



**WOAH/FAO Network of Expertise on Animal Influenza (OFFLU)  
Global Technical Meeting  
FAO Headquarters, Rome, Italy  
2-4 July 2024**

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## 1. Introduction

The OFFLU (World Organisation for Animal Health [WOAH]/Food and Agriculture Organisation [FAO] Network of Expertise on Animal Influenza) serves as a global consortium dedicated to sharing scientific evidence for the prevention and control of animal influenza. This network unites experts from various disciplines to participate in working groups referred to as Technical Activities (TA), including discipline-focused Avian Influenza Matching (AIM), WHO Vaccine Composition Meeting (VCM), Applied Epidemiology and Socioeconomics as well as the animal-focused Avian, Wildlife, Equine and Swine Influenza expert groups. OFFLU plays a pivotal role in enhancing global preparedness for animal influenza outbreaks and convenes experts to strengthen collaborative and technical ties essential for addressing emerging global challenges.

## 2. Purpose of the Meeting

The meeting spanned two and a half days (see Annex for the agenda) and aimed to:

- **Review and Update Terms of Reference (TOR):** Assess the TOR of individual Technical Activities.
- **Strengthen Collaborations:** Foster networking among OFFLU members to identify synergies across various activities, thereby optimizing support for stakeholders involved in influenza management at global, regional, and national levels.
- **Engage Experts:** Facilitate strategic discussions to identify emerging challenges and priorities in influenza management, contributing to the development of effective strategic plans.

## 3. Participants

Key participants included:

- Members of the OFFLU Steering and Executive Committees.
- Chairs and active members of OFFLU Technical Activities.
- Representatives from parent organizations WOA and FAO, along with delegates from organizations such as the World Health Organization (WHO), European Food Safety Agency (EFSA), and the US Centers for Disease Control and Prevention (US-CDC).

### 3. Opening Remarks

Dr. Thanawat Tiensin, Director of FAO Animal Production and Health Division, underscored the importance of collaboration among FAO, WOA, and WHO in knowledge exchange within the OFFLU network. He reflected on the emergence of avian influenza in Asia since 2003, emphasizing the necessity for dedicated research as the disease continues to spread globally. Dr. Tiensin also highlighted an upcoming Committee on Agriculture (COAG) meeting that will address future animal health challenges posed by climate change and sustainable agrifood systems.

Dr. Madhur Dhingra, Head of FAO Emergency Prevention System (EMPRES), expressed pride in FAO's long-standing partnership with WOA and WHO through OFFLU. She noted the significance of the network's upcoming 20th anniversary and emphasized the dedication of experts within the network. Dr. Dhingra highlighted OFFLU's high demand for expertise due to recent outbreaks affecting food safety and biodiversity.

Dr. Gregorio Torres, Head of WOA Science Department, acknowledged FAO's role in hosting the meeting while emphasizing the importance of physical gatherings despite online operations. He discussed essential components for maintaining a sustainable network that OFFLU has successfully embodied over nearly two decades.

Finally, Professor Ian Brown, Chair of OFFLU Steering Committee and a member of OFFLU since its inception, encouraged active engagement among participants. He recognized significant achievements over the past five years, particularly in contributing genomic data for animal influenza to VCM and AIM while faced with ongoing challenges such as HPAI's impact on biodiversity.

### 4. Vision/Mandate and Objectives of OFFLU

The meeting revisited OFFLU's vision, objectives, and mandate established nearly 20 years ago to determine their current relevance:

#### *Vision/Mandate*

OFFLU's current vision is to lead the animal health community in the early detection and characterization of emerging influenza viruses in animal populations. OFFLU provides leadership, information and support for effective management of known infections, thereby mitigating risks to animal and public health. Hence OFFLU supports global food security, enhances animal health and welfare, and provides significant community benefits derived from domestic animals and wildlife.

#### *Current objectives*

1. Share and offer technical advice, training, and veterinary expertise to international organizations and WOA/FAO Member countries for the prevention, diagnosis, surveillance, and control of animal influenza.
2. Exchange scientific data and biological materials within the network, analyse such data, and share information with the wider scientific community.
3. Collaborate with WHO on animal-human interface issues, including pandemic preparedness and early preparation of human vaccines.
4. Highlight influenza surveillance and research needs, promoting their development and coordination.

### *Incorporating One Health:*

Discussions highlighted explicitly integrating a One Health approach into OFFLU's mandate. This approach removes barriers between sectors to address cross-sector infectious diseases sustainably while balancing and optimizing human, animal, and ecosystem health. It recognizes the health of humans, domestic and wild animals and the wider environment are closely linked and interdependent. (OHHLEP definition supported by WOAHA, FAO, WHO and UNEP: <https://www.who.int/news/item/01-12-2021-tripartite-and-unesp-support-ohhlep-s-definition-of-one-health>).

In addition to the above, there was some discussion regarding the general challenges that OFFLU has consistently faced:

- **Sustained Funding:** The need for consistent funding to support multi-year projects is critical due to fluctuations in donor interest;
- **Attracting New Talent:** Expanding each Technical Activity with dedicated leads will enhance operational efficiency;
- **Structured Recruitment:** Implementing a more structured expert recruitment process will help fill expertise gaps within the network;
- **Maintaining Expertise During Low Activity Periods:** Defining activities during periods of low virus circulation is essential for continuous engagement and to ensure resilience such that capability across all sectors remains ready for future emergence;
- **Strengthening Collaborations with Other Networks:** Leveraging resources from other networks can reduce duplication of efforts; and
- **Engaging Early Career Scientists:** Increasing involvement from early career scientists is vital for network maintenance through succession planning and in fostering innovation and sustainability.

## 5. Breakout Session Outputs – Recommendations

Technical Activities broke out into their groups to discuss their work, their plans, and in some cases, to get acquainted. Following these sessions, participants proposed several recommendations aimed at optimizing synergies among OFFLU Technical Activities. Recommendations included:

- Highlighting advances made by OFFLU activities to demonstrate benefits to global community and individual countries.
- Development of standardized templates for communication with stakeholders across sectors.
- Expansion of OFFLU's reference laboratory network to improve data collection for future assessments.
- Establishment of a network of institutions under OFFLU to enhance legitimacy in AIM projects and standardize laboratory testing procedures while encouraging manufacturers to adopt AIM recommendations.

## 6. Network mapping

Currently OFFLU primarily works independently. Participants were encouraged to think about what networks exist and whether OFFLU should open and work with other networks working on animal influenza related topics.

### *Discussion and feedback*

- Many participants were of the opinion that OFFLU should rigidly follow its mandate and continue working as a global network of expertise on animal influenza. For OFFLU to be efficient, it is important not to be burdened by excessive number of tasks with unrealistic ambitions. The experts in OFFLU are already part of the listed networks and their national-directed jobs. OFFLU must be strategic on acceptance of assignments and utilize the Technical focal points from parent organisations to assist the individual Technical Activities making the most efficient use of their network members time for greatest impact.
- OFFLU members can bring benefits to OFFLU by leveraging from other programmes and networks they are members of; however their mandate does not allow for this group to apply funds nor conduct research as an organization.
- On the website, there should be a mechanism for people from the different regions to contact the secretariat if interested in an OFFLU initiative.
- To increase the visibility of OFFLU, members are encouraged to indicate their affiliation with OFFLU via opportunities like conference presentations, publications, etc. After the website is rebranded, there will be a slide macro file and QR code that presenters can include in their presentations.
- There is a need to review the membership of OFFLU on a regular basis. All OFFLU contributors are expected to be active and productive for the network.
- The need for a new OFFLU logo was discussed. It was decided the current logo is still fit for purpose.

## 7. Overview of Existing global Recommendations on HPAI

This session was dedicated to reviewing recommendations from various other global meetings and consultations (full list in the annex). Participants broke out into their Technical Activity groups and were encouraged to think about which of these recommendations their Technical Activity could realistically contribute to and to include these in their ToRs.

### Surveillance and Diagnostics:

- Promote and advise on cost effective impactful surveillance that supports threat mitigation and control
- Conduct monitoring of the prevalence and genetic diversity of animal influenza viruses in domestic birds, wild birds, and other susceptible species.
- Commit expertise to building capacity and capability building in national reference laboratories globally.
- Tailor surveillance efforts based on country-specific contexts.

### *Human-Animal Interface & Pandemic Preparedness*

- Ensure coordinated surveillance under a One Health approach, that is, to understand, assess, and mitigate the risk of animal influenza viruses to wildlife, domestic animal, and human health.
- Establish information-sharing platforms to support epidemiological analysis.

### *Epidemiology*

- Define and assess risks associated with emerging viruses, based on network outputs.

### *Prevention & Control*

- As requested/invited by parent organisations - Review emergency response plans tailored to community needs.
- Evaluate the effectiveness of vaccination strategies at various levels across different production systems to administration including cold chain
- Guide countries on implementing vaccination strategies effectively.

### *Ecology of Avian Influenza*

- Recognize HPAI as a concern for wildlife conservation alongside poultry production and conservation of indigenous and rare poultry breeds.
- Utilize network linkages to rapidly share data on emerging situations in avian and non-avian species

After a short break, Technical Activity groups did a 'speed dating' exercise where each group spoke to all the other groups one-on-one to talk about their activities, how they fit into the global recommendations and how groups could collaborate to ensure optimal data generation and use and avoid overlapping activities in the future.

## **8. Risk Assessment Update: TIPRA**

The Tool for Influenza Pandemic Risk Assessment (TIPRA) is used to assess the zoonotic risk of animal influenza viruses with pandemic potential. TIPRA has been adapted to align with WHO's global objectives, considering population immunity for impact assessments and emphasizing the need for data access. In order for the tool be of most value, sufficient data is needed to include sequence data for virus evolution, phenotypic and genetic testing, and serology testing to assess prevalence in identified at-risk groups.

TIPRA requires all the data as much available and expert input, recognizing that there may be limitations that can affect confidence in the results. Currently, H5 clade 2.3.4.4b virus transmission in cows is being assessed, involving internal and external experts, focusing on genetic data to assess markers of mammalian adaptation, virological characterization and the likelihood and impact of reassortment. An observed limitation in TIPRA was the focus on the intrinsic virus risk elements and not taking epidemiological factors into account adequately.

For pandemic preparedness, infection of farmed mink and foxes in Europe were highlighted as an observation that had the potential to increase zoonotic risk.

Understanding zoonotic transmission and tracing exposure events leading to productive human infections at the human-animal interface is crucial. The virus's susceptibility to antiviral drugs, mutational analyses with respect to antiviral resistance, and phenotypic expression were discussed.

Challenges include the need to sufficiently incorporate epidemiological risk factors, imperfect nature of experimental models, data filtering issues, rapidity of real-time diagnosis and data release. OFFLU supports early warning and risk management, though rapid characterization, data sharing and encouraging a common language for collaboration, but OFFLU faces obstacles in meeting this challenge. Capacity for timely virus culture is decreasing, limiting access to viruses for full characterization including research.

The likelihood of, and risk of, infection among animal workers and others exposed occupationally was discussed, emphasizing the need for accurate surveillance and synchronized and transparent release of information. The virus's transmission from animals to humans and regional differences in mitigation strategies for avian influenza were also discussed. Collaboration, timely updates, and effective surveillance are essential. OFFLU's ongoing support for risk assessments and willingness to share inputs highlight the importance of collective efforts in managing zoonotic and pandemic risks.

#### *OFFLU's Role in Risk Assessment*

- *Appropriate Surveillance and Monitoring:* Supports early warning and risk management, with questions about sustainable funding sources and differences in more limited funding availability for animal compared to public health.
- *Rapid Characterization and Data Sharing:* Important but currently facing significant obstacles in both sequence and metadata release that need to be resolved on a global scale, especially where zoonotic and pandemic risk is heightened.
- *Contributions Over Years:* OFFLU has played a critical role in providing timely information and supporting/ promoting best practices.
- *Capacity Issues:* Limited international capacity for timely virus culture.
- *Common Language:* Encourages using a common language to facilitate collaboration and understanding to ensure transparency.

## 9. Communication Strategies

Effective internal communication within OFFLU was discussed as crucial for enhancing collaboration among members while ensuring timely updates regarding ongoing activities.

#### *OFFLU Website*

A new OFFLU website is under development. This website will be used for external communication to enhance the visibility of OFFLU. Currently, communication to experts is through the official OFFLU email.

## Discussion & feedback

- There is a need to create a consultative group to provide technical support for the website's development.
- It was suggested to have the website available in multiple languages alongside English. Prioritisation of languages requires discussion but Spanish and Standard Chinese were considered important due to the extent of Avian Influenza detection in Asia and the Americas. If not the whole website, minimally the introductory landing pages should be translated.
- When searching for OFFLU on the web, the search should take you to the OFFLU website, which is not currently the case.
- The documents on the website should be reorganized and properly tagged/labelled to make them easier to find.
- Periodic reviews of the website's content were recommended to remove what is no longer relevant or needed, including removal of broken links.
- Website development is expected to be finalized in a year's time with the new OFFLU website being presented to members next year.
- The WOA and FAO documents listed on OFFLU should have links to the parent organizations.
- All training and teaching materials that need to be considered for inclusion on the OFFLU website should be shared with the secretariat.
- The listed contributors need thorough review before re-posting (see previous item under Networks- discussion /conclusions)

## *Virtual Learning Centre (VLC)- FAO community of Practice*

An overview of the FAO virtual learning centre and community of practice (CoP) showing existing courses related to Animal Influenza and how interactions and knowledge exchange occur in the virtual space was presented.

## Discussion and feedback

- Members recommended having a CoP specific for OFFLU as this could be a useful additional resource to the OFFLU website.
- OFFLU needs to propose what their CoP should look like, including: extent of knowledge management, scope of work, and mechanism to engage externally with other stakeholders and the expected audience. A technical team needs to lead the development of this proposal.
- Language barriers should be considered when developing the training materials and courses. FAO courses are mostly translated to the six official United Nations languages.
- Experts were asked to propose training courses they have or would like to have developed that could be hosted by the CoP.
- To access the FAO VLC courses and CoPs, visitors are required to create an account using the individual's email and password.
- The setting on VLC allows individuals to create a specific configuration to only access? areas of interest and to minimize email notifications and spamming.

### *OFFLU workspace*

It was agreed to create a SharePoint workspace where OFFLU members will interact and share materials. SharePoint will provide workspaces for the different OFFLU technical activities.

An introductory page can also be created on SharePoint- providing a brief description of the OFFLU space and activities.

### *Reports and newsletters*

OFFLU technical activities can consider developing reports and newsletters of their activities/achievements/plans etc. This will not include policy briefs as that is not within the mandate of OFFLU (provides scientific evidence to countries and parent organizations) but within the mandate of parent organizations alone.

## Conclusions and recommendations

The following recommendations were summarized by the group.

### *Human resources and communication*

- Address the human resources issue to ensure adequate staffing and expertise for OFFLU activities.
- Publications are often late at disseminating information and they are typically not easily updated as information becomes obsolete. It is crucial to find better ways of rapidly sharing accurate information and timely updates as new information is available. Encourage OFFLU technical activities to publish statements with good communications on topic(s) of current interest for scientific community after validation/endorsement from Steering Committee.
- Future plans should include developing an interactive website to engage stakeholders and provide a centralized channel for timely updates and information across different levels.

### *Tools and data sharing*

- Provide a list of online tools for sequencing, analysing and genotyping animal influenza viruses to increase usability and efficiency. Consider the restrictions on data sharing of genome sequences and determine whether such tools can achieve widespread reach.
- Evaluate existing online tools with a level of validation to determine if they meet the necessary requirements for influenza.
- Develop principles around genotyping to guide future tool development and usage.
- Include H5 phylogenetic trees in OFFLU reports as a valuable additional source of information.
- Reflect and improve on the effectiveness of current publications and data sharing practices to have a communications strategy/plan.



- Establish better communication channels to monitor clade evolution and ensure timely information dissemination.

### *Communication and collaboration*

- Improve nomenclature and task distribution within groups to cover different initiatives effectively.
- Develop practical action plans within different technical activities (swine influenza, avian influenza, etc.).
- Maintain independence for OFFLU to ensure freedom for experts while securing funding from parent organisations for coordination of OFFLU activities and meetings.
- Establish executive committees for cross-activity coordination and maintain relationships without losing momentum.
- Hold regular meetings to discuss ongoing issues such as data sharing.
- Plan for a follow-up meeting, potentially online, to ensure continuous progress.
- Ensure continuous reflection and discussion on these topics in future meetings to maintain momentum and progress.

### *Membership*

- Communicate with all contributing members to confirm their continued interest and involvement.
- Update the list of experts/contributors frequently and improve the website for better information updates and contact management.
- Establish clear commitments on the number of meetings and gatherings per year to set expectations for members.
- Create a document to map existing expertise across the network and better coordinate group activities.

### *Networking and collaboration*

- Recognize the importance of maintaining corporate knowledge and an inclusive approach (e.g., South America as an example of the need for adding additional regional expertise).
- Break down silos/barriers, find solutions, and maintain robust engagement.
- Enhance communication and collaborative spaces to improve efficiency and ensure that everyone can work effectively within, and where necessary develop across their mandates while coordinating global information dissemination.

### *Closing remarks*

- Acknowledge the essential nature of this network and the importance of maintaining discussions and securing necessary resources.

- Emphasize the need to focus and be specific in actions while maintaining corporate knowledge and inclusivity.
- Highlight the importance of collaboration, effective risk analysis, and integrating science and innovation for global preparedness and response.
- Celebrate 20 years of OFFLU, recognizing its significant role in the current context and looking forward to a continuation of highly impactful outputs from the network.

#### *Key takeaways*

- FAO and WOAHA are committed to facilitating these important gatherings and supporting collaboration among experts. However it should be noted that OFFLU remains fully dependent on the parent bodies support to deliver these goals.
- Effective collaboration and shared efforts through the OFFLU network are essential for improving animal health and addressing global challenges.
- The meeting reinforced the collaborative effort, enabled new linkages to be made and there was enthusiasm to make significant changes through continued engagement and discussions.

#### *Annexes/Recommendations:*

- [Agenda of the meeting](#)
- [Global strategy for the prevention and control of highly pathogenic avian influenza \(2024-2033\)](#)
- [WOAHA Animal Health Forum on Avian influenza May 2023](#)
- [FAO Global consultation on highly pathogenic avian influenza \(HPAI\) May 2023](#)
- [Tool for Influenza Pandemic Risk Assessment \(TIPRA\)](#)