First Edition
2022

Implementation of WOAH standards: the Observatory Annual Report

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World Organisation for Animal Health
Founded as OIE

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First Edition, 2022

Published by
the World Organisation for Animal Health

Required citation: WOAH (2022). *Implementation of WOAH standards: the Observatory Annual Report* Publication Series. Paris, 149 pp., https://doi.org/10.20506/obs.3339. Licence: CC BY-SA 3.0 IGO.

Table of contents

Foreword

The World Organisation for Animal Health (WOAH) regularly updates its international standards in accordance with new scientific information and technological advances. These standards contribute to improving animal health, animal welfare and veterinary public health, and facilitate the safe trade of animals and animal products. However, many WOAH Members face challenges in implementing them.

It is important for WOAH to understand to what extent our standards are being implemented, and identify the barriers to their implementation. This knowledge will help us improve the standard-setting process and better support our Members in the future.

In May 2018, WOAH Members adopted Resolution 36 which recommended WOAH develop an Observatory to monitor the implementation of its international standards. Since that time, the Organisation has been developing the Observatory to be a systematic mechanism for gathering and analysing information about the global implementation of its standards. The Observatory has been conceived in alignment with the *Compendium of International Organisations' Practices: Working Towards More Effective International Instruments* and adheres to recognised best practices in international rule-making.

The establishment of the Observatory as a consolidated programme in WOAH is not only important to improve the development of WOAH standards and their implementation worldwide, but also to continue to drive WOAH's digital transformation plan. Embedded within the recently created Data Integration Department, the Observatory will support the continual improvement of data management within the Organisation.

The publication of a prototype report on African swine fever in May 2022 was an exciting milestone for the Observatory. This marked the completion of the pilot phase of the Observatory and finalisation of the conceptual design underpinning the programme.

This first Annual Report of the Observatory raises awareness of some of the existing gaps in the implementation of standards. Additionally, it offers a number of recommendations for both WOAH departments, including WOAH capacity building programmes, as well as national Veterinary Services; I hereby encourage all parties to give them due consideration. This document can aid Members to advocate for the improved integration of WOAH standards into national legislative frameworks and their full implementation.

I look forward to receiving your feedback on this first Annual Report of the Observatory, and to your ongoing involvement with WOAH's data collection activities. Both will enable us to improve our understanding of the global implementation of WOAH standards, our support for Members and the future work of the Observatory.

Dr Monique Eloit,
Director General,
World Organisation for Animal Health

List of figures and tables

01. Governance and Performance of Veterinary Services

02. Veterinary Services' workforce and resources

03. World Trade Organization (WTO) notifications

04. Disease detection, surveillance and diagnosis

05. Transparency of Veterinary Services

06. Self-declarations of animal health status

07. Movement control inside countries/territories and precautions at borders

08. Zoning and compartmentalisation

09. Emergency preparedness

10. Antimicrobial use and antimicrobial resistance

11. Implementation of the One Health approach

12. Animal Welfare

Abbreviations, acronyms and terms

AHS	African horse sickness
AI	Avian influenza
AMR	Antimicrobial resistance
AMR&VP	Antimicrobial Resistance and Veterinary Products
AMR-NAP	Antimicrobial Resistance - National Action Plan
AMU	Antimicrobial use
ANIMUSE	ANImal antiMicrobial USE
Aquatic Code	WOAH *Aquatic Animal Health Code*
Aquatic Manual	WOAH *Manual of Diagnostic Tests for Aquatic Animals*
ASF	African swine fever
BSE	Bovine spongiform encephalopathy
CBPP	Contagious bovine pleuropneumonia
CC	Critical Competency
Codes	WOAH *Terrestrial Animal Health Code* and WOAH *Aquatic Animal Health Code*
COVID-19	COronaVIrus Disease appeared in 2019
CSF	Classical swine fever
FAO	Food and Agriculture Organization of the United Nations
FMD	Foot and mouth disease
GBADs	Global Burden of Animal Diseases
GDP	Gross Domestic Product
Guidelines for WAHIS six-monthly reports	2022 notification procedure for completing six-monthly reports on WOAH-listed diseases
IHR	International Health Regulations
IZSAM	Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise Giuseppe Caporale
LoA	Level of Advancement
M&E	Monitoring and evaluation
OECD	Organisation for Economic Co-operation and Development
PPR	Peste des petits ruminants
PVS	Performance of Veterinary Services
PVS Tool	WOAH Tool for the Evaluation of Performance of Veterinary Services
PVS Tool: Aquatic	WOAH Tool for the Evaluation of Performance of Aquatic Animal Services
Quadripartite	Quadripartite Collaboration for One Health, made up of WOAH, FAO, WHO and UNEP
SAM Tool	Self-assessment and monitoring tool
SARS-CoV2	Severe acute respiratory syndrome coronavirus 2
SimEx	Simulation exercise
SPS	Sanitary and Phytosanitary
SPS Agreement	WTO Agreement on the Application of Sanitary and Phytosanitary Measures
Terrestrial Code	WOAH *Terrestrial Animal Health Code*
Terrestrial Manual	WOAH *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*
TrACSS	Annual AMR country self-assessment survey
UNEP	United Nations Environment Programme
VCIA	Veterinary Critically Important Antimicrobial Agents
VLSP	Veterinary Legislation Support Programme
VLU	Veterinary Livestock Unit
VSB	Veterinary Statutory Body
WAHIS	World Animal Health Information System
WHO	World Health Organization
WOAH	World Organisation for Animal Health (founded as OIE)
WTO	World Trade Organization

Introduction to the Annual Report of the WOAH Observatory

The World Organisation for Animal Health (WOAH, founded as OIE) develops and regularly updates international standards for veterinary public health, animal health and welfare, and safe trade based on the latest scientific knowledge and technological advances. Members of WOAH are encouraged to participate in the standard-setting process that culminates with the adoption of standards by the World Assembly of WOAH Delegates. After adoption, these standards are published in the updated volumes of the *Aquatic* and *Terrestrial Animal Health Codes*, the *Manual of Diagnostic Tests for Aquatic Animals*, and the *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*.

The standards are not intended to provide ready-made, fit-for-all solutions and measures to prevent and control animal diseases. Rather, they outline principles to follow when combating transmissible animal diseases. Members are expected to put these international standards into practice by adapting them based on their own epidemiological situation and on other factors, such as available resources.

This approach is echoed by the World Trade Organization (WTO), whose Members are encouraged to base their sanitary measures on international standards, guidelines and recommendations where they exist. The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) designates WOAH as the WTO's reference organisation for standards relating to animal health and zoonoses.

During its 86th General Session in 2018, the WOAH World Assembly of Delegates identified the need 'to monitor the implementation of its international standards, to increase transparency and to identify constraints and difficulties faced by Members'. The assembly adopted Resolution No. 36, which recommended the development of an Observatory to meet this need.

Consequently, the WOAH Observatory was created with the intention to monitor, in a regular and systematic manner, the extent to which WOAH's standards are put into practice by its Members. To do so, WOAH decided to publish, among other outputs, an annual report by the Observatory presenting a general overview of Members' implementation of some WOAH standards. However, as the *Terrestrial Code* and *Aquatic Code* each contain a vast number of standards, it is not possible to annually report on all of them.

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This document is the first Annual Report produced by the Observatory. It was developed using the lessons learnt throughout the pilot phase of the Observatory, particularly the feedback received from the ASF prototype.

The report contains 12 sections, which can be read independently, covering the following topics:

01. Governance and Performance of Veterinary Services

02. Veterinary Services' workforce and resources

03. World Trade Organization (WTO) notifications

04. Disease detection, surveillance and diagnosis

05. Transparency of Veterinary Services

06. Self-declarations of animal health status

07. Movement control inside countries/territories and precautions at borders

08. Zoning and compartmentalisation

09. Emergency preparedness

10. Antimicrobial use and antimicrobial resistance

11. Implementation of the One Health approach

12. Animal welfare

These 12 sections share the following common structure:

1. Introduction (providing context and the WOAH standards relevant to the topic)

2. List of indicators about the implementation of standards

3. Data, data sources and the advantages and limitations of the data used

4. Descriptive analysis of each indicator

5. Conclusions and recommendations for improvement

In addition to the main manuscript, each section of the WOAH Observatory Annual Report is accompanied by:

a) **An interactive dashboard** offering an array of options for dynamic information analysis for a desired region, disease, group of diseases or time period. The figures presented in the body of the report are static snapshots of these dashboards that use examples to illustrate specific ideas or indicators. Therefore, it is recommended to use the dashboards to access all available information.

b) **An executive summary.**

Moreover, also available are:

c) **The indicator matrix** (describing in a standardised manner the indicators and capturing how they are measurable, realistic and purposeful).

d) **The data catalogue**, an organised record of data assets.

All additional files referenced above are available on WOAH's website.

Readers should note the following when interpreting the conclusions presented in this report:

- The Annual Report of the Observatory provides an overview of the regional and global uptake of international standards by WOAH Members and does not report on the level of uptake by individual Members.
- It was not realistic to look at all WOAH-listed diseases for this report. Particular focus has been given to the diseases for which WOAH recognises official animal health status or endorses official control programmes: African horse sickness (AHS), bovine spongiform encephalopathy (BSE), contagious bovine pleuropneumonia (CBPP), classical swine fever (CSF), foot and mouth disease (FMD), peste des petits ruminants (PPR) and dog-mediated rabies. Focus was also given to African swine fever (ASF) and avian influenza because WOAH has global strategies or initiatives in place for these diseases. The aquatic diseases most reported by Members for fish, crustaceans, molluscs and amphibians were also selected: infections with Koi herpes virus, white spot syndrome virus (WSSV), *Bonamia ostreae* and *Batrachochytrium dendrobatidis*.
- To produce this report, the Observatory analysed data from various work streams in WOAH and from various partner organisations such as the World Bank, the WTO and the Food and Agriculture Organization of the United Nations (FAO). These data were not collected for the purpose of measuring the implementation of WOAH standards, and the Observatory did not collect additional data specific to its objectives. As such, there is great variability in the data referenced in the different sections, and this may impact the conclusions drawn.
- More generally, all the data used in the production of this report have advantages and limitations that are described in each of the sections. This report is not intended to be a scientific report, and in some instances the limitations of the data prevent firm conclusions from being drawn. However, WOAH believes that the report provides valuable information about the current situation, trends and availability of data, as well as directions for improvement and future activities.

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09 Emergency Preparedness

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To access the interactive dashboard and executive summary of this section click here

1. Introduction

When an animal health and welfare emergency or disaster occurs, the speed, suitability and effectiveness of the response depends upon the level of preparedness of the Veterinary Authority and relevant stakeholders.

For the *Terrestrial Code*, Article 4.19.3. of Chapter 4.19. on Official control programmes for listed and emerging diseases provides the transversal international standards for emergency preparedness, with references to contingency plans and simulation exercises. Other horizontal chapters also refer to emergency preparedness; for example:

- Article 3.2.7. of Chapter 3.2. on the Quality of Veterinary Services states that Veterinary Services should 'be prepared to respond effectively to sanitary emergencies'. Point 4 refers to 'emergency management, including preparedness and response planning, a legal framework, and access to the human, physical and financial resources to respond rapidly to sanitary emergencies in a well-coordinated manner'.
- Article 1.4.5. of Chapter 1.4. on surveillance covers early warning systems.
- Chapters 1.7. to 1.12. in Section 1 require Members that submit a dossier for official status recognition to annex their contingency plan and share any information related to simulation exercises.

Additionally, some disease-specific chapters specifically require contingency plans (e.g. Chapter 8.8. on FMD).

On the aquatic animal side, specific standards and recommendations on contingency planning are available in Chapter 4.6. of the *Aquatic Code*.

Since 2002, WOAH has encouraged its Members to voluntarily report the simulation exercises they conduct to strengthen the capacity of their Veterinary Services. After translation in the three WOAH official languages, this information is disseminated to the international community *via* the WAHIS Distribution List[1] and published on a dedicated webpage.[2] This publication prevents the simulation exercise from being mistaken for a real disease emergency and raises awareness of preparedness. The *Guidelines for Simulation Exercises* were developed in 2020 to provide more guidance for WOAH Members to prepare, deliver and learn from exercises.

In 2018, WOAH carried out a one-off review[3] to explore whether WOAH Members had contingency plans and for which diseases/disasters. A majority of WOAH Members (n=159; 87%) were identified as having at least one contingency plan in place. Some Members granted permission to publish their plans on the WOAH website in the interests of solidarity and transparency in order to share their experience and support other Members willing to develop/revise their own contingency plans.

The objective of this section is to assess to what degree the emergency preparedness-related standards are implemented or adhered to by WOAH Members.

[1] More information and subscription at https://www.woah.org/en/what-we-do/animal-health-and-welfare/disease-data-collection/info-list/

[2] Available at https://www.woah.org/en/what-we-do/animal-health-and-welfare/disease-data-collection/simulation-exercises/

[3] McDougle J., Sabirovic M., Pietropaoli S. & Hamilton K. (2020). – The gulf between emergency plans and the resources needed: a global review. *Rev. Sci. Tech.*, **39** (2), 373–384. https://doi.org/10.20506/rst.39.2.3088

2. List of monitored indicators

The following indicators have been monitored:

- Number of simulation exercises reported to WOAH;
- Number of Members that reported having a contingency plan;
- Percentage of Members that reported having a contingency plan and a recent simulation exercise for the same diseases;
- Percentage of Members that have an officially recognised disease-free status and that have reported (i) having a contingency plan and (ii) a recent simulation exercise for this disease;
- Percentage of Members that have a self-declared disease-free status and that have reported (i) having a contingency plan and (ii) a recent simulation exercise for this disease (with a focus on ASF, avian influenza and rabies);
- Performance of Veterinary Services regarding emergency preparedness, as assessed by the PVS Tool during PVS missions. For this indicator, two Critical Competencies were considered:

  - I-9: Emergency funding

  - II-6: Emergency response.

Considering the very limited numbers of contingency plans and simulation exercises for aquatic animal diseases, focusing on specific aquatic animal diseases was not considered to be informative or relevant.

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3. Data, data sources and advantages/ limitations of the data used

The data used for this section originated from the following sources:

- List of Members that reported having a contingency plan to WOAH in 2018 (one-off review): dataset provided by the Preparedness and Resilience Department, WOAH.
- List of Members that reported to WOAH having conducted simulation exercises from 2002 to 2021: information available online[4] and compiled in a table format by the World Animal Health Information and Analysis Department, WOAH. When compared to the list of Members that reported having a contingency plan in 2018 (see just below), only the simulation exercises reported between 2017 and 2021 were considered.
- List of Members with an officially recognised status for AHS, BSE, CBPP, CSF, FMD and PPR: dataset provided by the Status Department, WOAH, and displayed on the webpage,[5] as recognised on 31 December 2021.
- List of Members that self-declared a free status for ASF, avian influenza and rabies: dataset provided by the Status Department and displayed on the webpage,[6] as of 31 December 2021.
- Performance of Veterinary Services on emergency preparedness: Levels of Advancement of Critical Competencies I-9 and II-6 of the PVS Tool.[7] The dataset was compiled and provided by the PVS Team, Capacity Building Department, WOAH. To ensure that the data to be used in the analysis are up-to-date, only the reports of PVS Evaluation/Follow-up missions conducted between 2016 and 2021 were taken into account.

These data sources have advantages and limitations as described in the table below.

	List of Members that reported/shared a contingency plan with WOAH in 2018	
Advantages	• Review conducted in 2018 • All WOAH Members were given the opportunity to contribute; the response rate was higher than 90%	• The information includes contingency plans for WOAH-listed diseases, non-WOAH-listed diseases and any veterinary emergencies
Limitations	• One-off review, that has not been repeated to date • Not easy to regularly update the data • The dataset lists the Members that have claimed to have a contingency plan. There has been no validation of this information, nor assessment of the quality of the contingency plan	• Having contingency plan does not necessarily equate to being prepared, as many Members do not have the resources to implement their plans, or their plans are not based on local risks • Some Members may not have a disease-specific contingency plan but a generic plan that aims to cover all emergencies. It is unclear whether the generic plan would specifically cover a given disease

[4] https://www.woah.org/en/what-we-do/animal-health-and-welfare/disease-data-collection/simulation-exercises/

[5] https://www.woah.org/en/what-we-do/animal-health-and-welfare/official-disease-status/

[6] https://www.woah.org/en/what-we-offer/self-declared-disease-status/

[7] Reference of Critical Competencies, from the Sixth Edition of the PVS Tool, in 2013

List of Members that reported to WOAH having conducted simulation exercises

Adv.

- Easiness of data collection

Limitations

- Voluntary reporting from Members, with limited communication regarding the ability to report, leading to:
  - lack of representativeness
  - underreporting
- Some simulation exercises are conducted for a group of diseases, but the detailed list of covered diseases is not clear (for example 'exotic diseases'). This complexifies disease-specific data analysis
- Members tend to prefer notifying national and cross-border exercises. Sub-national or local exercises may be reported less frequently, leading to overall underreporting
- For the indicator looking at simulation exercises and contingency plans, only the simulation exercises reported between 2017 and 2021 were considered, in order to align with the time the review on contingency plans was conducted
- Regional bias may exist depending on the regional animal health status: in regions where a disease is endemic, Members are unlikely to conduct simulation exercises for this disease

List of Members with an officially recognised status for AHS, BSE, CBPP, CSF, FMD and PPR

Advantages

- Robust procedure with detailed information officially provided by the Delegate and carefully assessed by WOAH (procedures described on the webpage[8])
- Official recognition by the World Assembly of WOAH Delegates
- Requirements for official recognition include emergency preparedness, including the existence of a contingency plan
- Direct information about the Members that have been recognised as complying with some identified standards

Limitations

- Voluntary procedure
- Only covers a subset of Members that have sought and received official recognition of their disease freedom
- Procedure limited to six diseases
- A recent amendment to the questionnaire for official status recognition requires Members to provide their contingency plan or a brief summary and information about any simulation exercises. However, this information is not stored in a way that allows comparison or feeding into other datasets

List of Members having self-declared a disease-free status

Adv.

- See Section 06 on Self-declarations of animal health status

Limitations

- See Section 06 on Self-declarations of animal health status
- No specific requirement to share contingency plans/simulation exercises but there is an assumption that Members self-declaring freedom should have a contingency plan tested *via* simulation exercises
- Some declarations may be old and there is no guarantee that the measures described in the document are still implemented

[8] https://www.woah.org/en/what-we-do/animal-health-and-welfare/official-disease-status/, consulted on 1 June 2022

	PVS Critical Competencies (I-9 and II-6)
Adv.	• See Section 01 on Governance and PVS
Lim.	• See Section 01 on Governance and PVS

Other limitations:

- The datasets used have different timelines. This should be considered when interpreting the results, especially when datasets were crossed with others.
- The indicators related to the existence of contingency plans are based on a dataset collected in a one-off review in 2018 with limited time validity. The Observatory will stop using them in 2023 unless these data can be regularly collected/updated (see **Part 5, Conclusions and recommendations**).

For this group of indicators, the following assumptions were made:

- Except for tabletop exercises, Members performing simulation exercises would, in principle, have an emergency/contingency plan (to be tested during the simulation exercise).
- Members that have an officially recognised or self-declared disease-free status should have an emergency/contingency plan. The WOAH procedure for official recognition of disease status requires specific information about the existence of contingency plans and simulation exercises (collected *via* the initial dossier and for annual reconfirmation). Those Members are expected to have reported on the existence of their contingency plans in the 2018 review, and to have notified simulation exercises. This recommendation is also reflected in many Members' regulations, such as the European Union Council Directive 2003/85/EC on Community measures for the control of FMD.[9]

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[9] Available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02003L0085-20150806&from=EN

4. Descriptive analysis

a) Number of Members that reported having a contingency plan in 2018, by region and disease

Figure 1 illustrates that 159 WOAH Members (87%) indicated having at least one contingency plan in the 2018 review, with some regional differences: from 75% of Members from Middle East up to 94% of Members from the Americas.

Many Members reported having several contingency plans. Out of the total 1,169 plans reported, 47% (n=544) were reported by European Members and 3% (n=33) were reported by Members from the Middle East.

Most contingency plans (95%) have been developed for terrestrial animal diseases; aquatic animal diseases account for 2% of the plans (**Fig. 2**). A few other contingency plans (3%) were developed on horizontal matters.

Avian influenza is the disease for which the highest number of Members (129, i.e. 71% of WOAH Members) have indicated having a contingency plan (**Fig. 2**). WOAH did not collect the date when these contingency plans were developed or last updated, but they were likely developed following the highly pathogenic avian influenza H5N1 crisis of 2005–2006.

In terms of numbers, the second most common disease is FMD, with 95 Members (52% of WOAH Members) reporting having a FMD contingency plan. Other diseases follow with less than half this number.

Regarding ASF, 40 Members claimed to have a plan that specifically covered this disease. However, given the continued global spread of ASF it is likely that more Members have developed contingency plans for this disease in recent years.

If information on the date of development/revision of contingency plans was available, it would be interesting to correlate it with international and regional disease events.

b) Number of simulation exercises per year, disease and WOAH region

Figure 3 shows the total number of simulation exercises reported to WOAH (408) between 2002 and 2021 and their distribution by region. It illustrates that most simulation exercises were reported by Europe (n=160; 39%) and the Americas (n=158; 39%), followed by Asia (n=78; 19%) and Africa (n=13; 3%). No simulation exercises were reported by Members from the Middle East.

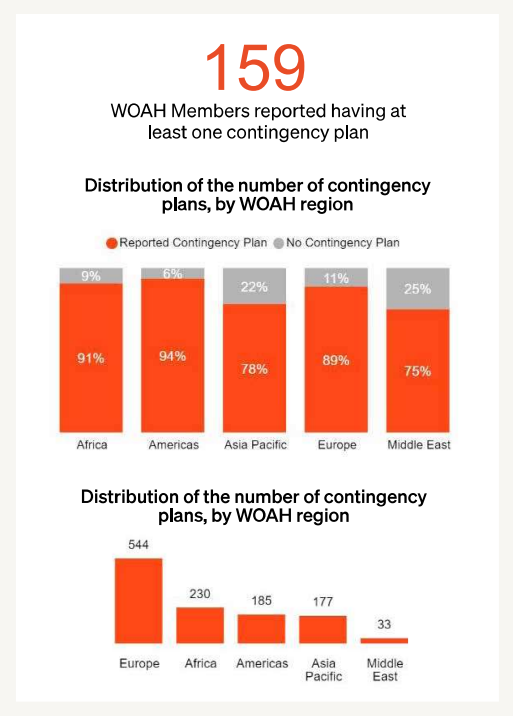

Figure 1. Number of Members that reported having at least one contingency plan (top), percentage of Members having done so per region (centre), and number of contingency plans (bottom), as reported by WOAH Members in the 2018 review

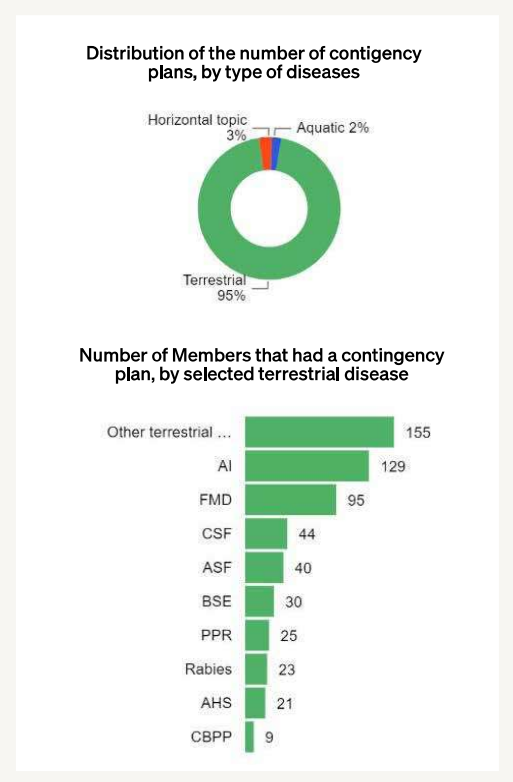

Figure 2. Distribution of contingency plans by type of diseases (top) and by selected terrestrial disease (bottom), as reported by WOAH Members in 2018 review

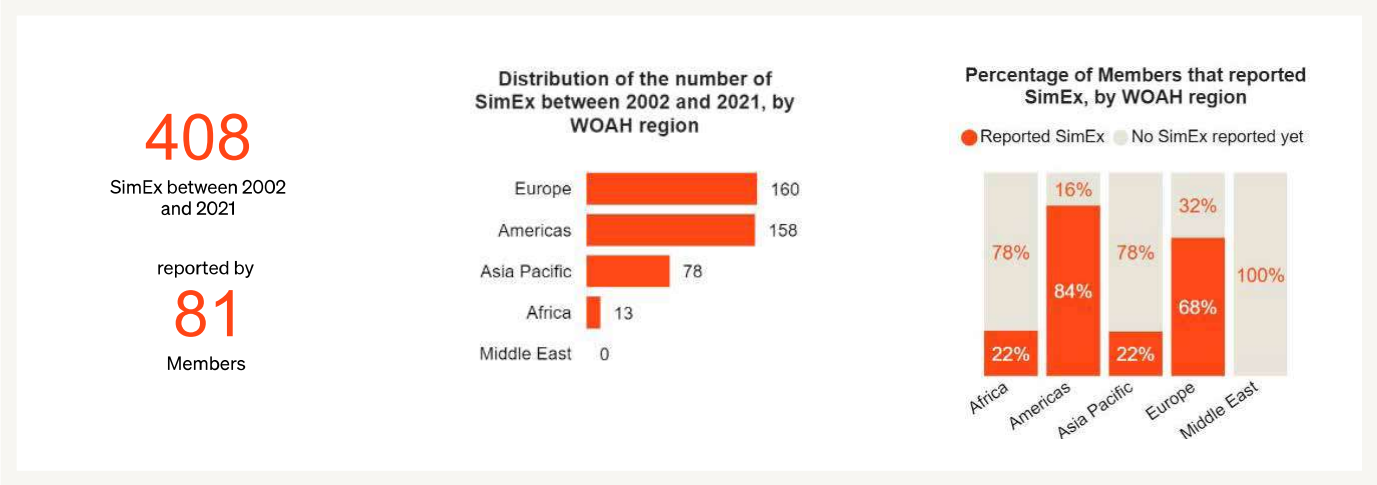

Figure 3. Number of simulation exercises (SimEx) reported to WOAH between 2002 and 2021 (left), number of Members that reported at least one simulation exercise between 2002 and 2021 (top right), regional distribution (centre) and percentage of Members that reported to WOAH at least one simulation exercise between 2002 and 2021 (right)

It also reveals that 81 Members reported their simulation exercises to WOAH, with some variations between regions (84% of American Members *versus* 22% of African and Asian Members and none from the Middle East).

Figure 4 reveals an increasing tendency to report simulation exercises over time, until an abrupt reduction in 2020. This is very likely due to the COVID-19 pandemic, a hypothesis that will be confirmed in the coming years. However, despite the steady increase, the maximum number of simulation exercises conducted in any single year across all Members and diseases was 42, which occurred in 2019.

In addition, the ring of **Figure 4** shows that most simulation exercises (96%) were related to terrestrial animal diseases and 2% were focused on aquatic animal diseases. Some other simulation exercises (n=8; 2%) were conducted on horizontal matters and have not been considered here.

Amongst the simulation exercises related to terrestrial animal diseases (n=391), 161 were devoted to FMD (41%), 118 to avian influenza (30%), 46 to ASF (12%) and 41 to CSF (10%). The interactive dashboard can be used to visualise the temporal and regional distributions of specific diseases.

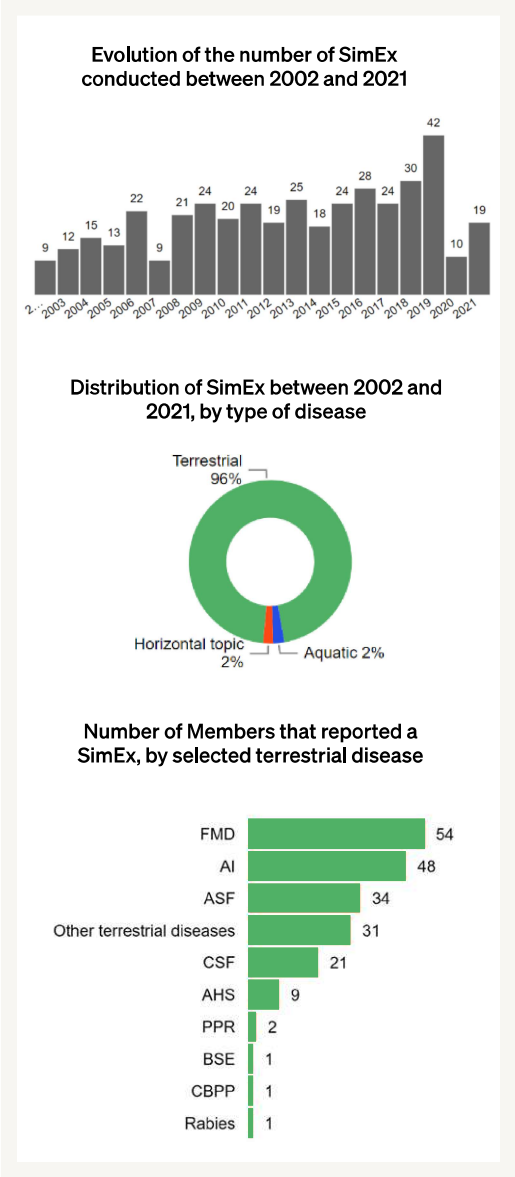

Figure 4. Evolution of the number of simulation exercises (SimEx) between 2002 and 2021 (top), their distribution by type of disease (centre) and by selected terrestrial diseases (bottom)

c) Percentage of Members that have indicated having a contingency plan and have reported a recent simulation exercise

We hypothesised that Members that have a contingency plan for a given disease would regularly run simulation exercises for that disease (to test and adjust their plan and improve preparedness). Because simulation exercises are only reported on a voluntary basis, we also made the assumption that Members that reported having a contingency plan for a given disease to WOAH would be inclined to also report their simulation exercises on that same disease.

This indicator includes all Members that have reported the existence of a contingency plan for a given disease, whether or not they have an officially recognised or self-declared free status for this disease. With regard to the simulation exercises, consideration was only given to those reported between 2017 and 2021; these are referred to as 'recent' simulation exercises. As mentioned above, the number of simulation exercises was reduced in 2020 and 2021, likely due to the global COVID-19 restrictions.

Figure 5 takes ASF and CSF as examples to illustrate the proportion of WOAH Members that declared having a contingency plan for one of these diseases in 2018 and reported conducting at least one recent simulation exercise on the same disease. The examples of **Figure 5** show that around 11% of the Members that reported having a contingency plan for CSF in 2018 had conducted at least one recent simulation exercise. This percentage is 55% for ASF. This difference between these two pig diseases makes sense in the context of an increasing spread and risk posed by ASF in the years examined (2017–2021), reflecting an appropriate response from WOAH Members to this threat.

Figure 5. Percentage of Members with a contingency plan in 2018 that reported having conducted a recent simulation exercise for the same disease. Example of CSF on the left in orange and of ASF on the right in blue

Looking across all the diseases examined, the percentage of Members that have reported both having a contingency plan and conducting a recent simulation exercises tends to be low. However, the hypothesis that Members with a contingency plan would regularly run simulation exercises to test that plan cannot be verified. This indicator also heavily impacted by the percentage of Members voluntarily reporting their simulation exercises to WOAH, among other factors.

d) Percentage of Members that have an officially recognised or self-declared disease-free status and that have reported (i) having a contingency plan and (ii) a recent simulation exercise

WOAH Members, when free from a disease, can either request the WOAH procedure to obtain official recognition of disease status (available for six diseases) or request that WOAH publishes their self-declared status (for other animal diseases).

We hypothesised that WOAH Members that have an officially recognised or self-declared disease-free status for a given disease would have measures in place to both prevent the introduction of the pathogen and rapidly and effectively respond to potential incursions of the disease. This is a requirement for Members applying for official recognition of disease status.

Providing a contingency plan (or a brief summary of what it covers) and information on simulation exercises is required for official status dossiers. Members self-declaring disease freedom are expected to also have a contingency plan and run simulation exercises regularly.

This indicator includes all Members that have an officially recognised or self-declared free status for a given disease and checks whether they had a contingency plan for this disease and have voluntarily notified a recent simulation exercise for this disease.

Figure 6 takes ASF and CSF as examples to illustrate the percentage of Members that are free from a disease (either officially recognised or self-declared) and that had a contingency plan in 2018 and had reported at least one recent simulation exercise for that same disease.

Figure 6. Percentage of Members with an officially recognised (left, for CSF) or self-declared (right, for ASF) disease-free status that have reported a contingency plan and a recent simulation exercise (SimEx) for that same disease

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The examples of **Figure 6** compare CSF (for which WOAH offers a procedure for official recognition of disease-free status) and ASF (which does not have a procedure of official recognition), showing:

- For CSF, around 29% of the Members that have been officially recognised as free from CSF by WOAH had reported a contingency plan and a recent simulation exercise.
- For ASF, 24% of the Members that requested that WOAH publish a self-declaration of ASF freedom had reported the existence of a contingency plan and a recent simulation exercise.

Here again, the assumption that Members with an officially recognised or self-declared disease-free status have a contingency plan and regularly conduct simulation exercises cannot be verified. The dataset is based on voluntary reporting, which may explain these results, as it is likely that not all Members that have contingency plans report them to WOAH. Other explanations may include the different timelines of the datasets used, as well as the fact that Members having a free status for a disease historically absent from their continent may not prioritise the development and reporting of a contingency plan or simulation exercise. WOAH also collects information on the existence of contingency plans and simulation exercises *via* the annual reconfirmation of officially recognised free status. While this source of information is likely to be more comprehensive, it is not yet easily accessible.

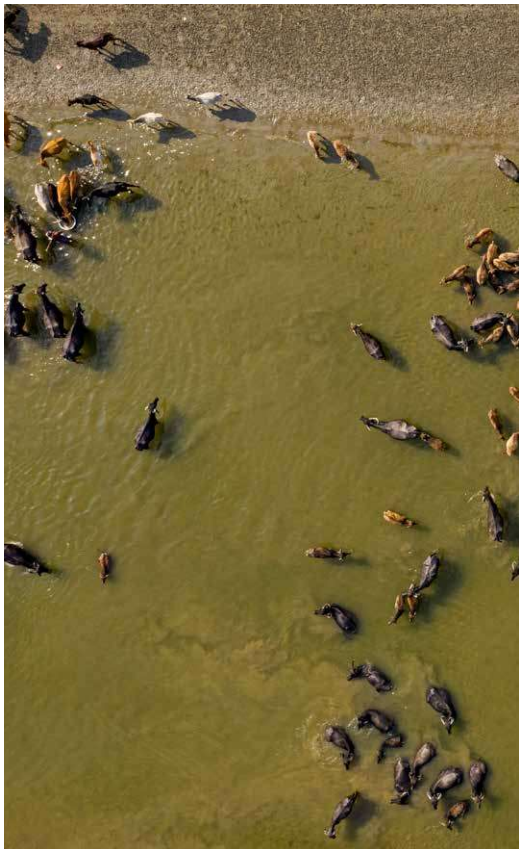
e) Performance of Veterinary Services regarding emergency preparedness, as assessed by the PVS Tool

Between 2016 and 2021, 43 WOAH Members have undertaken a PVS Evaluation or Follow-up mission. Amongst all the Critical Competencies described in the PVS Tool and assessed during PVS missions, they were assessed against:

- Critical Competency I-9: Emergency funding
- Critical Competency II-6: Emergency response.

In PVS missions, each Critical Competency is assigned a Level of Advancement ranging from 1 to 5. For the purpose of this analysis, a Level of Advancement of 3 is considered to indicate that Members have been assessed as reaching minimal capacity for the given Critical Competency. Members with higher levels (4 or 5) are considered as having a higher capacity and Members with lower levels (1 or 2) as having lower capacity.

PVS Evaluation and Follow-up missions highlight WOAH Members' limited capacity with respect to the two PVS Critical Competencies related to emergency preparedness, with only 40% of the Members reaching or exceeding the minimal level of capacity for both Critical Competencies (**Figs. 7 & 8**).



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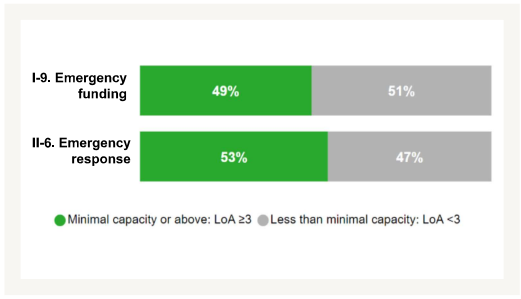


Figure 7. Percentage of Members with minimal capacity or above (Level of Advancement of 3 or more, in green) for each of the two Critical Competencies related to emergency preparedness as assessed in PVS missions between 2016 and 2021

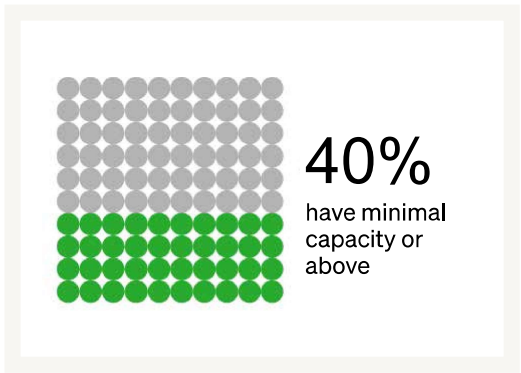


Figure 8. Percentage of Members with minimal capacity or above (Level of Advancement of 3 or more, in green), for the two Critical Competencies related to emergency preparedness as assessed in PVS missions

5. Conclusions and recommendations for improvement

The data used for the indicators in this section present limitations, as described above. The results of this analysis are not intended, therefore, to demonstrate facts. Yet, the information available can yield relevant insights into various situations from which recommendations can be made.

Currently, information about simulation exercises is collected and published on a voluntary basis, and information on the existence of contingency plans has only been collected once in 2018. As a result, there are information gaps that make interpretation difficult.

Despite current information gaps, general trends can be drawn for some high-impact diseases: FMD, CSF, avian influenza and ASF. The limited association between a Member having a contingency plan and having run a recent simulation exercise is particularly interesting. For example, the percentage of Members that have reported having a contingency plan for a specific disease and that also notified at least one recent simulation exercise is variable but usually low: from 55% for ASF and 30% for FMD to 11% for CSF and as low as 6% for avian influenza. Acknowledging the quality of this information and in particular the historical underreporting of simulation exercises (exacerbated in 2020 and 2021 by the COVID-19 restrictions), WOAH is not able to determine the representativeness of these figures. However, should they represent reality, this would raise concerns about Members' disease preparedness. In addition, the annual number of simulation exercises reported across 182 WOAH Members and across diseases has never exceeded 42 exercises. While this likely underestimates the true number due to underreporting, and acknowledging that conducting simulation exercises likely depends on national, regional and international crises, priorities and resources, this is a very low number that raises questions about Members' preparedness for emergencies.

In addition, 101 Members have never shared any information with WOAH regarding the organisation of a simulation exercise. Similarly, between 2002 and 2021, only eight simulation exercises of a transversal nature have been reported. A similar conclusion can be drawn from contingency plan data.

The lists of Members that have reported contingency plans or simulation exercises and that have an officially recognised or self-declared disease-free status are stored in datasets that are not easy to manage, understand or analyse. The Observatory recommends that WOAH improve the collection and storage of this information and publish a clean dataset online with the ability to filter by disease, country, region and year. Following the recommendations of the ASF prototype, work is ongoing to improve the web presentation of self-declaration and simulation exercises data. In addition, WOAH will consider this recommendation when developing the information system for officially recognised status.

In the future, the Observatory will consider additional indicators to measure WOAH Members' preparedness by assessing the response and recovery time after a disease introduction.

In conclusion, WOAH could reflect on:

- The need and interest, for WOAH and its Members, to collect information on emergency preparedness and on the best way to do so. The Global Conference on Emergency Management planned for April 2023 provides a good opportunity to discuss key performance indicators for emergency preparedness, the strengths and weaknesses of existing data, and methods for data collection for the Observatory.
- Communicating on the importance of emergency preparedness and on the existence of the Guidelines for Simulation Exercises.
- Offering dedicated capacity building activities.
- Considering additional indicators to measure WOAH Members' preparedness by assessing the response and recovery time after a disease introduction.

In parallel, WOAH Members could reflect on:

- Identifying and investing resources to better prepare for animal health emergencies.
- The relevance of more regularly reporting to WOAH when they conduct simulation exercises.

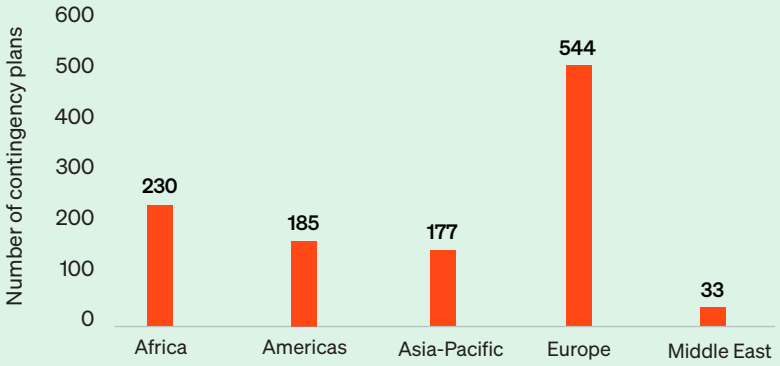
Emergency preparedness

When an animal health or welfare emergency occurs, the effectiveness of the response depends on the level of preparedness of the Veterinary Authority and relevant stakeholders. The World Organisation for Animal Health (WOAH, founded as OIE) develops international standards and guidelines for emergency preparedness, including contingency plans and simulation exercises. Through its Annual Report, the **Observatory** intends to assess the uptake of these standards.

The use of contingency plans varies across regions

87% of Members have a contingency plan for at least one disease

1,169 contingency plans were reported in 2018, with some regional variations



Number of contingency plans per region
Source: WOAH review, 2018

The reporting of simulation exercises is not yet a widespread practice

Only **45%** of Members reported having conducted a simulation exercise

Source: WOAH simulation exercise dataset, 2002-2021

408 simulation exercises were reported between 2002 and 2021

¾ of them were conducted in Europe and the Americas.

More than **95%** of contingency plans and simulation exercises relate to terrestrial animal diseases, mainly avian influenza, foot and mouth disease and African swine fever.

WOAH review, 2018; WOAH simulation exercises, 2002-2021

Emergency preparedness activities undertaken by Members could be improved

Not all Members with contingency plans conduct simulation exercises

African swine fever (ASF)

55% of the Members with a contingency plan have conducted a recent simulation exercise

Classical swine fever (CSF)

11% of the Members with a contingency plan have conducted a recent simulation exercise

Case studies

Disease-free status is not associated with having a contingency plan or reporting simulation exercises

African swine fever (ASF)

24% of the Members with an active self-declaration of ASF freedom have a contingency plan and conducted a recent simulation exercise

Classical swine fever (CSF)

29% of the Members with an official status have a contingency plan and conducted a recent simulation exercise

Sources: WOAH review, 2018; WOAH simulation exercise dataset, 2002-2021

Members' capacity regarding emergency preparedness is limited

Based on recent Performance of Veterinary Services (PVS) Pathway missions, the percentage of Members which reached or exceeded the minimal capacity is as follows:

Emergency funding	Emergency response	+ Emergency funding Emergency response
49%	53%	40%

Source: PVS Evaluation or Follow-up missions for 43 Members, 2016-2021 – Analysis of the Level of Advancement for Critical Competencies II-9. and II.6. from the 6th edition of the PVS Tool

Recommendations

World Organisation for Animal Health

- Raise awareness on the importance of emergency preparedness.
- Offer dedicated capacity building activities.
- Monitor Members' progress with Critical Competencies over time as an indicator of the impact of WOAH's support.

Members

- Identify and invest resources to better prepare for animal health emergencies.
- Conduct regular simulation exercises, following the principles developed in WOAH Guidelines for Simulation Exercises.
- Report simulation exercises to WOAH to increase their visibility.

Access the full information here

Please consider the data limitations outlined in the full Annual Report when consulting this document.

World Organisation for Animal Health
Founded as OIE