pathogen Actinobacillus pleuropneumoniae.
Frontiers in Microbiology 7: 810.

FREIRE-MARTIN I; Thomas CM; Laing E; ABUOUN M; LA RAGIONE RM;
Woodward MJ 2016
Curing vector for IncI1 plasmids and its use to provide evidence for a metabolic burden of IncI1 CTX-M-1 plasmid pIFM3791 on Klebsiella pneumoniae.
Journal of Medical Microbiology 65 (7) 611-618.

RANDALL L; RIDLEY A; LEMMA F; HALE C; DAVIES R 2016
In vitro investigations into the use of antimicrobials in combination to maintain efficacy of fluoroquinolones in poultry.
Research in Veterinary Science 108, 47-53.

ANJUM MF; DUGGETT NA; ABUOUN M; RANDALL L; NUNEZ-GARCIA J;
ELLIS RJ; ROGERS J; HORTON R; BRENA C; WILLIAMSON S; MARTELLI F; DAVIES R; TEALE C 2016
Colistin resistance in salmonella and Escherichia coli isolates from a pig farm in
Great Britain.
Journal of Antimicrobial Chemotherapy 71 (8) 2306-2313.

Figueiredo R; CARD RM; NUNEZ J; Pomba C; Mendonca N; ANJUM MF;
Jorge Da Silva G 2016
Detection of an mcr-1-encoding plasmid mediating colistin resistance in

Salmonella enterica from retail meat in Portugal.
Journal of Antimicrobial Chemotherapy 71 (8) 2338-2340.

Taylor NM; WALES AD; RIDLEY AM; DAVIES RH 2016
Farm level risk factors for fluoroquinolone resistance in E. coli and thermophilic Campylobacter spp. on poultry farms.
Avian Pathology 45 (5) 559-568.

BRUNTON L 2016
A longitudinal study of ESBL E. coli in calves fed waste milk vs calves fed milk replacer.
Cattle Practice 24 (2) 75

RANDALL LP; Lodge MP; Elviss NC; LEMMA FL; Hopkins KL; TEALE CJ;
Woodford N 2016
Evaluation of meat, fruit and vegetables from retail stores in five United Kingdom regions as sources of extended-spectrum beta-lactamase (ESBL)-producing and carbapenem-resistant Escherichia coli.
International Journal of Food Microbiology 241, 283-290.

DUFF JP; BIDEWELL CA; WILLIAMSON SM; TEALE CJ; Stidworthy MF; Bexton S; ABUOUN M; RANDALL L; ROGERS JP 2016
Klebsiella pneumoniae of suspected human origin from free-living common seals on the east coast of England.
Veterinary Record 179 (25) 652.

HORTON RA; DUNCAN D; RANDALL LP; CHAPPELL S; BRUNTON LA;
WARNER R; COLDHAM NG; TEALE CJ 2016
Longitudinal study of CTX-M ESBL-producing E. coli strains on a UK dairy farm.
Research in Veterinary Science 109, 107-113.

Mendonca N; FIGUEIREDO R; Mendes C; CARD RM; ANJUM MF; da Silva GJ 2016
Microarray evaluation of antimicrobial resistance and virulence of Escherichia coli isolates from Portuguese poultry.
Antibiotics 5 (1), 4.

REYNOLDS LJ; Roberts AP; ANJUM MF 2016
Efflux in the oral metagenome: the discovery of a novel tetracycline and tigecycline ABC transporter.
Frontiers in Microbiology 7: Article 1923.

SHARMA M; NUNEZ-GARCIA J; Kearns AM; Doumith M; Butaye PR; Argudin MA; Lahuerta-Marin A; Pichon B; ABUOUN M; ROGERS J; ELLIS RJ; TEALE C;
ANJUM MF 2016
Livestock-associated methicillin resistant Staphylococcus aureus (LA-MRSA) clonal complex (CC) 398 isolated from UK animals belong to European lineages.
Frontiers in Microbiology 7: Article 1741.

b) International conferences: 0

c) National conferences: 1
British Poultry Veterinary Association/ Pig Veterinary Society joint meeting 10th-11th November 2015; session on antimicrobial resistance.

d) Other:
(Provide website address or link to appropriate information) 1
Production of a national annual surveillance report on the antimicrobial susceptibility of veterinary bacteria.
https://www.gov.uk/government/publications/veterinary-antimicrobial-resistance-and-sales-surveillance-2015

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?

No

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 certified according to an International Standard?

Yes

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

16. Is your laboratory accredited by an international accreditation body?

Yes

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

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
OIE ad hoc Group on Antimicrobial Resistance	20-22/01/2016	OIE, Paris	Rapporteur	Contribution to ad hoc Group
OIE ad hoc Group on Antimicrobial Resistance	21-23/06/2016	OIE, Paris	Rapporteur	Contribution to ad hoc Group

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
Detection of MRSA	4	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐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)
Participation in OIE Working Groups	OIE HQ, Paris	Antimicrobial resistance and usage/ sales of antimicrobials in animals

25. Additional comments regarding your report: