

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 9 juillet 2024 13:38

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	Swine Influenza
Address of laboratory:	Animal and Plant Health Agency - Weybridge, Addlestone, Surrey KT15 3NB UNITED KINGDOM
Tel.:	02082069680
E-mail address:	lan.brown@apha.gov.uk
Website:	https://www.gov.uk/government/organisations/animal-and-plant-health-agency and https://science.vla.gov.uk/fluglobalnet/
Name (including Title) of Head of Laboratory (Responsible Official):	Mr David Holdsworth, Chief Executive
Name (including Title and Position) of WOAHO Reference Expert:	Professor Ian Brown Director of WOAHO/FAO International Reference Laboratory for Avian Influenza, Newcastle Disease and Swine Influenza
Which of the following defines your laboratory? Check all that apply:	Governmental

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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR M gene		796	0
Real-time RT-PCR pH1N1 2009		0	0
Next Generation Sequencing		45	0
Egg inoculation/HA		0	0
Henritzi Subtyping qPCR		66	0

TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAHA Members?

No

TOR3: NEW PROCEDURES

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

No

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

NAME OF THE WOAHA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
NEPAL	Offer of Assistance	Email
KOREA (REP. OF)	Offer of Assistance, Research	Email
JAPAN	Exchange of material	Email

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAHA MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
ESFLU	2022- 2026	ESFLU network of excellence for swine influenza COST Action CA21132 (WP1 Methods, WP2, Genomics, WP3, Surveillance, WP4, Dissemination)	European countries (27)	ALBANIA AUSTRIA BELGIUM BOSNIA AND HERZEGOVINA CROATIA DENMARK FINLAND FRANCE GERMANY GREECE IRELAND ITALY MONTENEGRO NORTH MACEDONIA (REP. OF) NORWAY POLAND PORTUGAL ROMANIA SERBIA SLOVENIA SPAIN SWEDEN SWITZERLAND THE NETHERLANDS
PIGIE	2021-2024	Define genetic and antigenic traits of swine influenza viruses circulating in European pig herds and identify potential control strategies	ANSES, FLI, University of Copenhagen, University of Barcelona, IZSLER (Parma) Includes linkages with CEVA who are part of the PIGIE consortium.	DENMARK FRANCE GERMANY ITALY SPAIN
Centres of Excellence for Influenza Research and response (CEIRR)	2021-2029	Development of pipelines for evaluation of the emergence of swine influenza viruses of pre-pandemic or pandemic risk.	NIAID funded programme. APHA supported via interactions with RVC and Penn-CEIRR. CEIRR Network (ceirr-network.org) https://www.niaid.nih.gov/research/centers-excellence-influenza-research-response	UNITED STATES OF AMERICA

OFFLU VCM	Ongoing - annual	Swine viruses and antisera have been added to the WHO VCM activities and as such we have characterized isolates both using genetic and antigenic tools and contributed this to the biannual VCM activities.	OFFLU swine subgroup plus miscellaneous institutes	AUSTRALIA ITALY UNITED STATES OF AMERICA
Influenza D virus	Ongoing annual	Exchange of influenza D virus-specific antisera, viral isolates, and method evaluation, particularly with troubleshooting serological methods	IZSLER, South Korea	KOREA (REP. OF)

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOA?H?

No

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:

Collection and characterisation of a range of SwIV samples including meta data within the UK, through surveillance activities to provide an epidemiological picture and analysis of viral diversity across the UK.

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:

An analysis of the epidemiological data, collected nationally, was disseminated through governmental outputs such as the Defra-led UK Pig Expert Group, and in peer-reviewed publications, detailing the evolution of SWIV and epidemiological picture of with relation to the UK situation. APHA contributed whole genome sequence data and virus isolates as well as generating hemagglutination inhibition (HI) data for the biannual OFFLU VCM virus characterisation report. In the reporting period, the H1B.1.1 clade, was identified as a genetically distinct viral lineage found in GB pig populations only.

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:

3

1. Mollett, Benjamin C., Helen E. Everett, Pauline M. van Diemen, Alexander M.P. Byrne, Andrew Ramsay, Joe James, Scott M. Reid, Rowena D.E. Hansen, Nicola S. Lewis, Ian H. Brown, and Ashley C. Banyard. "JMM Profile: Swine Influenza a Virus: A Neglected Virus with Pandemic Potential." *Journal of Medical Microbiology* 72, no. 1 (2023). <https://dx.doi.org/https://doi.org/10.1099/jmm.0.001623>.

2. Vatzia, Eleni, Katherine Feest, Adam McNee, Tanuja Manjegowda, B. Veronica Carr, Basudev Paudyal, Tiphany Chrun, Emmanuel A. Maze, Amy McCarron, Susan Morris, Helen E. Everett, Ronan MacLoughlin, Francisco J. Salguero, Teresa Lambe, Sarah C. Gilbert, and Elma Tchilian. "Immunization with Matrix-, Nucleoprotein and Neuraminidase Protects against H3N2 Influenza Challenge in Ph1n1 Pre-Exposed Pigs." *npj Vaccines* 8, no. 1 (2023/02/15 2023): 19. <https://dx.doi.org/10.1038/s41541-023-00620-2>

3. van Diemen PM, Byrne AMP, Ramsay AM, Watson S, Nunez A, V Moreno A, Chiapponi C, Foni E, Brown IH, Brookes SM, Everett HE. Interspecies Transmission of Swine Influenza A Viruses and Human Seasonal Vaccine-Mediated Protection Investigated in Ferret Model. *Emerg Infect Dis.* 2023 Sep;29(9):1798-1807. doi: 10.3201/eid2909.230066

b) International conferences:

0

c) National conferences:

2

1. Dr Joe James: "Swine influenza surveillance in GB in relation to the human detection of H1N2v" UKHSA/NHS laboratory network, 4.12.2023
2. Dr Pauline van Diemen: "Influenza D virus in GB"; UK Influenza Update Meeting, 18.12.2023
3. Mr Ben Mollett: "A decade of swine influenza A virus diversification in GB" UK Influenza Update Meeting, 19.12.2023

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

3

1. Dr Joe James: "Swine influenza surveillance in GB in relation to the human detection of H1N2v"; UKHSA/NHS laboratory network, 4.12.2023
2. Dr Helen Everett: European Society for Porcine Health Management. Swine influenza A virus diversity in GB. 31.5.2023
3. Dr Helen Everett: "The first human case of H1N2v in the UK"; UK Influenza Update Meeting, 19.12.2023
4. Dr Pauline van Diemen: "Influenza D virus in GB"; UK Influenza Update Meeting, 18.12.2023
5. Mr Ben Mollett: "A decade of swine influenza A virus diversification in GB"; UK Influenza Update Meeting, 19.12.2023

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

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

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Haemagglutination Inhibition test	UKAS
Matrix (M)-gene PCR	UKAS
Virus isolation in SPF eggs	UKAS
Whole Genome Sequencing	UKAS

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

Yes

APHA maintains a complete and functioning laboratory biological risk management system, which ensures that the laboratory is in compliance with applicable local, national (UK Health and Safety Executive), regional, and international standards and requirements for biosafety and laboratory biosecurity

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOAHA REFERENCE LABORATORIES

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

Yes

24. Do you network (collaborate or share information) with other WOA Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS
OFFLU	Organiser/Chair	3	Istituto Zooprofilattico Sperimentale delle Venezie, Italy CSIRO Australian Centre for Disease Preparedness SEPRL : USDA Agricultural Research Service, Georgia, USA

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

No

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

Yes

TITLE OF THE PROJECT OR CONTRACT	SCOPE	NAME(S) OF RELEVANT WOA REFERENCE LABORATORIES
OFFLU VCM	APHA has carried out testing and contributed reagents, data and expertise to the biannual WHO VCM activities.	Istituto Zooprofilattico Sperimentale delle Venezie, Italy

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

No

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

Dr Helen Everett was formally added to membership of the OFFLU SI group replacing Prof Ian Brown