One Health Surveillance Subgroup of the Animal Health and Welfare Network 4th meeting

4 and 5 November 2024
09:00-17:00 / 09:00-17:00 (CET)
Minutes agreed on 29 November 2024

Location: Webconference

Attendees:

- Network Participants:

Country	Organisation
Austria	• AGES - Austrian Agency for Health and Food Safety
Belgium	• Sciensano
Croatia	• Croatian Agency for Agriculture and Food
Czech Republic	• National Institute of Public Health Prague • Czech University of Life Sciences • National Institute of Public Health • State Veterinary Administration
Denmark	• DVFA • Statens Serum Institut • University of Copenhagen
Estonia	• National Centre for Laboratory Research and Risk Assessment (LABRIS) • Republic of Estonia Health Board • Estonian University of Life Sciences
Finland	• Finnish Food Authority (Ruokavirasto) • Finnish Institute for Health and Welfare (THL)
Germany	• Friedrich-Loeffler-Institut (FLI)
Greece	• Hellenic Ministry of Rural Development and Food • National Public Health Organization • Aristotle University of Thessaloniki • Hellenic Agricultural Organisation-Demeter (ELGO DIMITRA)
Hungary	• National Center for Public Health and Pharmacy • National Food Chain Safety Office
Ireland	• Department of Agriculture , Food and the Marine • Health Protection Surveillance Centre • University of Galway • University College Dublin
Italy	• Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale"
Latvia	• Food and Veterinary Service • Institute of Food safety, Animal Health and Environment "BIOR"

	• Centre for Disease Prevention and Control of Latvia • Ministry of Agriculture
Lithuania	• National Public Health Surveillance Laboratory • National Food and Veterinary Risk Assessment Institute
Luxembourg	• Luxembourg Institute of Health • Luxembourg Veterinary and Food administration
Netherlands	• Wageingen Bioveterinary Research • RIVM
Norway	• Norwegian Veterinary Institute • Norwegian Institute of Public Health
Poland	• National Veterinary Research Institute in Pulawy, Poland • National Veterinary Research Institute
Portugal	• Direção Geral de Alimentação e Veterinária
Slovak Republic	• University of Veterinary Medicine and Pharmacy in Košice
Slovenia	• Administration of the Republic of Slovenia for Food safety, Veterinary sector and Plant protection • Veterinary faculty / National veterinary institute
Spain	• Ministry of Agriculture, Fisheries and Food (MAPA) • Ministry of Health
Sweden	• Public Health Agency Sweden • Swedish Board of Agriculture • Swedish Veterinary Agency

- Observers:
  Veterinary Services (Cyprus); Federal Food Safety and Veterinary Office FSVO (Switzerland).
  National Food Authority (Albania); Institute for Health and Food safety (Bosnia and Herzegovina); Food and Veterinary Agency (Kosovo); Administration for Food Safety, Veterinary and Phytosanitary Affairs (Montenegro); Scientific Veterinary Institute Novi Sad (Serbia); Ministry of Agriculture and Forestry, General Directorate of Food and Control, Risk Assessment Department (Turkey).
- Hearing Experts:
  BEREZOWSKI John, DE BALOGH Katinka, DOREA Fernanda, RUEGG Simon
- European Commission:
  BERLINGIERI Francesco (DG SANTE G2), CANOVAS JORDA Davis (HaDEA), LABROVIC Ankica (HaDEA), MEUSEL Dirk (DG SANTE B2), VANDENBROECK Marc (HaDEA)

- European Centre for Disease Prevention and Control:
  HAUSSIG Joana

- EFSA:
  GERVELMEYER Andrea (chair, BIOHAW, Animal Health Team), CATALIN Iancu (IDATA, Data Gateway and Outreach Team), DHOLLANDER Sofie (BIOHAW, Animal Health Team), SIMON Ancuta Cezara (IDATA, Data Gateway and Outreach Team)

1. Welcome and apologies for absence

The Chair welcomed the participants.

2. Adoption of agenda

The agenda was adopted without changes.

3. Agreement of the minutes of the 3rd meeting of the Subgroup held on 07 and 14 November 2023 by webconference

The minutes of the 3rd Network meeting had been previously agreed by written procedure on 28 November 2023 and published on the EFSA website on 30 November 2023.

4. First experiences with the One Health surveillance

Overview

The chair provided an overview of the achievements since the last meeting, including the opening of the laboratory data reporting tool, the development of the dashboards visualising the results of One Health surveillance data analyses and the agreement of countries to share these within the subgroup, as well as the development of the vector data submission tool. An outlook on the milestones for 2025 was also given.

Country reports

I. Austria

One Health SurVector is a consortium of eight institutions across Austria, the Czech Republic, Greece, Hungary, and Slovakia, focused on improving surveillance for mosquito and tick-borne diseases. Its goals include early detection of new vector species and pathogens, monitoring outbreak risks, and enhancing collaboration across borders.

In Austria, mosquito surveillance yielded three positive pools for WNF virus in the eastern region, correlating with confirmed human cases. The consortium conducted extensive sampling from May to October, facing challenges with public health authority participation and trap maintenance. Over 7,700 mosquitoes have been tested, aiming to optimize laboratory protocols for faster results. Despite achieving planned sampling frequencies, more data is required for effective early detection. Funding issues present a barrier to sustaining long-term surveillance programs, and capacity-building activities for staff have been implemented,

including training and workshops. Future plans include expanding trap placements and improving testing efficiency.

The tick surveillance update in Austria focuses on screening for *Borrelia burgdorferi* and Crimean-Congo haemorrhagic fever virus (CCHFV) in ticks. The project identified various tick species, with a 25% infection rate for Borrelia, primarily in adult ticks. There was a notable increase in findings of *Hyalomma* ticks, believed to be introduced by tourists, with no positive cases for CCHFV but a 37.5% positivity rate for *Rickettsia*.

Sampling faced challenges, particularly due to safety regulations preventing public mailing of ticks. The project adapted by establishing drop-off points for ticks at labs, enhancing collaboration with stakeholders like forestry workers and veterinarians.

The team identified eight tick species, some only at the genus level due to variable sample quality. They noted peak tick activity from April to June, with a second peak starting amid challenging weather conditions. Future plans include stronger media campaigns to raise awareness and improve sampling rates. The project also focuses on capacity building and expanding lab facilities to enhance tick surveillance efforts.

II. Czech Republic

The Czech Republic is part of the SurVector consortium. The tick surveillance program in the Czech Republic focuses on *Borrelia burgdorferi* and tick-borne encephalitis virus (TBEV), employing different strategies for each due to their varying prevalence. For *Borrelia*, with an infection rate of 25-30%, about 100 ticks are collected per location, while for TBEV, where the infection rate is only 1-3%, approximately 1,000 ticks are needed per location, tested in pools.

This year's surveillance included over 150 sites, collecting more than 24,000 ticks through flagging. The program is currently in the sample preparation stage, aiming for comprehensive testing based on a risk-based approach that considers local endemicity.

The surveillance identified tick species morphologically, with *Ixodes ricinus* being the most common. Laboratory testing for *Borrelia* is ongoing, using established PCR methods. Increased tick activity was observed in spring, leading to more ticks being collected than expected.

Future plans include developing a mobile and web application for predicting tick activity and infection rates, although long-term funding remains a concern. The program has also focused on capacity building, expanding laboratory capabilities and team expertise through training and participation in national and international conferences.

The TBE surveillance applies a sampling strategy distinct from that used for *Borrelia*. Sites were pre-selected based on historical TBE reports, and new locations were added based on epidemiological data. Each site aimed to collect 750 to 1,000 ticks, with the team successfully gathering over 11,500 ticks, far exceeding their target.

Tick abundance varied significantly, ranging from 59 to 218 ticks per 100 square meters, which is higher than typical for *Borrelia* sampling. All planned sampling locations were completed, except for one that lacked sufficient ticks, which was replaced by a nearby site.

To date, over 10,000 ticks have been tested, with the virus detected at three of the ten sites, showing a minimum infection rate of 0.09% to 0.35%. Some samples were further analysed through sequencing, revealing that the virus has circulated in the same locality for nearly 30 years with little change. The next steps include further sequencing and isolating the virus through cell culture. Overall, the project has faced no significant issues in laboratory analysis.

The West Nile virus (WNV) surveillance in the Czech Republic is currently ongoing, focusing on vector identification. The process has taken longer than expected due to a larger number of samples collected and the time-consuming nature of the analysis, which is limited by labour resources.

Since WNV is considered not endemic in the Czech Republic, with autochthonous cases occurring only sporadically, the goal is to assess its spread across the country.

The project involves monitoring mosquitoes at six selected locations, with multiple sampling sites at each location. The aim is to collect at least 10,000 mosquitoes per sampling plot, and so far, over 35,000 have been identified, indicating strong progress. Monitoring occurred from June to September with two samplings per plot, using BG Pro traps for 48 hours, supplemented by CO^2 or dry ice. The identification process has revealed 15 species, predominantly *Culex modestus* and *Culex pipiens*, with an average catch of around 100 mosquitoes per trap. Sampling at one location was halted due to low catches. Challenges included traps attracting not only mosquitoes but also people, prompting a need for better trap placements. The project has established good collaboration with other Czech institutions, and the team remains optimistic about achieving their goals in the upcoming year.

III. Greece

Greece is part of the SurVector consortium and focuses its One Health surveillance on TBEV and CCHFV. The project is coordinated by the National Public Health Organization and involves collaboration with the Hellenic Agricultural Organization-Demeter (ELGO Dimitra) and Aristotle University of Thessaloniki for field sampling and laboratory testing. While TBE is emerging in Greece with a few recorded human cases, CCHF is not considered endemic. The project's aim is to establish a national tick surveillance system to support risk assessments, raise awareness among health professionals, and implement prevention measures as needed.

In the first year, the plan is to sample almost the entire mainland of Greece and the island of Crete. Targeted regions include all sampled areas for TBE, and areas bordering other Balkan countries for CCHF, with plans for four seasonal field trips and a goal of 1,8500 sampling sites. As of October 2024, 1,084 ticks have been identified from 389 sampling sites, with ongoing identification. Preliminary findings show that the majority of ticks identified belongs to specific species, with ongoing laboratory testing for pathogens yielding negative results so far. The project has faced challenges, including delays in personnel recruitment and national animal health crises affecting sampling, but these have not significantly impacted the project's progress. Overall, the tick surveillance initiative marks a significant development in Greece, enhancing collaboration between public health and veterinary sectors, and establishing a common database for data sharing. Regular assessments and a workshop are planned for early 2025 to evaluate progress and workflows. Further, the project is establishing a multi-sectoral network of experts to develop a national tick surveillance system and support tick-borne disease surveillance and risk assessment. Key achievements in this context include creating a common tick surveillance database, training veterinary laboratory personnel, and recruiting staff for the initiative. Future actions involve training regional veterinarians to ensure sustainable long-term surveillance. Additionally, communication activities will be implemented to raise public awareness, particularly among high-risk groups, about tick-borne diseases over the next two years.

IV. Hungary

The Hungarian tick surveillance project under the SurVector consortium involves sampling from 15 sites chosen based on the distribution of Lyme disease cases between 2020 and 2022. This initiative is crucial as it establishes a countrywide tick surveillance system, which has been lacking since a limited study conducted from 2006 to 2008. Preliminary results show infection rates for various pathogens, including TBE, and a link between human and veterinary health with detected infected ticks near urban areas. Approximately 3,400 ticks have been collected, with species identification ongoing despite some setbacks, including a laboratory accident affecting the fieldwork team.

The mosquito surveillance pilot study involved trapping in seven sites around the capital, yielding over 7,400 mosquitoes and positive results for the WNV. Challenges included cooperation issues and adapting the trapping strategy. Laboratory testing confirmed viral presence in both human and mosquito samples, indicating a need for continued surveillance. The project aims to expand into nationwide surveillance and enhance data sharing through established models for better coordination among researchers and public health officials.

V. Slovak Republic

Slovakia is part of the SurVector consortium. The project in Slovakia has focused on surveillance of vectorborne pathogens. The initiative is divided into two subgroups: one targeting ticks and the other focused on mosquitoes. So far, over 2,000 ticks have been collected from various regions, especially in areas known for tick-borne diseases like Lyme disease and TBE. The ticks were gathered using the flagging method, and 246 have been tested for Borrelia species, yielding positive results in about 70 samples. However, no TBEV-positive ticks have been detected yet.

The collection involved two major sampling campaigns, and logistical planning has been crucial for effective fieldwork. The laboratory testing is progressing, although lab operations have been challenged by renovations. Collaboration with colleagues from the Czech Republic has helped to address some of these issues.

The most common tick species identified was *Ixodes ricinus*, with high collection rates indicating a robust presence. Regular team meetings facilitate problem-solving and coordination, and the overall project activities are on track. The findings will contribute to understanding the prevalence of tick-borne diseases in Slovakia, with ongoing data collection and analysis being planned for the coming season.

VI. Denmark

Denmark leads the 11-country consortium OH4Surveillance. The first year of the project focuses on collaboration among 11 countries to strengthen disease surveillance. Therefore, the consortium, coordinated by the State Serum Institute, has established working groups for disease-specific discussions and technical aspects of surveillance. Denmark focusses its One Health surveillance on WNV and HPAIV, and key activities include enhancing mosquito surveillance, particularly for WNV, which has not yet been detected locally but is monitored due to its presence in neighbouring country. The first batches of mosquitoes have been tested negative for WNV. The mosquito data will be submitted to VectorNet. Regarding HPAI, a limited availability of samples was reported. The OH4Surveillance project aims to improve surveillance systems and data sharing while fostering cross-border collaborations. Capacity-building efforts are underway, including the implementation of specific testing methods and strengthening laboratory capabilities. Future plans involve discussions on sustainability and further evaluations of the project's impact.

VII. Croatia

The Croatian One Health surveillance project 'CROOH' covers nine of the priority pathogens and is led by the Croatian Agency for Agriculture and Food, which coordinates the initiative, with four partners including the Ministry of Agriculture, the Croatian Veterinary Institute, the Faculty of Veterinary Medicine, and the Croatian Institute of Public Health. The project comprises eight work packages (WPs), with WPs 2, 3, 4, and 5 focused on integrated surveillance systems for vectors, farm animals, wild animals, and small companion animals. WP2 addresses vectors and the environment. Some tick and mosquito samples have been collected, but their analysis is pending. WP3 deals with farm animals, targeting the pathogens CCHFV, Hepatitis E virus (HEV), Swine Influenza virus (SIV), Rift Valley fever virus (RVFV), TBEV and WNV. Sample collection has met some targets, but not all were achieved. Testing of samples for TBEV is planned to be completed by mid-December. WP4 focuses on wild animals, where similar challenges in sample collection were noted, particularly for ruminants. Testing for various diseases is planned for late 2024. WP5 concerns small companion animals, from whom extensive sample collection has been completed, but testing is still pending.

The project has faced several challenges, including difficulties in sample collection and data sharing among participating partners. There are ongoing efforts to enhance coordination and start data reporting to EFSA.

VIII. Ireland

The Irish project "One Health-Allies" includes four main work packages focused on enhancing surveillance for avian influenza, TBEV, and Disease Y, caused by a yet unknown pathogen.

The work package targeting avian influenza viruses focusses on wild mammals such as foxes, seals, badgers, and deer. Samples are collected under already existing surveillance programs, with initial testing showing mostly negative results, although a few animals were ELISA-positive. Wastewater surveillance has also detected weak positive results for H5 and H7 strains, which will be sequenced. Meetings have discussed limitations on testing farm animals for avian influenza and challenges with data sharing among stakeholders.

The work package on Tick-Borne Flaviviruses aims to determine if tick-borne encephalitis virus (TBEV) is present in Ireland. Current testing on deer and sheep has returned negative results for TBEV. Future plans include testing of ticks from farms with confirmed cases of Louping ill virus infection and using WGS to analyse flavivirus genomes.

The work package on emerging pathogen surveillance focuses on detecting novel pathogens causing the yet unknown Disease Y by developing a surveillance system, a national biobank for animal tissue samples, and a metagenomics platform. Samples from suspected infectious cases will be stored with detailed epidemiological and environmental data for future analyses.

The work package on evaluation of surveillance systems assesses the existing surveillance systems for influenza and other zoonotic pathogens, identifying challenges such as data integration and reporting delays. It aims to enhance stakeholder awareness and develop a user-centered IT platform to improve real-time surveillance, particularly for avian influenza, ensuring rapid detection and response.

Overall, the project emphasizes collaboration among various stakeholders to strengthen disease surveillance and response systems across Ireland.

IX. Italy

The Italian project "EcoSurv" led by the Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale" involves several institutions, including the Ministry of Health, the Istituto Superiore di Sanità and the Istituto Zooprofilattico Sperimentale delle Venezie. The project aims to enhance pathogen surveillance across various environments and hosts. The key objectives are identifying various pathogens through innovative surveillance approaches. The project includes four technical work packages focused on different surveillance activities, alongside two management work packages.

Work Package 2 targets vector-borne diseases like RVF and CCHF, with monitoring activities planned in North African countries (Mauretania, Libya) and ongoing work in Southern Italy. Work Package 3 monitors migratory birds for potential pathogen introduction, particularly related to Q fever and WNV, with seasonal sampling ongoing. Work Package 4 focuses on pigs, monitoring for HEV and SIV virus through sampling on farms and in wild boar populations. Work Package 5 concentrates on wild carnivores, especially foxes, for HPAIV detection and Lyme disease surveillance. Additional activities include the monitoring of urban and rural rats for various pathogens, with collaboration from pest control companies. Data from all surveillance activities is being standardized and consolidated for sharing on a dedicated server, with the first records expected to be submitted to EFSA soon.

Overall, the project aims to strengthen Italy's capacity to monitor and respond to zoonotic diseases through coordinated surveillance strategies.

X. Netherlands

The Dutch project "Strong1Health," led by the National Institute for Public Health in collaboration with various partners, aims to enhance surveillance for avian influenza, swine influenza, and West Nile virus in animals and the environment through a One Health approach.

The project includes three main work packages, these being WP1 on Coordination and dissemination, WP2 covering the technical activities of data sampling, testing, and reporting, and WP3 focused on evaluation and developing a sustainable roadmap for One Health surveillance systems. Data collected will be integrated with human health data for comprehensive risk assessments.

The screening of live wild mammals and birds for avian influenza (AI), WNV and Disease Y started in January and expanded in July to include mosquitos. Serum samples collected from wild boars under different projects will be tested for HPAIV. Further, a collaboration has been established with farmers for surveillance of outdoor pigs for SIV. In addition, there initiatives to monitor interactions between wildlife and pathogens, including the use of cameras in areas with deceased wild birds. So far, limited cases of highly pathogenic avian influenza have been found, with one positive detection in a pine marten. Efforts to validate and characterize the viruses are ongoing.

The project aims at strengthening the collaboration among veterinary, human, and environmental health sectors through a formalized structure for signal detection and response and the development of databases for tracking pathogen data.

Overall, "Strong1Health" is committed to advancing integrated surveillance systems to address zoonotic diseases effectively and improve public health outcomes in the Netherlands.

XI. Portugal

The Portuguese project "SIVIZ" is an integrated surveillance system focused on both human and animal health, involving collaboration between four key entities. The project aims to enhance sampling, laboratory analysis, data management, and communication regarding zoonotic diseases, with a particular emphasis on reporting data to EFSA. Key elements of the project include the development of an information system for data reporting, to conduct laboratory analyses and interventions following positive findings, to improve communication through a dedicated website.

The surveillance results obtained so far include 8 CCHFV-positive samples in bovines, WNV-positive samples in equines and one each in domestic and wild birds, 2 *Coxiella burnetii*-positive samples out of 6 bovines tested. All samples tested for RVFV were negative. Overall, the first year involved extensive sampling, with plans to complete this process early next year.

Challenges encountered were difficulties in processing samples from swine holdings, delays in data processing due to other urgent health concerns and limited human resources. To enhance capacities, training workshops for vector collection and laboratory practices as well as numerous seminars for both medical and veterinary professionals to promote awareness and knowledge sharing have been conducted. Collaboration between the sectors is enhanced through regular meetings among working group members to align objectives and actions and to improve the exchange of information on zoonoses.

XII. Slovenia

In Slovenia, the focus of the One Health surveillance is on monitoring influenza A viruses (IAV), particularly in wild mammals like red foxes and wild boar, and assessing the environmental impact of these viruses in bird habitats. The project aims to establish a robust monitoring system for influenza in environmental samples and analyze the presence of viruses in water bodies. The surveillance focusses on influenza infections in wild mammals, especially carnivores and omnivores, on monitoring bird habitats, particularly lakes, to understand the persistence of the viruses in the environment and their potential threat to humans and other

mammals, as well as epidemiological surveillance of swine influenza viruses in pig farmeds and wild boar. In this context, environmental sampling at two lakes revealed six positive results for IAV, though none tested positive for H5. Serological surveillance found antibodies against influenza in wild boar and two red foxes, indicating exposure to circulating virus. The project uses PCR techniques for virus detection and explores various methods for water sample concentration. It is planned to carry out genomic analyses to track mutations in viruses.

Challenges faced include the fact that some samples were found to be hemolytic which complicated the serological analysis, and the exeprience that environmental samples showed inhibitors that reduced the detection sensitivity. Future Plans are to complete the sampling as scheduled and to develop protocols and training for veterinarians on detecting swine influenza in farms.

XIII. Spain

The presentation outlined challenges faced in the implementation of the vector-borne disease surveillance project in Spain during 2024, and outlined plans to resolve issues for smoother operations in 2025. Planned key activities for 2024 included collection of ticks at various sites in Spain and the Balearic Islands, PCR testing of collected ticks for diseases like CCHF and other vector-borne illnesses, the development of an application for citizen science, which faced delays due to technical issues. However, coordination meetings with consortium members to address delays, to strategize for future mosquito trapping and monitoring efforts, and to adjust project roles due to changes in affiliated entities are under way. It is hoped that the delays in mosquito trapping and tick collection will be recovered in 2025. Increased dissemination and awareness efforts are planned for 2025, including training and public engagement in citizen science. Institutional relationships between the Environmental Health, the Public Health and Agriculture authorities will be established for better vector-borne disease management. Despite setbacks in 2024, there is a commitment to complete the project goals, with a focus on improving implementation in the coming year.

XIV. Belgium

The Belgian One Health surveillance project is part of the OH4Surveillance consortium and focusses on HPAIV, WNV, and Q fever. The project is divided into three work packages focused on identifying pathogens in wildlife, mammals, and the environment.

HPAI is being virologically monitored in live water birds and dead rodents, and serologically in dead foxes. In the future, serological monitoring of HPAI will also be performed in live wild birds and dead rodents, and through environmental air, feather and faeces sampling. WNV surveillance targets specific black birds and birds of prey, with 500 samples currently under analysis. So far, no positive results have been identified for HPAIV or WNV in the collected samples. Q-Fever surveillance, already in place for milk producing small ruminants (SRU) and SRU abortion cases, will be further implemented on rodents and air sampling of farms not tackled by the current surveillance programme, including pedagogical farms. As proof of concept, spleens of rats from a Flanders-wide collection performed in 2019 are being analysed for Q fever (n=1143). Testing of these analyses is in progress and results will soon be available.

Belgium’s health responsibilities are divided, domestic animals fall under federal authority, while wildlife management is regional (Flanders, Wallonia, Brussels), and the surveillance has to overcome the resulting complexities.

Therefore, for HPAI and Q Fever the project aims at strengthening collaborations with municipalities and pest control programs for virological/bacteriological and serological surveillance of dead rodents, and with the regions for HPAI virological and serological surveillance of live wild birds. For WNV, a collaborative network has been established with bird rescue centers across Flanders, Wallonia, and Brussels. Regular meetings are planned to facilitate communication among teams and stakeholders, with an emphasis on risk assessment and joint actions in 2025.

Efforts are ongoing to enhance networking and collaboration among involved parties, with hopes for substantial improvements in the coming year. Some laboratory testing methods and processes are still under development, such as the validation of air sampling methods.

XV. Norway

Norway is participating in the OH4Surveillance consortium led by Denmark, with the Norwegian Institute of Public Health and the Norwegian Veterinary Institute involved. Their surveillance work focuses on HPAI, Disease Y, Q fever and TBE.

Regarding HPAI, efforts are being made to improve passive surveillance, allowing a wider range of actors to submit samples from dead or diseased birds. This change has led to a network of organizations, including ornithologists and nature inspectors, facilitating easier sample collection. However, actual sample returns have been low, attributed to a generally healthy bird population this year. The project has introduced new protocols for sending whole carcasses for diagnosis, allowing for more comprehensive testing for other pathogens, including WNV, TBEV, other Flaviviruses and Disease Y. Active HPAI surveillance focuses on migratory birds in seabird hotspots where flyways overlap, and a serosurvey in bird populations previously affected by avian influenza has been conducted. Further, serological IAV surveillance in wild mammals, particularly those feeding on affected bird populations, including coastal seals is being implemented.

For Disease Y surveillance, which is based on HPAI-negative birds with clinical signs of CNS-disease collected under the passive HPAI surveillance system, a workflow is being established.

For Q fever and TBE surveillance bulk cattle milk samples collected as part of IBR-BVD surveillance will be tested. For TBE, the bulk milk test protocol still needs to be validated.

Regular status meetings and workshops between the institutions are fostering collaboration and building trust. Despite facing challenges, such as low sample volumes and laboratory capacity for serology, the project is making progress in establishing effective surveillance networks and methodologies. The groundwork laid for future surveillance and inter-institutional cooperation is promising.

XVI. Finland

The project is part of the OH4Surveillance initiative and aims at monitoring Q fever, TBE, and Disease Y. After testing 9 individual milk samples and various ruminant tissues resulting from abortions, no reliable positive results for Q fever have been found, consistent with its rarity in Finland. A total of 300 aborted foetus samples are targeted for collection over three years, but only 38 samples have been collected so far. The project has been advertised to veterinarians and animal owners to encourage participation and clear instructions for packing and sending samples have been provided. Bulk tank milk samples are collected annually as part of national surveillance program for brucellosis, IBR and BVD from farms with reduced fertility indicators, with 462 samples collected this year. These samples will undergo antibody testing at the end of 2024 to identify infections at farm level.

Surveillance for TBE will begin with testing of serum samples from cattle, sheep, and goats in December 2024. For Disease Y, the setup of the metagenomics methodology is ongoing, aiming to test 50 foetus samples collected for Q fever testing that show histological signs of infection without findings of pathogens causing abortion with traditional laboratory methods.

The project has successfully raised awareness among veterinarians and animal owners, leading to increased sample submissions. Efforts continue to enhance sample collection efficiency.

Day 2

Welcome back and Apologies for absence

The chair welcomed the meeting attendees back.

4. First experiences with the One Health surveillance (cont.)

XVII. Germany

As part of the OH4Surveillance consortium, Germany focuses its surveillance on AI in wild birds and mammals, WNV in wild birds, Q fever in domestic ruminants and HEV in pigs and wildlife. The beneficiary FLI collaborates with the federal states who conduct the sampling and testing. The data collection from the federal states is contingent on the signing of contracts, which is still pending.

As of early November, over 2,000 wild birds have been tested in Germany for AI, with 14 testing positive. The data shows a correlation between positive results in poultry and wild birds across different regions. A total of 750 wild birds were tested for West Nile, with 570 of those under the One Health surveillance project. Out of these, 27 samples were positive, primarily clustered in eastern Germany, though new cases are emerging in the west. Information on Q fever is being gathered, with positive cases reported, but the number of tested samples is not yet available. For HEV, work is ongoing to harmonize laboratory protocols and improve the disease surveillance strategies.

The project aims at improving communication with federal states through webinars and newsletters, ensuring timely updates on the findings, and to enhance surveillance for early detection in wildlife, leveraging local connections. The overarching philosophy is to work collaboratively across the nation for more effective disease surveillance.

XVIII. Latvia

Latvia is part of the OH4surveillance consortium. Its One Health surveillance targets TBE, Lyme borreliosis, WNF, HE, Q fever and HPAI.

Under TBE surveillance, over 1,000 blood and milk samples from domestic ruminants (cattle, goats, sheep) have already been collected for antibody testing, with laboratory results pending. Also the 235 ticks collected so far still have to be tested for TBEV. No TBEV has been detected in the 140 goat milk samples that have been tested by PCR. Testing of 74 blood samples collected from sick dogs for *Borrelia burgdorferi* has revealed a 16% positivity rate. Additional sampling of wild rodents will begin next year. Initial tests of horses for WNF antibodies showed a high rate of positives, but follow-up testing corrected this to about 0.5%. Further testing of these samples is planned to exclude cross-reactions to other Flaviviruses. Samples from wild birds and mosquitoes are being collected and tested as well, with one positive case in a Northern Goshawk detected. 20 samples of 132 mosquitos tested negative for WNV. For the HEV surveillance fecal samples from young pigs are being tested by PCR, with around 6% testing positive so far. The HPAIV surveillance focuses on wild carnivores, with negative results so far. The tick collection for the Q fever surveillance is planned for 2025.

Overall, the project aims to strengthen health monitoring and collaboration among institutions to enhance disease detection and response in Latvia.

XIX. Lithuania

Lithuania is also part of the OH4Surveillance consortium, and its project is led by the National Food and Veterinary Risk Assessment Institute, with collaboration from the National Public Health Surveillance Laboratory. The project has established key roles and a project team to facilitate communication and data management. Surveillance activities focus on multiple pathogens, including HEV, HPAIV, SIV, *Borrelia burgdorferi*, *Coxiella burnetii*, TBEV, WNV, and on ticks. Plans include testing of blood from animals like dogs, cattle, sheep, and wild birds and collection of environmental samples. The main challenge faced is the collection of samples, for which cooperation agreements with various entities have been made, including the State Food Veterinary Service and private veterinary clinics. The project also involves sampling Baltic Sea seals through collaboration with the Lithuanian Baltic Sea Museum.

Initial results show some positive findings for several diseases, such as Lyme disease, TBE, HE, SI, WNF, with ongoing efforts to validate and analyze these results. The project aims to improve sample collection through field teams and partnerships with state inspectors. Future activities will include public awareness initiatives and sharing of findings with the community.

XX. Luxembourg

The One Health surveillance project of Luxembourg, which is part of the OH4Surveillance consortium, is coordinated by the Luxembourg Institute of Health, in collaboration with the Luxembourgish Veterinary and Food Administration. The focus areas include tick-borne diseases, HPAI investigations in mammals, SIV, and WNFV in birds.

For tick-borne disease surveillance, morphological and molecular identification of ticks is being carried out, with 510 adult *Dermacentor reticulatus* ticks collected and tested so far, but no positive cases found for TBEV or *Borrelia burgdorferi*. Investigations are ongoing, including collections from various animal sources. For the HPAI surveillance of moribund or dead mammals, early detection is the objective. So far, 114 mammals have been tested, all returning negative results. For SIV, the goal is early detection of new strains and an increase in incidence. However, sample submissions are low, and tests on 23 nasal swabs returned negative results. Issues with sample collection methods are being addressed, and efforts to engage private veterinarians to submit more samples have been initiated. WNFV surveillance aims to early detect the pathogen's introduction in bird populations. So far, 217 samples of 113 birds have tested negative for WNFV. Continued collaboration with animal rescue centers and public health authorities is vital for future surveillance efforts.

The project emphasizes the importance of capacity building, collaboration, and preparedness for emerging infectious diseases. Therefore, collaboration has been established with the Nature and Forestry Administration, hunter association and Animal Rescue Center to enhance sample collection. A One Health simulation exercise has been carried out on the topic of HPAI and the identified gaps and needs will be addressed as much as possible.

XXI. Estonia

Estonia is part of the OH4Surveillance consortium led by Denmark, with its National Center for Laboratory Research and Risk Assessment as the beneficiary, and three affiliated entities including the University of Life Sciences, the Health Board and the Agriculture and Food Board of Estonia. The focus is on surveillance activities related to tick-borne diseases, WNV, and Q fever.

Tick surveillance has been conducted by the Health Board with tick collection covering four regions from May to October, yielding 642 ticks, which is only slightly below the target. Key species identified include *Ixodes ricinus* and *Ixodes persulcatus*, with new regions noted for their presence. Future plans aim to collect 1,000 ticks per location and conduct pathogen detection using PCR methods. For WNV surveillance a number of samples has already been collected from birds, horses, and mosquitoes, but testing still needs to done. Plans are in place for developing a serological method using filter paper samples in an ELISA. Samples collected from sheep and goats under disease control programswill be tested for Q fever and TBEV by ELISA in January 2025. Regarding identification of Disease Y, the work will focus on samples

whose results have been inconclusive for known pathogens and on samples from cattle showing abortions or respiratory syndromes. The approach to Disease Y surveillance is being harmonised in a dedicated working group of the OH4Surveillance consortium.

The overall goal is to enhance the surveillance capabilities and foster collaboration among the consortium members.Regular meetings of the project partners are taking place and a joint evaluation of the surveillance findings takes place in November 2024, while a workshop for a joint assessment of the surveillance results is scheduled for March 2025. Efforts to harmonize methods and improve data sharing are ongoing.

XXII. Poland

Poland is part of the OH4Surveillance consortium. Its One Health surveillance focusses on HEV, SIV, *Echinococcus granulosus*, TBEV and RVFV.

The HEV surveillance found HEV in weaner pigs in 30% of the sampled farms, with an overall on-farm prevalence of 11%. The surveillance highlighted regional differences in the occurrence of HEV, and the virus subtyong identified the HEV-3e strain. The SIV surveillance focused on pigs with clinical signs, testing 102 samples from 31 farms in 7 Polish provinces. Despite challenges in sample collection, 32 PCR-positive samples and four virus isolates, which were characterised as H1N1 and H1N2. The project plans to continue genomic sequencing of the viruses found. To improve sample collection, collaboration with veterinary practitioners has been initiated. Preliminary findings of *Echinococcus granulosus* in wild canids showed that wolves, but not raccoon dogs, tested positive for this parasitic infection. Sampling continues in high-density animal regions, and issues with adherence to collection agreements will be overcome by increasing the number of collectors. The TBEV surveillance identified 10 serum samples positive for TBEV antibodies from 724 sheep in high-risk areas tested. Tick sampling was limited due to issues with foresters withdrawing their cooperation, but plans to collect more samples in the next season are in place. None of the 7 ticks tested were found positive for TBEV. The RVFV surveillance in Poland hinges on collecting mosquito samples in 5 potential points of entry and collecting samples from aborted fetuses and dead young ruminants. No evidence of RVFV was found in the samples of one dead lamb. So far, no invasive mosquito species have been detected.

The project also focusses on strengthening the collaboration with veterinarians, farmers, and foresters, aiming at improving sample collection and data sharing. New techniques and methodologies, such as improved mosquito surveillance, have already been introduced and Next-Generation Sequencing (NGS) for SIV is planned to be introduced early next year. The surveillance efforts are making progress despite some challenges in sample collection, regional cooperation, and technical limitations.

XXIII. Sweden

Sweden is part of the OH4Surveillance consortium, and its surveillance focusses on five diseases: HPAI, Q fever, TBE, WNF, and Disease Y.

HPAI surveillance targets terrestrial and mammal wildlife, including foxes, lynxes, otters, seals, cetaceans) and pets (cats, dogs). Among the 383 samples collected, 1 Eurasian otter tested positive by PCR and 16 animals (seals, lynx, racoon dog and red foxes) were found positive for IAV serology. These findings suggesting a low level of HPAIV circulation in Sweden in 2024 mirror those of wild birds and poultry. For the surveilance of Q fever and TBEV, rats and ticks from rats were collected, with all 249 rats tested for TBEV being negative. In addition, 433 ticks were submitted through citizen science, of which 57% were identified as *Ixodes persulcatus* and 43% as *Ixodes ricinus*. All ticks tested negative for TBEV. Bulk tank milk samples from 1700 herds of dairy cattle have been collected, with Q fever and TBE antibody testing ongoing. Under the WNV surveillance, mosquito surveillance was conducted in southern Sweden, focusing on regions likely to experience WNV introduction. A variety of mosquito species were collected and stored for WNV testing, with *Culex pipiens/torrentium* being the dominant species. This has been the first systematic mosquito collection for WNV in Sweden,

providing valuable data for future surveillance. A routine diagnostic framework for surveillance of Disease Y was developed, collaborating with multiple stakeholders, including the Swedish Public Health Agency and the Swedish Board of Agriculture. The work flow and lab capacity were established, and capacity-building activities are ongoing.

Challenges encountered include the participation of the public in the tick collection, despite efforts to raise awareness, delays in rat collection and difficulties distinguishing certain mosquito species. As part of project's capacity building, Sweden has expanded its surveillance to include more species and enhanced its collaboration between animal health and human health agencies. It is planned to refine the approach to tick sampling and improve outreach to practitioners for better sample collection in future years. Surveillance results will be assessed jointly with other OH4Surveillance consortium members within its working groups.

5. EFSA feedback on reporting and dashboards

Laboratory data

The presentation provided an update on the One Health laboratory data submission process for participating countries.

The data submission tool opened on September 2 and will be available until 2027, with annual closures in February for updates. Data validation takes place in the country dashboard, where data can be reviewed and accepted for inclusion in the One Health surveillance subgroup dashboard. Most countries use the Sigma EST tool for XML file creation and submission, after which validation is required. Support is available if issues arise during validation.

Currently, five datasets have been submitted and validated, with a total of around 1,400 records, mainly for HPAI, *Coxiella burnetii*, and *Borrelia burgdorferi*. Four countries have submitted data with some datasets still requiring validation from data validators. Data analyses visualisation dashboards have been deployed with appropriate access for data providers, data validators, and subgroup members. A user guide for navigating the dashboards is being developed and will be available soon.

Based on feedback received from countries, several updates of the data model are planned, such as making certain reporting fields optional (e.g., repository for isolated identifiers) and refining the classification of production systems (e.g., adding "indoor farming" and "outdoor farming" options). These updates will be rolled out by December 2024 and early 2025, with the updated guidance expected by February 2025. In general, enhancement needs for the data model are based on user feedback and legislative changes, with requests being analyzed, tested, and implemented based on priority and technical feasibility.

Data providers, validators, and subgroup members have specific access rights to the various tools and dashboards. Changes in nominations must be communicated to EFSA through the appropriate channels.

A functional support mailbox is available for any technical or submission-related issues, and assistance can be provided through direct meetings if necessary.

Vector presence data

An update on the vector data submission process and the integration of vector data into the Global Biodiversity Information Facility (GBIF), as well as details from the recent VectorNet Entomology Network meeting were provided.

Vector data generated under the One Health surveillance activities of countries can be submitted to GBIF for public access, where it will be made available for global use, and researchers can cite

it using a DOI. This increases visibility and recognition of the dataset and its authors. The benefits of GBIF are that as a global platform, GBIF increases the visibility and use of data across various fields. Submitting data to GBIF broadens its impact, enhances data quality, and helps in contributing to global knowledge. Alternatively, the vector data can be submitted directly to EFSA for use within VectorNet, contributing to the static and interactive maps, without making the data publicly available. Countries can submit data via VectorNet for validation. Once validated, data can either be uploaded to GBIF or remain within VectorNet, depending on the country's preference. Data on GBIF can be updated or corrected later while retaining the same DOI.

The One Health VectorNet Entomology Network (OHVEN) facilitates information exchange and capacity building. Training materials, including webinars and resources from past events, are available through various platforms, including the OHVEN e-learning platform.

6. LORA tool risk assessment models and outputs

The LORA (Living One Health Risk Assessment) is a new tool developed by a consortium to assess the risk of disease incursions in Europe, particularly from zoonotic diseases. The tool is designed as a living One Health risk assessment platform that can be customized for different diseases, animal species, and pathways of introduction. It calculates the probability of disease entry into Europe and the potential impact if an incursion occurs and can accommodate different diseases, though its application varies by disease. It focuses on zoonotic diseases, considering various introduction pathways, such as animal product trade and wildlife migration. The tool connects to global databases for live updates on disease occurrence, animal populations and trade, allowing for monthly recalculations of risk. It outputs are risk maps that show the likelihood of new disease incursions into Europe, allowing comparisons between regions. The outputs are semi-quantitative and include the comparative risk of disease introduction and potential impacts, helping decision-makers prioritize surveillance and resources. LORA only calculates risk based on known data and pathways and does not predict the spread of diseases within Europe, but rather assesses the risk of new introductions. It cannot account for unknown introduction routes or future changes in data.

The tool is designed to handle 20 diseases, with ongoing updates as new data becomes available. The goal is to continuously improve its robustness while addressing the challenges of working with diverse diseases and datasets.

7. Evaluation method applied by OH4Surveillance

The OH-EpiCap tool for evaluating 'OneHealthness' that is being used under the OH4Surveillance consortium was presented. The evaluation process aims to enhance One Health surveillance systems across participating countries by assessing their efficiency and collaborative capabilities. Two evaluations have been conducted so far focussing on West Nile virus and Highly Pathogenic Avian Influenza in Denmark, with further evaluations planned for Sweden and Finland. The purpose of the evaluations is not merely to count samples but to support the development of effective and coordinated surveillance systems. The tool is an online application that provides a snapshot of system functionality, helping to identify weaknesses and facilitate improvements.

Evaluators collect data on the formal structures, stakeholder engagement, data sharing, and overall impact of surveillance systems. The results help create a baseline for future assessments, guiding countries in addressing identified gaps. The evaluations emphasize the importance of a common objective in surveillance, which fosters positive collaboration and communication among different sectors. They also highlight the need for clear specifications at the national level regarding data sharing and communication protocols, particularly in defining what constitutes an emerging public health concern.

8. EFSA re-prioritisation exercise 2025

The plan for a mid-project review of the One Health surveillance initiatives, as mandated by the Commission, was presented. It is planned to include a risk assessment, a review of surveillance priorities, and an evaluation of surveillance methodologies. The review is scheduled for mid-2025 to ensure that enough data from sample collection and testing is available. This timing also allows for adjustments to One Health surveillance plans for the remaining project time, if required. EFSA will lead this review, collaborating with four experts from working groups who have also supported the first prioritization exercise and the proposals of surveillance approaches. It is planned that the risk assessment-reprioritisation exercise will use several sources of information, including data from ongoing One Health surveillance, results from the LORA tool, and the outcomes of the 'OneHealthness' evaluations using the OH-EpiCap tool. The working group will develop the approach focusing on analyzing data and reviewing surveillance priorities, using some elements of the prioritization method from 2022, probably focusing on surveillance-related criteria. The working group will conduct desk work analyzing the surveillance data, carry out a questionnaire survey with countries, and jointly review the results together with the One Health surveillance subgroup members in a workshop, to identify if priorities need to be changed for the second half of the project's 3-year term.

9. HaDEA feedback on progress, outlook

Marc Vandenbroeck explained that it is managing the grant agreement projects, focussing on assisting the project beneficiaries in meeting their objectives and ensuring smooth communication between project coordinators, EFSA, and other stakeholders. In total, HaDEA allocated €20 million to fund nine grants, which include both multi-beneficiary and mono-beneficiary projects. These grants are expected to last for 36 months, with key milestones including interim payments and reporting in mid-2025. The first round of deliverables is expected around the end of 2024 or early 2025. The main focus of the grants is to strengthen One Health surveillance through capacity building and priority disease monitoring, with an emphasis on data sharing with EFSA. Deliverables include survey results and capacity-building summaries, which are essential for project progress. HaDEA indicated obligations on reporting requirements during the project implementation (including continuous and periodic reporting), as well as on submission of all mandatory deliverables. There will be an information session on periodic reporting in 2025 to support project coordinators in this process. Finally, the importance of complying with EU funding visibility rules was emphasized, and ongoing communication to ensure the success of the projects was encouraged.

10. Feedback from the European Commission G2

Francesco Berlingieri expressed gratitude to the Member States for their active participation in the One Health surveillance projects, acknowledging the hard work involved in designing, collecting, and analyzing data. He highlighted the importance of integrating human, animal, and environmental health surveillance and how these efforts contribute to risk assessment and management. The data gathered will be used by various risk management committees to guide decisions and actions when necessary. Regarding the future of these initiatives, he noted that the current grants are secured until the end of 2026, with a possibility of reviewing and adapting priorities next year, and emphasized that beyond 2026, the future of the initiative is uncertain, though efforts are underway to ensure continuity. He reminded participants of the deliverables

required, particularly the need for data submission to EFSA, with a minimum frequency of once per year, preferably more frequently. Finally, the speaker thanked EFSA for the hard work in organizing and driving the project forward, ensuring its success.

11. Feedback from the European Commission B2

Dirk Meusel expressed appreciation for the efforts made in applying the One Health approach, highlighting its importance, especially in the context of cross-border health threats like the COVID pandemic, where diseases can move between animals and humans. He emphasized the crucial need for a strong interface between human and animal health surveillance systems. The speaker mentioned the ongoing Article 8 assessments, which involve evaluating the preparedness plans of Member States, with surveillance being a key component of these assessments, including a One Health approach. He concluded by thanking the organizers and participants, stressing the importance of continuing efforts under the One Health framework to make it more than just a concept, but a practical, cooperative initiative for health.

12. Feedback from ECDC

Joana Haussig congratulated the participants for their impressive work on the One Health surveillance projects, acknowledging the large scale of the initiatives and the many pathogens and vectors being managed. She thanked EFSA for organizing the event and appreciated the exchange of knowledge and collaboration between countries and experts. The importance of connecting animal data with human health data, for example in relation to West Nile virus, was highlighted. The value of vector data submission was underlined, as this topic is also a key focus of ECDC and data are incorporated into the ECDC/EFSA vector maps.

13. Questions & Answers

Questions of the audience were answered after the individual presentations.

14. Conclusions

The chair summarized the key points from the meeting, highlighting that sample collection and testing are progressing well in all countries and that good progress has been made toward meeting the goals set for the first year. However, she acknowledged that further training and support for data submission, both laboratory and vector data, may still be needed and encouraged participants to reach out for assistance. She also noted the suggestion to review the meeting format, particularly its duration, and invited participants to provide further feedback and suggestions on this, including the possibility of organizing dedicated meetings for specific pathogens/topics. Regarding the "One Health" approach, she noted that while progress is being made, the exchange of information and collaboration is still largely limited to direct project partners and stressed the need for proper administrative and legal foundations supporting data exchange and collaboration, which would be essential for sustaining these efforts beyond the duration of the project. She concluded by outlining the next steps, including the drafting of meeting minutes and the uploading of presentations to the EFSA One Health Surveillance subgroup's SharePoint folder. She reiterated that EFSA is ready to receive the surveillance data and assist with the submission process.