World Organisation for Animal Health

Australian Government
Department of Agriculture, Fisheries and Forestry

Summary of the Gap Analysis for WOAH Epidemic Intelligence Activity in the Asia-Pacific Region – as of July 2024

This summary report presents a gap analysis of the World Organisation for Animal Health (WOAH) epidemic intelligence activities across the Asia-Pacific region. The primary objective is to identify gaps in disease detection capacity (from official and non-official sources) and reporting performances across the region's 43 countries and territories, to establish priority actions to enhance regional animal health threat detection capacity. The summary presented here reflects the situation in the region as of July 2024. It was developed as an initial step in designing the early threat warning support project under the WOAH 7th Strategic Plan (7SP), which is funded by the Australian Department of Agriculture, Fisheries and Forestry (Australia DAFF). Key indicators will be updated in future reports.

The analysis provides indicators with which to assess the main gaps in the Asia-Pacific region. Although the indicators were calculated at country level to avoid any sensitivity, the information in this summary report is presented as aggregated statistics.

The following indicators are presented below:

- Official reporting performances from WOAH countries and territories
- WOAH detection capacity of unofficial information from other sources
- Assessment of the impact of the occurrence of undetected events
- Most reported diseases in the region
- Priority areas for enhancement and action

I. Official reporting performance from WOAH countries and territories (through the WAHIS system)

The analysis of data submitted through the World Animal Health Information System (WAHIS), to the WOAH early warning system (immediate notifications – INs), and the monitoring system (six-monthly reports – SMRs) for the period 2005–2022 reveals gaps in official disease reporting compliance, consistency, and timeliness.

A. Distribution of INs by country/territory and disease

The official submission of INs, to report exceptional epidemiological events, is highly uneven across the region:

- **Reports distribution:** The vast majority of all INs submitted since 2005 (approximately **80%**) originated from only **10** countries and territories, indicating some potential problem in geographic coverage of WAHIS early warning system in the region.
- **Disease clustering:** Nearly **70%** of all INs reported since 2005 were clustered around just **three key diseases**: African swine fever (ASF), avian influenza (HPAI), and foot and mouth disease (FMD). This narrow focus suggests a likely underreporting or neglect of other listed diseases, potentially due to prioritisation of only certain diseases in the countries and territories of the region.

B. Timeliness of reporting

Compliance with timely reporting obligation is a major weakness in the region:

- **Reporting delay:** The WOAH Code (WOAH Terrestrial Animal Health Code, Chapter 1.1. of Article.1.1.3) mandates that exceptional events (INs) should be notified within 24 hours of confirmation. However, the average submission time across the entire reporting period (2005–2022) was **16.6 days**.

- **Low compliance rate:** Less than 30% of the countries and territories in the region (12 out of 43) achieved an average submission time below the 10 days. In addition, significant reporting delays were observed in some cases, including one IN where a first occurrence of a disease was reported four months after its confirmation.
- **Follow-up reports (FURs):** The WOAH Code state that countries and territories should provide regular updates on exceptional events at a weekly basis. However, the median time taken to update information for ongoing events via FUR was **42 days**, demonstrating also in this case significant delays in communicating evolving situations to WOAH.

C. Compliance with routine reporting through the monitoring system (six-monthly reports – SMRs)

Mandatory SMRs, which summarise the overall disease status, show concerning levels of non-compliance for the 2020–2021 period:

- **General compliance:** Less than one-third of the countries and territories showed satisfactory SMR submission rates (defined as submitting over 50% of the due reports during the period).
- **Unsatisfactory reports submission:** Approximately only **30%** of countries and territories failed to submit any SMRs in either 2020, 2021, or both years (at the time of the analysis).
- **Late reporting of events:** Approximately **21%** of the reporting jurisdictions spontaneously declared "Unreported disease events" in their SMRs. These were events that should have been communicated immediately via the IN system but were delayed and disclosed retrospectively, indicating a fundamental breakdown in early warning procedure.

II. WOAH detection capacity of unofficial information from other sources (using the EIOS system)

The Epidemic Intelligence from Open Sources (EIOS) system, which functions as the WOAH's primary monitoring tool for active search activity detecting unofficial disease information ('rumours'), revealed limitations in its geographic reach and disease coverage for the Asia-Pacific region (reference period September 2021 – September 2022).

A. Geographic and disease blind spots

- **Limited geographic reach:** EIOS was able to detect relevant signals of animal diseases in **65%** of the countries and territories of the region.
- **Signal concentration:** approximately **60%** of all detected news signals were concentrated in just **five** major reporting countries and territories, leaving significant blind spots across the region.
- **Narrow disease coverage:** Similar to the official reporting, almost 80% of all news items detected referred to only **six diseases**: ASF, HPAI, SARS-CoV-2 in animals, lumpy skin disease (LSD), FMD, and Crimean-Congo haemorrhagic fever (CCHF).
- **Undetected threats:** Out of a comprehensive list of 120 listed, and emerging diseases, the EIOS system successfully detected relevant signals for only **29** diseases, suggesting a need to improve its detection capacity for the other diseases.

B. Transparency to Active Search Team in the Asia-Pacific region (AST Asia-Pacific) requests

Each time an inconsistency is detected between official information and news items circulating on non-official sources, the AST Asia-Pacific asks countries and territories to confirm or deny the non-official information or sources. The response of countries and territories to requests for clarification following news detection is a measure of transparency. The analysis of these data showed:

- **Appropriate responses:** the majority of requests from the AST Asia-Pacific received appropriate responses, but a subset of countries and territories exhibited poor transparency.
- **High non-compliance in specific countries and territories: Five** countries and territories failed to provide an appropriate response to over 50% of the requests for clarification, either by denying the news without robust justification or by providing no reply at all. This lack of transparency undermines the ability of the AST Asia-Pacific to confirm and report events accurately, and potentially expose the region to the spread of unreported disease events

C. Most reported diseases in the region

While INs focused on a few acute diseases, the analysis of all reported information (including SMRs, 2005–2022) provides a more comprehensive view of the most persistent threats in the region:

- The **five most frequently reported diseases**, ranked by their index of presence (the number of semesters reported as present by jurisdictions), are:
    1. Infectious bursal disease (Gumboro disease)
    2. Foot and mouth disease virus (Inf. with)
    3. Rabies virus (Inf. with)
    4. Newcastle disease virus (Inf. with)
    5. *Brucella abortus* (Inf. with)
- This list highlights that the most persistent challenges in the region are common endemic diseases affecting poultry, livestock, and public health.

III. Assessment of the impact of the occurrence of undetected events

To guide intervention efforts, a methodology was developed to evaluate the potential impact of an undetected/unreported event on the animal health situation of the region. The scoring uses aggregated regional data to assess two critical dimensions: the probability of an event is not reported (based on the regional detection capacity using the information presented above) and considering this assess its potential impact (the scoring was done by converting the numerical values in a qualitative evaluation: low / medium / high).

A. Potential impact score

This score was derived by assessing aggregated factors that may contribute to the spread and consequence at the regional level of a disease outbreak, including:

1. **Livestock unit (LSU) population:** Higher animal population density increases transmission risk.
2. **Country and territory size:** larger territories can pose challenges for swift containment.
3. **LSU density:** The ratio of animal population to country/territory size.
4. **Geographic isolation:** Non- island jurisdictions were scored higher due to greater risk of terrestrial spread via borders.
5. **Trading partners:** The average number of live animals trading partners, indicating the risk of international spread if a disease is not detected / reported.

This scoring resulted in a classification and selection of countries and territories where the potential impact of an undetected event is deemed **Medium-to-High**.

B. Overall prioritisation score

The final intervention priority was derived from a 2x2 matrix that crossed the two main metrics:

- **Reporting performance (transparency):** A score based on timeliness, SMR compliance, and AST Asia-Pacific transparency.
- **Detection capacity score (EIOS):** A score based on the percentage of news detected by EIOS in that area.

This matrix yields three priority categories:

- **High priority:** Assigned to countries and territories with **low reporting performance** and **low EIOS detection capacity**, representing 18 out of the 43 surveyed countries and territories. These areas require the most focused development of improved detection capacity and WOAH monitoring.
- **Medium priority:** Assigned to countries and territories with moderate performance in either category (N = 14 countries and territories).
- **Low priority:** Assigned to countries and territories with high reporting performance and high EIOS detection capacity (N = 11 countries and territories).

IV. Priority areas for enhancement and action

Based on the synthesis of the gaps identified in reporting behaviour, surveillance and monitoring coverage, and regional risk assessment, the following key actions are recommended to strengthen animal health security in the region:

1. **Improve communication and training:** Develop and disseminate comprehensive, accessible communication materials (e.g., web pages, user guides) to simplify and standardise official disease notification procedures for countries and territories Focal Points and improve reporting timeliness and transparency.
2. **Targeted interventions to enhance regional biosecurity:** Support the group of countries and territories identified as posing a '**Medium' to 'High' potential impact** risk, ensuring that interventions are targeted where the consequences of an undetected outbreak would be most severe.
3. **Establish focal point network:** Create a dedicated, sub-regional professional network to facilitate regular discussions, mutual support, and challenge resolution among relevant Focal Points regarding ongoing disease reporting and surveillance challenges.
4. **Enhance EIOS detection:** Improve the capability of the EIOS system by:
    - Refining detection algorithms and incorporating sources in regional **languages**.
    - Targeting surveillance efforts based on the prioritisation of both countries/territories and relevant diseases identified in this report.
5. **Promote proactive data sharing:** Encourage countries and territories to proactively share essential national data, including their official disease priority lists and details of their active and passive surveillance systems, to improve the accuracy and predictive power of international epidemic intelligence efforts.

By addressing these core gaps and implementing these targeted actions, the collective ability to detect, report, and respond to animal health threats across the Asia-Pacific region can be significantly enhanced.

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Report date: February 2026