WOAH Collaborative Centre Reports Activities 2024

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CENTRE INFORMATION

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*Name Director of Institute (Responsible Official):	Professor Jon Huxley
*Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):	Professor Naomi Cogger, Group Leader EpiCentre
*Name of the writer:	Naomi Cogger

TOR 1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOAH

Category	Title of activity	Scope
		Evaluate the current status of FMDV

Disease control (true)	Assessment of FMD virus serotype Asia 1 status in SEACFMD countries	serotype Asia 1 in SEACFMD countries (e.g. Cambodia, China, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Thailand, and Vietnam, Indonesia) by developing a stochastic scenario tree model based on data submitted to WRLFMD after 2010 onwards.
Epidemiology, surveillance, risk assessment, (true)	Cohort study of salmonellosis outbreaks on dairy farms in New Zealand	Investigate cow-level risk factors for cases of salmonellosis in commercial dairy herds and quantify their impact on productivity and their financial impact on farm enterprises.
Training, capacity building (true)	Ministry for Primary Industry Applied Epidemiology program	EpiCentre staff designed and delivered the Ministry for Primary Industries' applied epidemiology Programme is designed to up-skill industry, private practitioners and government officials to support animal health and biosecurity responses. Sixteen individuals from New Zealand and Southeast Asia completed the course in 2024, and 22 are due to complete it in 2025.
Zoonoses (true)	Diagnosis of Leptospirosis in New Zealand	Health Research Council Collaboration with human hospital laboratory in New Zealand to validate leptospirosis research PCR for human diagnostics
Disease Control (true)	Case-control study of salmonellosis outbreaks on dairy farms in New Zealand	Describe patterns of salmonellosis outbreaks on dairy farms affecting all classes of stock and investigate herd-level risk factors for their occurrence. A nationwide study to develop control programs with government funding and milk processor support
Disease Control (true)	Under ascertainment of leptospirosis in New Zealand	Surveys of healthy workers (MAT) and febrile patients (PCR) in New Zealand
Disease Control (true)	Genotyping of leptospirosis cases and putative sources	Human cases and animal sources in New Zealand

Disease Control (true)	Ongoing genomics support for the New Zealand Mycoplasma (Mycoplasmopsis) bovis outbreak	Technical support for the wider MPI team in the effort to eradicate M bovis
Epidemiology, surveillance, risk assessment, modelling (true)	HPAI Analysis	Provide support to MPI during the HPAI outbreak by analyzing data.
Training, capacity building (true)	One Health Training	Taught a five-day face-to-face course introducing the One Health concepts to post-graduate students at the University of Hainan, China. Students came from molecular, biotechnology, engineering and environmental science backgrounds
Training, capacity building (true)	Food Safety Risk Analysis	EpiCentre staff designed and delivered a course introducing risk analysis concepts for food safety. Tween individuals from New Zealand and Southeast Asia completed the course in 2024, and 22 are due to complete it in 2025.
Disease Control (true)	Emergency Implementation Plan for African Swine Fever (Sixth Edition)	Mainland, China.
Epidemiology, surveillance, risk assessment, modelling (true)	National epidemiological survey plan on major animal diseases.	Avian influenza, FMD, ND, PRRS, PPR, CSF, Brucellosis, etc. Mainland China.
Epidemiology, surveillance, risk assessment, modelling (true)	Monitoring of exotic animal diseases;	Border provinces in China
Epidemiology, surveillance, risk assessment, modelling (true)	Annual epidemiology investigation of major animal diseases in livestock and poultry	Mainland, China.
Epidemiology, surveillance, risk assessment, modelling (true)	Research on the effectiveness and mode of normalized prevention and control of African swine fever	6 provinces in China

Epidemiology, surveillance, risk assessment, modelling (true)	Epidemiological survey on the health status and value chain of sheep in China	6 provinces in China
Epidemiology, surveillance, risk assessment, modelling (true)	Investigation on the hygiene status of meat products in sheep slaughterhouses	5 provinces in China
Epidemiology, surveillance, risk assessment, modelling (true)	Dynamic model for predicting the transmission of sheep brucellosis in non-immunized areas	Some provinces in China
Training, capacity building (true)	7th Cohort of China Field Epidemiology Training Program for Veterinarians (CFETPV).	25 trainees from 18 provincial & municipal ACDC.
Training, capacity building (true)	8th Cohort of China Field Epidemiology Training Program for Veterinarians (CFETPV).	50 trainees from 28 provincial & municipal ACDC.
Training, capacity building (true)	Extended Training on Veterinary Epidemiology Technology.	Weihai City of Shandong Province; Xinjiang Uygur Autonomous Region, Shaanxi, Guizhou and Shandong Provinces of Mainland China.
Training, capacity building (true)	Training on veterinary epidemiology for college teachers	23 veterinary colleges
Zoonoses (true)	Investigation on the Knowledge, Attitude, Beliefs and Practices of Brucellosis in Livestock Farmers	7 provinces in China
Epidemiology, surveillance, risk assessment, modelling (true)	Risk evaluation of FMD Immune Free Communities	Partial breeding farms in Pakistan

Zoonoses (true)	Investigation on Avian Influenza Infection in Cows	Some provinces in China

TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main fucus area for which you were designated

Proposal title	Scope/Content	Applicable Area
Emergency epidemiological investigation techniques for African horse fever	Mainland, China.	Health Management Animal Production
Animal epidemic prevention ——Basic terms	Mainland, China.	Training and Education

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

No

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Wildlife Health Collaborating Centre Network	N/A	Asia y el Pacífico	Global network, fostering collaboration among 19 labs, including those in China and Australia, to build capacity for wildlife disease monitoring and management. Centre member, Professor David Hayman, is the co-chair
WOAH Reference Laboratory for FMD	Lanzhou/China	Asia y el Pacífico	Better understanding the status of FMD to achieve prevention and control

WOAH Reference Laboratory for ASF	Qingdao/China	Asia y el Pacífico	Better understanding the status of ASF to achieve prevention and control
WOAH Reference Laboratory for Peste des Petits Ruminants(PPR)	Qingdao/China	Asia y el Pacífico	Better understanding the status of PPR to achieve prevention and control
WOAH Reference Laboratory for Newcastle Disease(ND)	Qingdao/China	Asia y el Pacífico	Better understanding the status of ND to achieve prevention and control
WOAH Reference Laboratory for Avian Influenza	Harbin/China	Asia y el Pacífico	Better understanding the status of AI to achieve prevention and control

TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Diagnostic Test Validation Science in the Asia Pacific region	Melbourne, Australia	Asia and Pacific	Development of methodologies for the evaluation of diagnostic tests
WOAH Collaborating Centre for Food Safety, School of Veterinary Medicine, Rakuno Gakuen University	Ebetsu, Japan	Asia and Pacific	Exchange of knowledge on key diseases, including Mycoplasma bovis, theileria, and other tick-borne diseases, and technical expertise in areas such as economic analysis, disease monitoring, and interactive tool development.

WOAH Collaborating Centre for Emerging Avian Diseases	Italy	Europe	Develop standards for collecting and sharing geospatial data for disease control zones.
Murdoch University	Perth/Australia	Asia and Pacific	Training, Technical communication
York University	Toronto/Canada	Asia and Pacific	Training , Experts exchange, Technical communication

TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

Yes

Name of expert	Kind of consultancy	Subject
David Hayman	WOAH Ad Hoc Group on Emerging Diseases	Emerging Diseases
Naomi Cogger	Vice-President of Scientification Commission for Animal Disease	Animal Disease
David Hayman	OHHLEP: One Health High Level Expert Panel Meeting	Emerging Disease

TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

David Hayman is a member of the HPAI High-Level Advisory Group for HPAI Preparedness, Biosecurity New Zealand, Ministry for Primary Industries

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel

from WOAH Members?

No

TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?

Yes

National/International	Title of event	Co-organiser	Date	Location	No. Participants
Internationally	ff	WOAH Regional Office	2024-09-11	Bangkock	5
Internationally	27th Meeting of the WOAH Sub-Commission for Foot and Mouth Disease in South-East Asia, China and Mongolia in Bangkok, Thailand	WOAH	2024-09-03	Bangkok	50
Internationally	Virtual Meeting of SEACFMD National Coordinators, 12 July 2024	WOAH	2024-07-12	Qingdao, China	30
Internationally	15th Meeting of the Upper Mekong Working Group on Foot and Mouth Disease Zoning and Animal Movement Management	WOAH	2024-04-24	Luang Namtha, Lao PDR	30

TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH

a) Articles published in peer-reviewed journals:

13

Yang L, Fan M, Wang Y, Sun X, Zhu H. Effect of avian influenza scare on transmission of zoonotic avian influenza: A case study of influenza A (H7N9). Math Biosci. 2024 Jan;367:109125. doi: 10.1016/j.mbs.2023.109125. Epub 2023 Dec 10. PMID: 38072124.

2. Zhang Y, Lu M, Yi Y, Xia L, Zhang R, Li C, Liu P. Influence of maternal body mass index on pregnacy complications and outcomes: a systematic review and meta-analysis. Front Endocrinol (Lausanne). 2024 Jun 4;15:1280692.

3. Yang L, Fan M, Wang, YM. Dynamic modelling of prevention and control of Brucellosis in China: A systematic review. Transboundary and Emerging Diseases, 2025.

4. Wang Y, Vallée E, Heuer C, Wang Y, Guo A, Zhang Z, Compton C. A scoping review on the epidemiology and public significance of

Brucella abortus in Chinese dairy cattle and humans. One Health. 2024 Jan 26;18:100683. doi: 10.1016/j.onehlt.2024.100683. PMID: 39010971; PMCID: PMC11247298.

5. Yang Honglin, Shen Chaojian, Xu Quangang, Tang Hao, Kachen Wongsathapornchai, Wang Youming*.Key factors to build a self-sustained in-country capacity building program: experiences and lessons from China FETPV[C].17th International Symposium on Veterinary Epidemiology and Economics.

6. Gao Shengbin, Liu Hanze, Wei Xinjie, Liu Ailing, Liu Yumeng, Xu Quangang, Wang Youming. Investigation on the Bio-safety Disposal of Dead or Diseased Animalsand Outlook on Reutilization[J]. China Animal Quarantine, 2024,41(11):72-77.

7. Liu Ping, Xie Biao, Yuan Ligang, Sun Xiangdong, Hu Xiaoliang, Shi Qin, He Jihong, Wang Youming, Pu Jingwei The current status and influencing factors of brucellosis prevention and control among sheep farmers in the 12th Division of Xinjiang Production and Construction Corps [J]. China Animal Quarantine, 2024, 41 (07): 29-33.

8. Liu Ping, Zhang Yi, Liu Lijun, Dong Chunxia, Lu Mei, Hou Jian, Shi Daiyu, Xu Quangang, Sun Xiangdong, Wang Youming. Evaluation of the Application Effectiveness of Five Tiger Red Plate Agglutination Test Kits [J]. Advances in Animal Medicine. 2024, 45 (06): 136-139.

9. Liu Ping, Xu Quangang, Chen Feng, Gao Lu, Sun Xiangdong, Wang Youming Comparative analysis of African swine fever detection capabilities of slaughter enterprises based on literature [J]. China Animal quarantine, 2024, 41 (04): 45-49.

10. Yang Tao, Yang Honglin, Liu Hanze, Liu Yumeng, Shen Chaojian Selection of evaluation indicators for quarantine system of imported animals and animal products [J]. China Animal Quarantine, 2024,41(11):65-71.

11. Wang Zhengyi, Cai Dongdong, Zhang Hui, Zhang Yi, Hou Wei, Li Shengqiong, Shen Chaojian, Yang Aiguo An Emergency Epidemiological Investigation of Edema Disease in Pigs [J]. China Animal Quarantine, 2024,41(10):18-22.

12. Li Chao, Shen Chaojian, Wei Yurong, Zhang Zhentao, Wang Yuying, Zhang Yi, He Wei, Huang Kehe, Xue Feng Quantitative risk assessment of red feather disease transmitted to Shandong Province through cattle and sheep transportation in 2021-2022 [J]. Animal husbandry and veterinary medicine, 2024,56(02):98-103.

13. Zhang Renjun, Peng Qifeng, Pan Hong, Zhang Yi, Shen Chaojian, Liu Ping (2024). Research progress on molecular biology and immunological detection techniques for African swine fever. China's pig industry. 2024 (04),25-36.

b) International conferences:

Lane, R. and Compton, C.W.R. (2024) Investigation of association between dry cow therapy strategy and long-term trends of bulk milk somatic cell count, in Proceedings of the 17th International Symposium on Veterinary Epidemiology and Economics, Sydney, Australia

1. Global Conference on Animal Health Innovation, Reference Centres, and Vaccines (RCVI), 23 to 25 September 2024, Rome.

2. 27th Meeting of the WOAH Sub-Commission for Foot and Mouth Disease in South-East Asia, China and Mongolia in Bangkok, Thailand, 3-6 September 2024.

3. Virtual Meeting of SEACFMD National Coordinators, 12 July 2024.

4. 15th Meeting of the Upper Mekong Working Group on Foot and Mouth Disease Zoning and Animal Movement Management, 24-26 April 2024, Luang Namtha, Lao PDR.

c) National conferences:

Compton, C., Bateman, S., Marquetoux, N., Watts, J., & Bingham, P. (2024). Results from a national study of salmonellosis in dairy cattle. Proceedings of the Dairy Cattle Veterinarians of the NZVA, 109–111.

1. National annual meeting on epidemiological survey of major animal diseases. Qingdao, China. March, 2024.

2. Seminar on the Epidemic Situation and Prevention and Control of Major Animal Diseases. Nov, 2024.

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

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

Our centre has strengthened its capabilities in artificial intelligence applications for disease control through strategic initiatives in technological advancement and workforce development. We have invested in specialised AI training for key personnel, with two staff members completing advanced certification programmes. A significant research project is currently underway exploring the application of AI for automated literature analysis, specifically focusing on extracting epidemiological parameters from published research to enhance disease spread modelling. We are simultaneously developing custom software interfaces to optimise this workflow while implementing a comprehensive staff upskilling program to ensure effective utilisation of these new technologies.

12. Additional comments regarding your report: