World Organisation for Animal Health

Draft 1

**28th Conference of the WOAH Regional Commission for the Americas**
**Asunción, Paraguay, 2–6 November 2026**

Recommendation No. 1

# Use of epidemiological models to support decision-making in Veterinary Services

CONSIDERING THAT:

1. Epidemiological modelling is already used to some degree by most Veterinary Authorities (VAs) in the Americas, although the frequency of use and access to modelling expertise vary across the region;

2. Preparedness was identified by all respondents to the technical item questionnaire as an area in which epidemiological modelling could add value to the work of Veterinary Authorities. Potential applications include assessing disease spread and geographical risk, the consequences of delayed detection, alternative control and vaccination strategies, outbreak size and duration, and operational resource requirements;

3. Veterinary Authorities identified that practical modelling applications in preparedness activities include risk maps, estimates of the resources required for outbreak control, evaluation of alternative control strategies such as stamping-out policies and emergency vaccination options;

4. Effective use of epidemiological modelling requires capacities that extend beyond model development, including the ability to formulate relevant epidemiological and operational questions, interpret model outputs, understand assumptions, uncertainty and limitations, and assess whether epidemiological modelling is an appropriate approach. Limited capacity to interpret model outputs has been identified as a barrier in the region to the successful implementation of epidemiological modelling within Veterinary Authorities;

5. Data quality, transparency of model structure and assumptions, appropriate representation of the epidemiological context, and clear communication of uncertainty and limitations are important for the credibility and appropriate interpretation of modelling results;

6. Reliability and usefulness of epidemiological models depend on the quality, consistency and comparability of the data used, and that harmonised approaches to describing diseases, animal populations, control measures and other relevant parameters, together with the application of the FAIR principles (findable, accessible, interoperable and reusable), can facilitate data integration and modelling across Members;

7. Modelling expertise is available through Veterinary Authorities as well as through WOAH's Network of expertise, universities, research institutes, other government agencies, international organisations and specialised experts, providing opportunities for collaborative approaches rather than requiring all modelling capacity to be developed and maintained within each Veterinary Authority;

8. Integrating epidemiological modelling into Veterinary Services preparedness activities and simulation exercises can provide opportunities to test outbreak scenarios and alternative control strategies, assess data availability, identify operational and resource constraints, inform decision making and resource allocation and help building collaboration between Veterinary Authorities, private sector and modelling experts before an emergency occurs.

THE REGIONAL COMMISSION FOR THE AMERICAS

RECOMMENDS THAT:

1. Members improve the integration of epidemiological modelling, where appropriate, into animal health management, preparedness and contingency planning, to explore potential scenarios, evaluate alternative control strategies and identify operational and resource requirements to inform decision making and resource allocation, and plan before an emergency occurs;

2. Members strengthen the capacity of Veterinary Authorities to formulate relevant epidemiological and operational questions, interpret and critically assess modelling outputs, and understand model assumptions, uncertainty and limitations, while strengthening capacity for model development, adaptation and application where appropriate;

3. Members strengthen the availability, quality, accessibility and harmonisation of data relevant for epidemiological modelling, in line with the FAIR principles (findable, accessible, interoperable and reusable). Harmonised descriptions of diseases, animal populations and animal health measures, supported by WOAH's work on data quality and interoperability, can improve the reliability, comparability and usefulness of modelling outputs for decision-making;

4. Members establish and strengthen national and regional collaboration between Veterinary Services and institutions with epidemiological modelling expertise, including universities, research institutes, other government agencies and relevant regional and international organisations, and exercise these collaborations as part of preparedness activities before animal health emergencies occur;

5. WOAH facilitate and support regional capacity building and cooperation in epidemiological modelling, including through relevant WOAH Departments, Collaborating Centres and other technical partners to support training, technical guidance, exchange of experiences and methodological approaches, and access to specialised expertise, including the use of Artificial Intelligence, with particular attention to the appropriate interpretation and use of models for decision-making, data quality, assumptions, uncertainty, limitations and fitness for purpose;

6. WOAH, through its Regional and Sub-Regional Representations in the Americas, in coordination with the Bureau of the Regional Commission and relevant technical partners, facilitate follow-up to this Recommendation and take stock of progress, experiences and lessons learned for consideration by Members by the next Conference of the Regional Commission for the Americas.