

Joint Meeting of the EFSA Animal Health and Welfare Network and the ECDC Emerging and Vector-borne Disease Network on West Nile fever virus surveillance in the European Union

University of Veterinary Medicine, Vienna, 30-31 October 2014

1. Objectives of the meeting

- To exchange information about West Nile virus (WNV) surveillance activities in humans, domestic animals, wildlife and vectors implemented in five European Union (EU) Member States (Austria, France, Greece, Italy and the United Kingdom (UK)) by the animal health and public health authorities
- To define common objectives for surveillance of WNV in humans, domestic animals, wildlife and vectors
- To review WNV data collection models to ensure that surveillance objectives can be achieved
- To review existing reporting of WNV activity to improve joint analysis and reporting
- To prepare a proposal and practical recommendations for joint WNV surveillance activities to be presented to all EU Member States

2. Participants

The meeting was attended by five members of the EFSA Animal Health and Welfare (AHAW) Network (representing the animal health sector), two members of the ECDC Network on Emerging and Vector-borne diseases (EVD) (representing the public health sector) and four participants from ECDC and EFSA. In addition, two Austrian experts from the public sector participated in the discussions (Annex 2).

3. Introduction to the meeting

After a short introduction by Otto Doblhoff-Dier, Vice Rector for Research and International Relations of University of Veterinary Medicine of Vienna, to welcome the participants, Céline Gossner, Surveillance and Response Support Unit, ECDC, introduced the objectives and the background of the meeting, highlighting the meeting's focus on strengthening cooperation between ECDC, EFSA and Member States and to strengthen networks. This was followed by a round of introduction of participants.

4. Surveillance of WNV in humans, domestic animals, wildlife and vectors at the EU level and in the participating Member States (Austria, Greece, Italy, UK and France)

The objectives of this session were to present and discuss commonalities and differences of the surveillance objectives in the participating Member States and the underlying reasons for these, including differences between actors and between targeted species and to define what common surveillance objectives would be useful and what would be the added value to surveillance.

WNV surveillance and monitoring at EU level

Public Health:

The EU Blood Directive 2004/33/EC published in 2004 requires that Member States implement a deferral of blood donations for 28 days after leaving an area with ongoing transmission of WNV in humans. Since 2007, West Nile Fever (WNF) is a notifiable disease at the EU level (Commission Decision/2007/875/EC) and the EU WNF case definition is available since 2008 (Commission Decision 28/IV/2008). Since then, the human cases are reported by the Member States to The European Surveillance System (TESSy).

The main objective of the surveillance in humans during the transmission period is to ensure an immediate response in the implementation of the blood safety measures and the prevention of human cases, and, on an annual basis, to improve and adapt the surveillance and strengthen the preparedness.

Animal health:

Under the Directive 2003/99/EC on the monitoring of zoonoses and zoonotic agents, the EU Member States should monitor WNV activity if warranted by the epidemiological situation. In 2012, Member States agreed to start reporting at EU level WNF cases in animals; 13 countries reported data. Data have been reported from active, passive and/or sentinel surveillance activities. Some Member States do not have WNV monitoring system in place while others have been operating systems for several years, e.g. Italy and Greece. Animal surveillance encompasses domestic solipeds (horses and donkeys), birds and other animal species (e.g. cattle and farmed deer).

WNV surveillance and monitoring activities in Austria

Franz Allerberger and Friedrich Schmoll, Austrian Agency for Health and Food Safety (AGES), presented the Austrian WNV surveillance in humans and animals, respectively. Austria has not had outbreaks of WNF so far. However, in 2014 a case of Austrian WNF was identified in a blood donation recipient after the province of Vienna started routine testing of pooled blood donations in June 2014. The *Aedes* vector has recently been detected in south-eastern Austria. The first autochthonous Austrian WNF cases were identified retrospectively through re-testing of cerebrospinal fluid samples from three meningitis/encephalitis cases without final diagnosis. In response to these recent findings, three eastern Austrian provinces have switched to pooled testing of blood donations. Entomological surveillance is currently underfunded. It involves annual mosquito sampling where samples are pooled according to time, place and species and tested by PCR. The current system involves species identification by an entomologist and laboratory testing for various hazards with two sampling sites per province. Any positive human or animal cases lead to enhanced vector surveillance starting in the respective federal state. Human surveillance objectives are targeted towards protecting the blood supply and securing public health in the case of autochthonous outbreaks. The Austrian Federal Ministry of Health has drafted a WNV Guideline for the Austrian Blood Donation System ("Leitfaden WNV für Blutspendewesen Österreich") which is based mainly on the ECDC document "West Nile Virus and Blood Safety - Introduction to a Preparedness Plan in Europe".

Veterinary surveillance of WNV in Austria involves birds and horses. Bird surveillance has been carried out since 2008 as WNV Lineage 2 is thought to have spread to Austria from Hungary in 2008 in birds of prey. Screening is conducted in all cases of encephalitis in birds, but emphasis is given to Falconiformes, Passeriformes and other risk species and subsequently tested for WNV. Active surveillance of birds sampled during avian influenza monitoring is conducted by serological testing of waterfowl (geese, ducks) sampled every year from slaughterhouses in at-risk regions. All suspected encephalomyelitis cases in horses must be notified and tested for WNV. No positive cases have yet been found in horses, but underreporting to the authorities may be a confounding issue. A national serological screening programme has been in place since 2011 where submitted horse samples to the AGES-Institute are sent for routine analysis.

WNV surveillance and monitoring activities in Italy

Paolo Calistri, National Reference Centre for Veterinary Epidemiology, presented on early detection and surveillance activities of WNF in Italy. Italy has a long history of WNV surveillance. Both viral Lineages 1 and 2 are circulating in Italy, with cases seen all

across the country. Public and animal health surveillance are a shared responsibility between the national and regional levels, and the Ministry of Health.

Surveillance is concentrated on specific geographical areas: affected areas where human and/or equine cases have been detected, surveillance areas where a competent vector is present and human and/or horses have been notified, and other at-risk areas such as those with wild or migratory birds. In humans, the occurrence of human cases of neuro-invasive WNF in an "affected area" leads to immediate implementation of the EU directive for blood safety in this area. Measures include nucleic acid amplification test (NAT) screening of all blood and organ donations and a 28 days temporary deferral of blood and tissue donors. Veterinary surveillance is intended to be an early warning system for the public health authorities. Bird surveillance focuses on resident target species such as magpies and crows, poultry on rural farms, migratory birds and the monitoring of bird mortality. There is also passive surveillance of equines, equine IgM random sampling in non-endemic areas and the monitoring of sentinel horses. Many horses in Italy are vaccinated against WNF and the disease does not cause problems for the equine population. In addition, entomological surveillance is conducted.

A web-based national animal disease notification system allows for notification of animal diseases and data collection including laboratory results. The system is also used to prepare case notifications to other stakeholders such as the World Organisation for Animal Health (OIE) and the European Commission. It allows for the integration of data from different sources and stakeholders within the country into a national database. All possible human neuro-invasive WNF cases have to be notified by the Regional Health Authorities, using a specific web-based platform. Additional information such as diagnostic tests can be added when they become available. The data is accessible by different national stakeholders including the Ministry of Health and the National Blood Centre and a weekly report is produced. The collaboration between the human, animal and vector sectors includes the use of veterinary surveillance data to define affected and surveillance areas for human surveillance. However, the exchange of information between the human, veterinary and entomological sides could be strengthened at different levels. For this reason it has been proposed to establish a multi-disciplinary scientific committee for vector -borne zoonoses.

WNV surveillance and monitoring activities in Greece

Danai Pervanidou, Hellenic Center for Disease Control and Prevention (KEELPNO), and Dimitrios Dilaveris, Directorate General of Veterinary Services, presented on human and veterinary surveillance in Greece. The first human outbreak of WNF occurred in 2010. Since then, there have been annual seasonal epidemics in humans and equidae, particularly from July to October. Human surveillance is focused on early detection of WNF cases and identification of affected areas for information dissemination to stakeholders and to ensure appropriate public health measures. In addition, it aims at describing the outbreak in terms of time, place and person to allow for the quantification of disease burden, to identify seasonal, geographic and demographic patterns in morbidity and mortality (for risk assessment) and to identify high-risk populations. An animal surveillance programme has been in place since 2010 and is coordinated by the Ministry of Rural Development and Food in cooperation with Local Veterinary Authorities at regional level and related State Laboratories. Surveillance of horses is intended as an early warning system for public health. Active vector surveillance, implemented since 2010, aims to detect WNV circulation in mosquitoes at the local level, to quantify the intensity of virus circulation and the creation of a database, in order to assess the human infection risk and to target interventions. The potential use of the vector surveillance data to trigger blood safety measures is under discussion. There is a multi-sectorial working group (WG) for vector-borne diseases and a multi-sectorial WG for the designation of areas affected by vector-borne diseases. These WG ensure communication between the veterinary and human health authorities as well as the different

stakeholders such as clinicians, entomologists, blood safety authorities, infectious disease specialists, other national actors, ECDC and the World Health Organization (WHO).

Depending on the situation, municipalities may be defined as “affected areas” or “areas with possible established WNV circulation”. Municipalities with one or more human laboratory diagnosed (confirmed or probable) cases (neuro-invasive or not) are defined as affected areas. Bordering municipalities can also be defined as “affected areas”, considering the geophysical morphology and historical data on WNV circulation in the area. Furthermore, in 2014, municipalities with human cases recorded annually during the previous four consecutive years (2010-2013) and an average of at least two human cases per year were defined as “areas with possible established WNV circulation”. Human surveillance activities include i) enhanced passive surveillance, involving physicians’ awareness raising for (free of charge) testing of every suspected WNF case from June to October, and daily notification of laboratory confirmed and probable cases to KEELPNO; ii) enhanced, active laboratory surveillance during the transmission period from June to October, involving daily information exchange between KEELPNO and the laboratories testing for WNV; iii) timely case investigation (within 24 hours after diagnosis), and iv) information dissemination to national and local stakeholders including daily update on the diagnosed cases and weekly surveillance reports (KEELPNO website, mailings). Measures for the protection of blood safety are taken in line with the EU directive for blood safety. Deferral of blood donors for 28 days after leaving an affected area and screening of donor blood for WNV-RNA with nucleic acid test-NAT are implemented in the affected areas immediately after the first human case is identified as well as in the areas with possible established WNV circulation (in 2014). Haemovigilance measures including post-donation information and post-transfusion information are implemented nationwide during the whole transmission period.

In animals, passive surveillance is conducted all year round in equines. All clinically suspect cases must be notified and investigated. Active equine (sentinel) surveillance is also in place between May and October in various prefectures around the country. This has been found to be cost-effective and is considered a practically feasible surveillance activity that could function as an early warning system for humans. Additional active clinical surveillance of equines is conducted around confirmed human and animal cases. Results of these activities are communicated to KEELPNO and the local veterinary services. Wild bird surveillance consists of passive surveillance by sampling dead or sick wild birds and active surveillance through the capture and sampling of wild birds in selected regions.

Other bird-based WNV surveillance projects have been undertaken by the University Faculties of Veterinary Medicine, including wild bird surveillance projects (University of Thessaly) and sero-epidemiological surveys of domestic birds in the Region of Central Macedonia (Aristotle University of Thessaloniki). KEELPNO immediately communicates all human and animal cases and positive mosquito pools to national and local stakeholders.

WNV surveillance and monitoring activities in France

Sylvie Lecollinet from the French Agency for Food, Environmental and Occupational Health & Safety (ANSES) presented on WNV surveillance in France. Although WNV Lineage 1 has been found to circulate in France, there have been no cases in humans or horses since 2003 and 2006 respectively. Since 2010 there has been a steady decrease in notifications of human suspect cases and in dead birds subjected to WNV analysis (WNV passive surveillance). The objectives for surveillance in France are therefore to achieve early detection of WNV circulation, in order to rapidly implement information, control and prevention measures for humans and horses (through horse owners and veterinarians) and to define risk levels for humans. Surveillance activities include human surveillance of neuro-invasive cases, which is enhanced in at-risk zones in the Mediterranean region from June to October. Equine surveillance of clinical cases is

carried out in the entire country, including the use of sentinel horses in Guadeloupe (French overseas department), and surveillance of avian mortality is done in the Mediterranean region from June to November. It is compulsory to notify suspected cases in humans and horses. Suspected neuro-invasive human cases should be notified to regional health authorities in the Mediterranean region from June to November (enhanced surveillance). Confirmation is made by the National reference laboratory. In other regions and from December to May, the surveillance relies on the National reference laboratory. Vector surveillance is conducted to assess the risk of vector transmission in order to guide vector control measures and to identify the species involved in the transmission episodes.

Surveillance in France highlights the importance of collaborative work between human and animal authorities, including entomological surveillance. Surveillance of human non neuro-invasive cases is conducted through the Chikungunya/Dengue surveillance activities. In addition to existing procedures, it may be possible to add viral detection in urine for case confirmation. Equine surveillance is considered a useful early detection tool as equine cases occur three to four days before identification of human cases. Surveillance activities involve those of the veterinary practitioners' network RESPE, a French programme with increasing collaboration with other equine health programmes in the EU. It is a network of 330 sentinel veterinarians distributed across France which provides surveillance and testing for WNV. No positive cases have been identified so far and the number of laboratory tests conducted under this programme is decreasing. This is mainly due to the fact that WNV analysis has to be partially paid by horse owners since 2012. Only some of the suspected cases are from at-risk areas. In birds, active serological monitoring of sentinels is also considered a good early warning system as these are frequently exposed to WNV-infected mosquitoes, are easy to handle and are monitored over several months. However, in addition to its high cost and logistical demands, the sensitivity of this activity may be low given the current WNV situation in France. Sentinel bird surveillance is no longer used but could be reactivated if equine or human cases occur. Passive bird surveillance has been found to be an inefficient approach in silent periods. WNV screening in mosquitoes is no longer conducted (unless a new WNV outbreak would occur in France), however mosquito surveillance (e.g. determination of mosquito species, abundance) has been maintained during the WNV circulation period in the Mediterranean region (IRD Méditerranée). Past surveillance in mosquitoes and birds showed that the vector and virus are still present in France.

WNV surveillance and monitoring activities in the UK

Helen Roberts, Animal and Plant Health Agency (APHA), presented the WNV surveillance in the UK. The UK has not had any cases of WNV and there is no requirement for active surveillance. However, since 2002 there is a legal obligation for passive surveillance in humans, in at-risk period of year from June to October. For humans, the passive surveillance is in place in order to detect autochthonous cases, and the case definition used is: an adult (particularly those aged 50 years and over) with symptoms of encephalitis, meningo-encephalitis, aseptic meningitis or acute flaccid paralysis, who has no travel history outside the UK. Indications for considering the diagnosis of WNV and requesting a diagnostic test are based on the EU case definition. No cases of autochthonous WNV in humans have been detected in the UK although occasional cases have been diagnosed following travel to endemic countries.

APHA is responsible for testing wild birds found dead of target species for WNV (for example in Passeriformes). No positive findings of WNV in birds in the UK have been made.

The Animal Health Trust has responsibility for equine health under a contract from the Department for Environment Food & Rural Affairs (Defra). However there is an option for private veterinary surgeons to submit samples for testing for WNV as an unlikely differential diagnosis but samples of WNV must be tested by a UK reference laboratory.

All suspect WNF cases must be reported directly to APHA. In 2013, only nine horse and 270 bird samples were sent in. The UK conducts surveillance for mosquitoes and has in recent years established targeted mosquito surveillance to monitor the distribution and abundance of *Culex modestus*. Vectors are collected by Public Health England (PHE) and tested for WNV. No positive findings have been made under these systems. Vector surveillance identified three counties in the Thames estuary that were positive for a WNV vector species (*C. molestus*) in 2013, suggesting that the vector is endemic in this area.

5. Defining common surveillance objectives for WNV surveillance in humans, domestic animals, wildlife and vectors

The objectives of this session were to define and list common WNV surveillance objectives within a country to ensure better integration of surveillance activities at a national level and to discuss commonalities and differences of the surveillance objectives between participants and between species and the underlying reasons, including what common surveillance objectives would be useful and what would be their added value.

The discussed common surveillance objectives focused on early warning and early detection of WNV so as to support response activities for protecting human and animal health. Both country- and context-specific aspects are important for defining a joint approach to WNV surveillance.

An objective for countries free of WNV circulation would be early detection of WNV introduction. This could be achieved by monitoring data and reports from neighbouring countries which carry out surveillance and monitoring and by conducting entomological surveillance of vectors to identify distribution, species composition and abundance. Active surveillance of vectors and birds could provide the earliest signals on the biological cycle of the disease.

In countries with previous and current notification of WNV circulation, surveillance would focus on detecting seasonal emergence of the virus.

In addition, another suggested objective of joint WNV surveillance were to analyse the extent and evolution of virus circulation and spread over time and geographical area and to assess the risk of the circulation of the virus for different administrative levels and for different time periods.

Furthermore, an important consideration noted during the discussions was the need to assess the sensitivity of different surveillance options available in animals to determine which animal host species to use. Relying on passive surveillance of neuro-invasive WNF human cases was not considered to be the best option for early warning as this approach has low sensitivity, especially compared to bird and vector surveillance. Birds such as poultry, crows and migratory birds could be used to detect an introduction of WNV in free areas. Surveillance of vectors for virus infection may not be useful if a country has reported the presence of the virus. However, it could provide a sensitive option for identifying seasonal activity in an area already affected in previous or current transmission periods. In urban areas, antibodies in other species can be used, e.g. dogs are relatively sensitive and show good sero-conversion.

These surveillance activities would require close cooperation between the various authorities and stakeholders within a country, such as between national laboratories, public health and veterinary authorities. Integrating animal and human surveillance data in a common database could be very useful.

6. Review of data collection models in order to ensure achieving surveillance objectives and timely information exchange

The data collection models currently in use were discussed to determine which modifications would be needed with view to the common surveillance objectives suggested during the discussions.

The parameters on which data could be collected varied depending on the specific environment and epidemiological situation in each country. For WNV-free countries concerned about the potential risk of introduction, monitoring data on bird, horse and human WNF cases in surrounding countries, e.g. data from the Animal Disease Information System (ADNS) and ECDC maps, is useful. In addition, mosquito surveillance to detect the presence of known vector species, and to establish their seasonality and feeding behaviour, as well as understanding arrival points of migratory birds and their further migration within the country are very useful to identify times and places at increased risk in case of a WNV introduction.

WNV affected countries should monitor and collect data on both presence of vector species and their infection in order to assess the extent and the temporal and spatial distribution of WNV circulation.

Useful common parameters on which to collect data during surveillance from any host species surveyed include the species, time of sampling, disease onset and diagnosis, place of exposure (coordinates or address of suspected place of exposure or residence), clinical symptoms and mortality observed, tests used, test results, presence of recent/retrospective cases. For equidae, it is also important to collect the WNF vaccination history. To determine if the cases are autochthonous, information on travel/movement history during the incubation period should be collected. In the case of birds, it should be noted if they are migratory or resident species.

7. Review existing reports of WNF to improve joint analysis and reporting

The objectives of this session were to discuss how to jointly analyse and report surveillance data and to list suggestions for joint analysis and reporting. Member States and EFSA/ECDC presented their current reports with examples of the main reports having been shared before the meeting.

During the vector season, ECDC publishes on a weekly basis maps showing the locations in which WNF human cases have been identified, based on data derived through the real-time reporting of Member States. The maps are available on ECDC website at: http://www.ecdc.europa.eu/en/healthtopics/west_nile_fever/West-Nile-fever-maps/pages/index.aspx.

In addition, ECDC is publishing an annual epidemiological report presenting the epidemiological situation in humans: <http://www.ecdc.europa.eu/en/publications/Publications/annual-epidemiological-report-2013.pdf>. On an ad-hoc basis, ECDC is preparing rapid risk assessments and/or epidemiological updates that are posted on its website.

EFSA and ECDC are jointly preparing the European Union Summary Report on Trends and Sources of Zoonoses, Zoonotic Agents and Food-borne Outbreaks which is published annually on the websites of EFSA and ECDC:

<http://www.efsa.europa.eu/en/efsajournal/pub/3547.htm>. It presents a joint analysis of WNV data collected from humans and animals.

Franz Allerberger presented the analysis and reporting of WNV surveillance data in Austria. Austria does not have a joint reporting system across the different authorities. However, reports are published on the AGES website. Maps containing compiled information on human and animal cases are produced exclusively for use of the health authorities. The public is informed about WNF cases through press releases. AGES produces online annual maps of the presence of vectors within the country. Mosquitoes are sampled and pooled according to time, place and species and tested for WNV. An annual report is published on the AGES homepage by the Ministry of Health and AGES which includes data from WNV surveillance and wild bird monitoring. A national WNV-Task Force ("West Nil Virus – Bereitschaftsgruppe"), has been established, with members nominated by the Ministry of Health. It is planned to enlarge this Task Force to bring together representatives from all affected provinces as well as those responsible for vector surveillance/control, public and animal health. It will meet at least once per year and more frequently as soon as WNF cases are identified. A similar federal group already exists for investigations of outbreaks of foodborne and other zoonoses.

Paolo Calistri presented the WNV activity reporting in Italy where a close cooperation between the human and animal authorities exists. During the vector season, two disease reports containing mutually agreed perspectives of human and animal health are published weekly. The reports are published in Italian and in English. Joint investigations and assessments are performed in the event of new cases occurring in new areas. However, reported data is often displayed with different degrees of detail. This is particularly an issue at the local level where ensuring data quality remains a challenge. A proposed solution is the use of a specific data format at local, regional and national levels, involving both animal and public health actors. It was noted that the reporting within the public and the animal health sector and the reporting to the public follow different formats. An expert panel has been established in Italy that reviews data on zoonoses and prepares comments for the publication of a national zoonoses report for different stakeholders.

Danai Pervanidou presented the human WNV activity reporting in Greece. During the transmission period information from surveillance outputs is disseminated daily via email to local, regional and national stakeholders such as the Ministry of Health and blood safety authorities. KEELPNO communicates regularly (phone calls, email exchanges) with local and regional public health authorities in affected areas during the high risk season to assess the situation. Weekly and annual human surveillance reports are published on the KEELPNO website and communicated to the affected areas. Both are published in Greek and English. They contain human epidemiological information on WNV disease, maps, vector surveillance data, main conclusions and the public health measures taken. Communication with the public is further enhanced through information leaflets and TV-spots regarding the protective measures against mosquito bites. Data is also reported in real-time to ECDC for weekly WNF maps and surveillance data are sent to other actors including the WHO. Regarding the enhanced active laboratory surveillance during June to October, KEELPNO communicates daily with the two Greek laboratories carrying out the vast majority of the WNV testing. When KEELPNO is informed about a case (human, animal or positive mosquito pool) feedback is provided to the national, regional and local authorities and to clinicians about the circulation of the virus. In addition, meetings of the multi-sectorial WG for vector-borne diseases are held at least twice a year. Meetings occur before the transmission season to discuss and plan the best approach. Furthermore, meetings of the multi-sectorial WG for the designation of vector-borne diseases affected areas are held almost every week during the transmission periods and the list of the WNV affected municipalities is regularly updated on the KEELPNO website. Dimitrios Dilaveris stated that for animal surveillance veterinarians and farmers are

tasked with notifying all suspect cases to the local veterinary authorities which in turn send samples for testing to the NRL and report accordingly to the Central Veterinary Authorities. There is close cooperation between the veterinary authorities and the official equestrian associations. Data regarding animal cases is timely reported by the central veterinary authorities to the EU and OIE as well as to the public health authorities (KEELPNO).

Sylvie Lecollinet presented the WNV activity reporting in France. In France a national epidemiology platform for animal diseases, the ESA platform (DGAI-ANSES-SNGTV-GDS France-Coop de France-Adilva), exists which includes WNV. The platform contains a collection of sensitive epidemiological reports on diseases which are prepared by different scientists. Access is provided to all levels of administration. The EU Reference Laboratory website for equine diseases also posts information on WNV from different sources. Weekly reports of suspected and confirmed arbovirus cases in French are exchanged within the country (reports prepared by CIRE Sud, the Mediterranean regional office for InVS). There is no formal communication between the human and animal health surveillance systems in the absence of cases. However, any recent cases identified in animals, humans and or vectors are rapidly reported to every actor of the surveillance system including the veterinary practitioners' network RESPE. Case confirmation would lead to meetings with all surveillance and control actors to gather further information, assess the risk and plan the national response. Public health communication is in the form of media reports and information leaflets published either at the start of the transmission season or in the event of detection of viral activity.

Helen Roberts presented the reporting in the UK where formal monthly meetings between public and animal health representatives take place to exchange information on zoonotic diseases. The Human Animal Infections Risk Surveillance (HAIRS) group compares emerging disease issues, including international reports of disease outbreaks and entomological surveillance for vectors of public health significance and to carry out joint risk assessments.

The discussion highlighted some reporting issues that should be addressed. Data on neuro-invasive infection in horses is limited because of limited laboratory capacities in some Member States. Thus reports to the OIE have limited value due to under-detection as only cases with encephalitis and a laboratory diagnosis are reported. Furthermore, the presence of multiple reporting systems presents an inefficient use of data. Similarly, the existence of separate reporting systems for human and animal health in some countries is a barrier for integrated surveillance in Member States if no communication among human and animal health authorities is established. Finally, reporting mosquito surveillance data lacks harmonisation and a central, common database. To address this, the ECDC guidelines for mosquito surveillance have been developed. In addition, a harmonised vector surveillance EU database is currently being established under the EFSA-ECDC funded project Vectornet, which will collect data on distribution, abundance and pathogens of vectors of animal and human vector-borne diseases.

Annex 1: Agenda

30 October 2014

09:00 – 17:00 h

08:50 – 09:05 Arrival to the venue and welcome from Prof. Dr. Otto Doblhoff-Dier, Vice Rector for Research and International Relations of the University of Veterinary Medicine Vienna

09:05 – 10:30 Overview of surveillance of West Nile fever considering human, domestic animal, wildlife and vector surveillance

Presentations of participating Member States (Austria, France, Greece, Italy and the United Kingdom) + EFSA/ECDC, on current surveillance activities in humans, domestic animals, wildlife and vectors, detailing the objectives, case definitions, sampling scheme and data collection models.

10: 30 – 10:45 Coffee break

10:45 – 12:15 Define common surveillance objectives regarding West Nile fever considering human, domestic animal, wildlife and vector surveillance

What are the commonalities and differences of the surveillance objectives in the participating Member States?

- Presentation of commonalities and differences of the surveillance objectives, based on documents sent before meeting by the participants
- Discussion about commonalities and differences of the surveillance objectives between participants and between species and the underlying reasons

What common surveillance objectives would be useful? What would be their added value?

- Discussion
- Listing of useful common surveillance objectives

13:15 – 15:45 Review data collection models in order to ensure that surveillance objectives can be achieved; information exchange

What are the data collection models currently in use?

- Presentation of commonalities and differences of data collection models used by the participating Member States, EFSA and ECDC based on the documents shared before the meeting;
- Discussion

Which modifications of data collection models would be needed for the common surveillance objectives identified?

- Discussion
- Listing of modifications of data collection models

Which practical changes would be needed for common surveillance?

- Discussion
- Listing of practical changes for common surveillance

How to ensure efficient information exchange between actors?

15:45 – 16:00 Coffee break

16:00 – 17: 20 Review existing reports of West Nile fever to improve joint analysis and reporting

- Presentations of participating Member States (Austria, France, Greece, Italy and the United Kingdom) on their current reports (examples of main reports shared before the meeting)
- Presentations of EFSA, ECDC on their current reports
- Discussion on how to jointly analyse and report
- Listing of suggestions for joint analysis and reporting

31 October 2014

09:00 – 12:00

09:00 – 12:00 Prepare a proposal to be presented to all EU Member States

- Suggest joint activities and practical recommendations for these based on lists prepared on day one
- Develop structure of a report presenting the suggested joint activities and practical recommendations
- (Assign drafting tasks for a report presenting the suggested joint activities and practical recommendations)

12:00 – 12:10 Wrap up and end of the meeting

Annex 2: List of participants

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