Hemispheric Program for the Eradication of Foot-and-Mouth Disease **PHEFA**

ACTION PLAN

2026-2030

Pan American Health Organization







Hemispheric Program for the Eradication of Foot-and-Mouth Disease

PHEFA



Washington D.C., 2025







Copyright page

Table of Contents

Acronyms and abbreviations	4
Summary	5
1. Update on the foot-and-mouth disease situation	7
1.1. Regional context from 2021 to 2025	
1.2. Assessment of the global situation and emerging risks	10
2. Strategic and health justification for 2026 to 2030	12
3. Objectives	14
3.1. General objective	14
3.2 Specific objectives	14
3.2.1. Eliminate the remaining regional risk of foot-and-mouth disease in Venezu	ıela
(Bolivarian Republic of)	14
3.2.1.1. Control and eradicate foot-and-mouth disease in Venezuela	
(Bolivarian Republic of)	
3.2.1.2. Strengthen surveillance and health measures at the borders with Venezuela	
(Bolivarian Republic of)	
3.2.2. Consolidate and maintain the eradication of foot-and-mouth disease in the re	_
3.2.2.1. Complete the transition of free countries to "free without vaccination" status	16
3.2.2.2. Strengthen prevention, surveillance for early detection, preparedness, and	
response systems for foot-and-mouth disease emergencies	17
4. Regional management and governance	24
5. Targets, monitoring, evaluation, and reporting	26
6. Financing and sustainability	28
References	30
Annexes	33
Annex 1 Priority actions to eliminate the remaining regional risk of foot-and-mouth dise	ease 34
Annex 2 Priority actions to consolidate and maintain the eradication of foot-and-m	outh
disease in the Region of the Americas	37
Annex 3 Functioning and governance structure of the	
Regional Antigen Bank for Foot-and-Mouth Disease (BANVACO)	4
Annex 4 Resolutions of the 4th Extraordinary Meeting of COHEFA	43

Acronyms and abbreviations

PPP Public-Private Partnership

BANVACO Regional Antigen Bank for Foot-and-Mouth Disease

IDB Inter-American Development Bank

COHEFAHemispheric Committee for the Eradication of Foot-and-Mouth Disease

COSALFASouth American Commission for the Fight Against Foot-and-Mouth Disease

FAO Food and Agriculture Organization of the United Nations

FUNVESSA Venezuelan Foundation for Animal Health Services

INSAI National Institute of Comprehensive Agricultural Health (Venezuela)

WOAH World Organisation for Animal Health

PAHO Pan American Health Organization

PANAFTOSA/VPH Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health

PHEFA Hemispheric Program for the Eradication of Foot-and-Mouth Disease

OVS Offici Veterinary Services

WRLFMD World Reference Laboratory for Foot-and-Mouth Disease

Summary

Between 2021 and 2025, the Region of the Americas made significal topogress in its strategic agenda toward the eradication of foot-and-mouth disease. During this period, North America, Central America, and the Caribbean maintained their disease-free status, while in South America, the Plurinational State of Bolivia and Brazil obtained international recognition as foot-and-mouth disease-free countries without vaccination from the World Organisation for Animal Health (WOAH).

Thanks to these achievements, nearly 80% of the continental cattle herd is now located in free zones without vaccination, and the Region has succeeded in eliminating serotype C from its vaccines, marking a technical and strategic milestone in the history of the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA).

However, challenges remain in completing the fina phase of the process, especially in the Bolivarian Republic of Venezuela, where the conditions necessary to obtain WOAH certific tion as a foot-and-mouth disease-free country are still pending. This situation maintains a residual risk that could compromise the historic goal of declaring foot-and-mouth disease eradicated in the Americas.

The PHEFA Action Plan 2026-2030 establishes the roadmap for eradicating the disease and preserving the achievements made. Its overall objective is to eliminate the remaining risks and consolidate the disease-free status of all countries on the continent by strengthening prevention, surveillance for early detection, preparedness, and rapid response to emergencies. The specific objectives are:

- 1. Eliminate the remaining regional risk of foot-and-mouth disease.
- 2. To consolidate and maintain the eradication of foot-and-mouth disease in the Region of the Americas.

The Plan establishes a set of key actions aimed at strengthening prevention, preparedness, and rapid response to emergencies and the sustainability of foot-and-mouth disease eradication, with clearly define—outputs, indicators, and timelines. Key actions include: ensuring improvements in epidemiological surveillance and vaccination coverage in Venezuela (Bolivarian Republic of); strengthening the training and continuing education of veterinary services; modernizing information, surveillance, and traceability systems; establishing or expanding emergency compensation funds; and ensuring timely access to vaccines and antigens, in particular through the Regional Foot-and-Mouth Disease Antigen Bank (BANVACO).

Implementation requires political commitment at the national and regional levels, predictable and stable financing with public and private participation, qualifie and permanent human resources in veterinary services, as well as properly established public-private partnerships.

This plan represents the fina stage of an initiative that was launched in 1988, the year the PHEFA Action Plan was implemented, and its execution will enable the Americas to achieve and maintain foot-and-mouth disease-free status, with direct benefit for food security, international trade, social welfare, and sustainable development.

Update on the foot-and-mouth disease situation

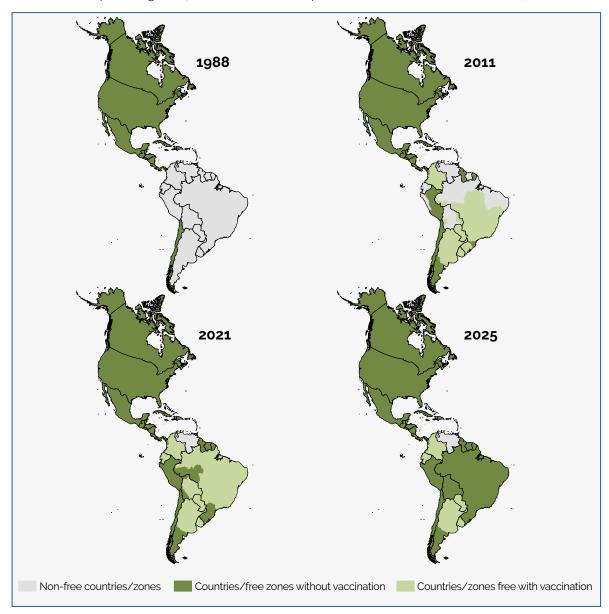
1.1 Regional context from 2021 to 2025

During the period covered by the PHEFA Action Plan 2021-2025, the Region of the Americas made remarkable progress toward the eradication of foot-and-mouth disease. Historically, the subregions of North America, Central America, and the Caribbean have remained free of foot-and-mouth disease without the use of vaccination since the firs year of PHEFA in 1988. In the countries of South America, no outbreaks of foot-and-mouth disease were reported during the period from 2021 to 2025.

Colombia regained its foot-and-mouth disease-free status with vaccination in the department of Norte de Santander in 2023. At the same time, Bolivia (Plurinational State of) and Brazil managed to stop systematic vaccination in their cattle herds and, in May 2025, obtained recognition from the WOAH that their national territories were free of foot-and-mouth disease without vaccination. These milestones brought 99% of the cattle herd in the Americas to regions free of foot-and-mouth disease, with around 80% of the continent's cattle population located in countries or areas free of vaccination, a historic leap toward total eradication. The expansion of foot-and-mouth disease-free zones or countries in the Americas from the start of the firs action plan in 1988 through 2025 can be seen in figure 1.

Regional progress also included the consolidation of the eradication of foot-and-mouth disease virus serotype C. Since this serotype has not been isolated anywhere in the world since 2004, all countries in the Region had already stopped including it in vaccines, with

Figure 1. Foot-and-mouth disease status in countries of the American continent in the year each PHEFA action plan began (1988, 2011, 2021) compared to the current situation (2025).



Source: Prepared by the authors.

the exception of Argentina. As of 2025, Argentina also officially excluded the C3 Indaial strain from its vaccine formulations, thus prohibiting the use of serotype C in immunization programs throughout the Region.

To ensure the availability of vaccine for strategic use in the event of possible introductions of foot-and-mouth disease into free zones or countries, Brazil, Ecuador, and Paraguay moved forward with the creation of BANVACO. In 2025, these three countries formed the BANVACO steering committee, under the coordination of the Pan American Center

for Foot-and-Mouth Disease (PANAFTOSA/VPH), and held the firs meeting of the Bank, which aims to ensure the immediate availability of emergency vaccines in the event of foot-and-mouth disease outbreaks.

A critical factor in the control and eradication of foot-and-mouth disease on the continent was the regional effort to strengthen public-private collaboration in Venezuela (Bolivarian Republic of), the only country in South America that remains unrecognized as free of foot- and-mouth disease by the WOAH. In 2022, the Venezuelan Foundation for Animal Health Services (FUNVESSA) was established, a public-private partnership (PPP) that, under the supervision of the National Institute of Comprehensive Agricultural Health (INSAI), is responsible for carrying out systematic vaccination campaigns and supporting the updating of the country's animal population registry.

Thanks to this alliance, Venezuela (Bolivarian Republic of) strengthened the participation of the private sector in the biannual vaccination cycles starting in 2022, although with coverage below the targets. Likewise, a Regional Commission for Monitoring the National Program for Surveillance, Prevention, Control and Eradication of FMD (PROFA) in Venezuela (Bolivarian Republic of) was established, with the support of PANAFTOSA/VPH, to monitor and provide technical assistance to actions in that country, with the participation of the public and private sectors of Brazil, Chile, Colombia, and Paraguay, and the public sector of Peru. However, to date, only the public sector in Brazil has contributed resources to support PROFA's actions.

It is important to note that the initial years of the PHEFA Action Plan 2021-2025 were marked by the COVID-19 pandemic, which affected multiple sectors, including Offici Veterinary Services (OVS). Health and logistical restrictions posed challenges to countries' veterinary surveillance systems; however, with the necessary adjustments, vaccination campaigns and fiel surveillance activities were maintained.

Despite the difficultie the OVS demonstrated resilience and provided valuable support to public health during the crisis, in the spirit of "One Health." Many veterinary laboratories temporarily redirected their diagnostic capacity to perform COVID-19 testing, helping to expand testing capacity. This participation highlighted the interdependence between animal health and human health.

In addition, veterinary staff collaborated in epidemiological surveillance campaigns and health emergency response, demonstrating that the robust infrastructure established by foot-and-mouth disease programs can also be leveraged to address other animal health emergencies (e.g., recent outbreaks of highly pathogenic avian influenza and support public health at critical times.

1.2 Assessment of the global situation and emerging risks

The eradication of foot-and-mouth disease in the Americas is part of the Global Strategy for the Control of the Disease, approved in 2012 by all WOAH member countries. This strategy, led jointly by WOAH and the Food and Agriculture Organization of the United Nations (FAO), recognizes PHEFA as the program of the Americas Region for the control and eradication of foot-and-mouth disease, avoiding duplication with other initiatives.

Indeed, the success of the Americas has contributed directly to the global goal of consolidating disease-free regions. Since the launch of the Global Strategy for the Control of the Disease in 2012, the current global situation shows uneven progress: while the Americas are moving toward complete eradication, large areas of Africa and Asia continue to face endemic circulation of the virus (figu e 2).

Recent events involving the introduction of foot-and-mouth disease virus into disease-free areas underscore the importance of continuing to adopt emergency preparedness and response measures. In Europe, after more than 14 years without cases in disease-free countries, outbreaks of foot-and-mouth disease were confirme in Germany, Hungary, and Slovakia in early 2025, caused by serotype O, phylogenetically related to Asian lineages. Almost simultaneously, the Middle East faced unusual incursions of typically African serotypes (SAT 1 and SAT 2) with dozens of outbreaks in cattle and sheep reported in Iraq, Kuwait, and border areas of Türkiye during 2023 to 2025.

These events show that viral lineages can spread beyond their endemic regions, exploiting gaps in prevention, biosecurity, and health controls. Therefore, even with the American continent virtually free of the disease, there is consensus that prevention, early detection, preparedness, and rapid response to emergencies must be maintained and strengthened, given the threat of reintroduction from other regions of the world.

Likewise, in the Americas, a continuing health risk associated with Venezuela (Bolivarian Republic of), which, despite not officially recording any foot-and-mouth disease outbreaks since 2013, has not demonstrated a surveillance system capable of confirmining the absence of viral transmission in its territory. This situation poses a potential threat to neighboring countries, making it a priority to adopt coordinated national and regional measures to meet the requirements for WOAH certification as a foot-and-mouth disease-free country, and ultimately, achieve eradication across the continent.

It is important to note, in relation to this risk, that the phylogenetic analysis conducted by PANAFTOSA/VPH revealed that the historical viral strains isolated in Venezuela

(Bolivarian Republic of) are only related to viruses detected in outbreaks that occurred in the northern Andean region. This findin demonstrates that the epidemiology of these viruses has been confine to that specifi geographical area.

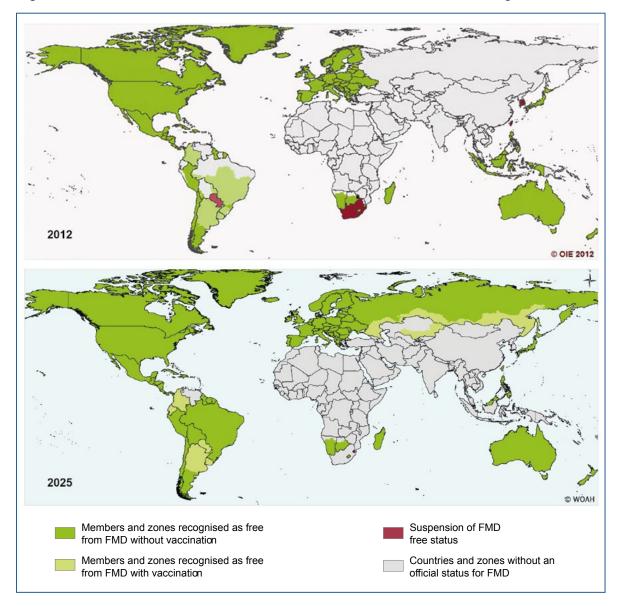


Figure 2. Global foot-and-mouth disease situation in 2012 and 2025, according to WOAH.

Source: Hammond J. (coord.). WOAH/FAO FMD Reference Laboratory Network Annual Report 2012. Paris and Rome: World Organisation for Animal Health and FAO; 2012.

WOAH. 2025. [Accessed on 20.10.2025]. Paris: WOAH;

Available at: https://www.woah.org/en/disease/foot-and-mouth-disease/.



Strategic and health justification for 2026 to 2030

The next fi e-year period of PHEFA (2026-2030) marks the continuation to the fina phase toward the hemispheric eradication of foot-and-mouth disease and the maintenance of the health status achieved. Strategically, it is necessary to: (1) eliminate the residual regional risk in Venezuela (Bolivarian Republic of) by improving surveillance, vaccination coverage, and demonstrating that there is no viral transmission; and (2) protect free territories by strengthening prevention mechanisms, surveillance for early detection, and preparedness for rapid response to a foot-and-mouth disease emergency throughout the region.

In Venezuela (Bolivarian Republic of), the health justific tion is clear: the epidemiological risk that it may pose to the Northern Andean subregion must be mitigated. To this end, it is necessary to continue and intensify the actions initiated during 2021-2025, with an emphasis on strengthening the public-private partnership, increasing population immunity, improving epidemiological surveillance and early detection in the field and establishing effective controls on livestock registration and movements.

Internal sanitary zoning based on the characterization of production systems and risk mapping is emerging as a strategy for targeting resources—progressively definin and fencing off free zones within Venezuela (Bolivarian Republic of) and expanding them as surveillance is strengthened and viral transmission is interrupted. At the same time, it is justifie to strengthen prevention and surveillance measures in the border areas of Brazil and Colombia with Venezuela (Bolivarian Republic of), in order to protect herds in the border region while Venezuela (Bolivarian Republic of) completes its eradication.

In countries already free of foot-and-mouth disease, the Plan considers transitioning to non-vaccinating free status for all those still using vaccination, except in higher-risk areas, such as in the case of Colombian territory, which shares an extensive and permeable border with Venezuela (Bolivarian Republic of). This recommendation is technically based on the fact that the objective of mass vaccination is to reduce the prevalence of the disease to the point where eradication can be achieved, which has already been accomplished by almost all countries in the Americas.

In countries that have achieved foot-and-mouth disease-free status, with or without vaccination, it is essential to maintain and strengthen the capacity of veterinary services for prevention, preparedness, and emergency response, ensuring early detection and immediate action in the event of any viral incursion. Priorities will focus on consolidating sustainable national early detection and response mechanisms by updating surveillance and contingency plans, strengthening compensation funds, accessing emergency vaccine banks, and establishing permanent training and communication programs.

These actions are essential to preserve the health status achieved and ensure effective containment capacity in the event of a resurgence of the virus, while strengthening regional resilience through prepared Veterinary Services and a livestock sector committed to biosecurity and the timely reporting of any suspected disease.

In summary, the period from 2026 to 2030 is envisaged as a stage aimed at completing the eradication of foot-and-mouth disease, closing the existing gap in Venezuela (Bolivarian Republic of) and, at the same time, consolidating the health status achieved, so that the continent becomes more efficient in risk-based prevention, with reinforced early detection, preparedness, and rapid response systems for emergencies. This achievement will consolidate the Americas as a foot-and-mouth disease-free continent without vaccination, generating significant economic and social benefit for the agricultural sector and contributing, in turn, to the global goal of eradicating this devastating disease worldwide.



Objectives

3.1 General objective

The overall objective is to complete the eradication of foot-and-mouth disease and sustain that status by strengthening prevention, surveillance, preparedness, and rapid response mechanisms throughout the Region of the Americas.

3.2 Specific objectives

3.2.1 Eliminate the remaining regional risk of foot-and-mouth disease in Venezuela (Bolivarian Republic of)

Given that the eradication of foot-and-mouth disease in Venezuela (Bolivarian Republic of) is a regional public good, a national political commitment is required, with solidarity-based support from countries and the private sector in the provision of technical and financia resources. Such cooperation funding can be channeled through the trust fund coordinated by PANAFTOSA/VPH, which can receive public or private funds for the purpose of implementing actions provided under the PHEFA. The objective is to accelerate the certific tion of the country as free of foot-and-mouth disease by the WOAH and close the last gap on the continent for the benefi of all.

3.2.1.1 Eradicate foot-and-mouth disease in Venezuela (Bolivarian Republic of)

Political commitment is required to implement the national operational plan, prioritizing the updating of the farm and animal registry, as well as the biannual vaccination campaigns of the target population with high coverage (≥90%). The public-private partnership will continue to be strengthened to ensure the logistics and sustainability of vaccination cycles, while the Offici Veterinary Service must be re-equipped and trained to focus its efforts on epidemiological surveillance.

Internal health zoning of the country could be implemented, based on the characterization of production systems and risk maps generated through seroepidemiological studies, in order to target resources and adjust the systematic vaccination strategy. This approach will allow for the gradual establishment of free zones in accordance with the requirements for certific tion by the WOAH.

3.2.1.2 Strengthen surveillance and health actions at the borders with Venezuela (Bolivarian Republic of)

In Colombia, a strip of intensifie surveillance and vaccination must be maintained along the border with Venezuela (Bolivarian Republic of). This involves maintaining high levels of immunity in border herds (vaccination targeting 100% of the existing target population in each cycle) and maintaining individual identific tion, registration of the movement of susceptible animals, and traceability in that region. Active differentiated surveillance will continue in the departments bordering Venezuela (Bolivarian Republic of), with animal serology, frequent inspections, and movement controls with mobile barriers in the field and surveillance on farms, roads, and routes of possible animal movement.

In addition, communication and health education campaigns should be intensified as part of the country's foot-and-mouth disease communication plan, targeting producers and border communities to encourage immediate reporting of suspected cases (passive surveillance) and discourage animal smuggling. Binational emergency drills and joint training exercises will be planned between Colombia and Venezuela (Bolivarian Republic of) to strengthen the capacity for coordinated response to possible outbreaks.

In the case of Brazil, although historically the risk from the border with the Venezuelan state of Bolívar has been lower (due to low livestock density and jungle geography), it should not be underestimated. Brazil should maintain differentiated surveillance in the state of Roraima and in the border areas, carrying out strict control of movements from Venezuela (Bolivarian Republic of), as well as community health awareness programs to encourage the reporting of any vesicular lesions in cattle or pigs. As on the Colombia–Venezuela border, work should be done to identify animals in the border area, with movement

control and traceability. Joint training exercises between Brazil and Venezuela (Bolivarian Republic of) will be promoted, with the exchange of epidemiological information.

The priority actions for this specifi objective are detailed in annex 1.

3.2.2 Consolidate and maintain the eradication of foot-and-mouth disease in the region

3.2.2.1 Complete the transition of free countries to "free without vaccination" status

It is important to reaffi that systematic vaccination was always conceived as a temporary measure until the internal risk was eliminated; once the absence of viral transmission has been verifie and the risks in a country have been mitigated, the suspension of vaccination is the natural step to maintain the disease-free status in a more sustainable manner. Except for Colombia, all other countries in South America that still administer systematic vaccination in part or throughout their territory can now move towards lifting vaccination. In this transition, countries must adjust their regulations for updating registries and health certific tes to bring them into line with the new disease-free without vaccination status.

Another important area that needs to be addressed is public-private partnerships, which were historically established to carry out foot-and-mouth disease vaccination and constitute valuable organizational capital that should not disappear when vaccination ceases. On the contrary, these producers and veterinarian organizations will be encouraged to redirect their efforts to support other actions under the foot-and-mouth disease program, as well as other priority animal health programs. For example, livestock foundations or committees that previously coordinated vaccination campaigns can now collaborate with OVS in activities such as vaccination campaigns against other diseases (brucellosis, bovine rabies, classical swine fever, etc.), certific tion and traceability, and health education for producers, among others.

This will allow the infrastructure and trained personnel to continue operating for the benefi of animal health in general, ensuring the sustainability of PHEFA's achievements. It is important to formalize these new roles through agreements or regulatory frameworks in each country, ensuring that the delegation of functions to the private sector is carried out with state supervision, transparency, and technical suitability. In this way, PPPs will continue to support the regional health model but will now be focused on the posteradication stage of foot-and-mouth disease.

3.2.2.2 Strengthen prevention, early detection surveillance, preparedness, and response systems for foot-and-mouth disease

In the new foot-and-mouth disease-free continental context, it is even more important to improve national systems to prevent the (re)introduction of the virus, detect any incursions early, and prepare adequately for emergencies to respond quickly and effectively to foot-and-mouth disease outbreaks.

This specifi objective encompasses four interrelated components:

1 Prevention: Countries are urged to continuously evaluate their prevention measures to adjust them to changing risk conditions. This includes periodically updating risk analyses of virus introduction, considering trade, tourism, and migration fl ws, the international epidemiological situation, among others, and applying mitigation measures proportional to the identifie risk. For example, strengthening health security at international points of entry, installing or expanding sniffer dog programs at airports and ports to intercept high-risk animal products, improving inspection of luggage and postal shipments, and ensuring the proper destruction of waste from international means of transport.

Another critical area is the pig population. The practice of feeding pigs with untreated animal waste or residues should be prohibited and strictly monitored, as this can be a route for the introduction of the virus. Likewise, epidemiological units or farms identifie—as being at higher risk for the introduction or spread of the virus, and events where animals are concentrated (auctions, fairs, rodeos, exhibitions), should have reinforced communication and biosecurity measures in place.

It is essential to implement health intelligence tools and advanced information systems (big data, predictive analysis, artificia intelligence) that can alert authorities to emerging threats. Another line of action is to promote the exchange of experiences and best practices among OVS in different countries and with other disease-free regions in foot-and-mouth disease prevention: border controls, quarantine of imported animals, biosecurity in livestock markets, etc. Regional cooperation (workshops, technical visits, communication networks) will help to harmonize preventive strategies throughout the hemisphere.

Finally, bioterrorism is a concern for countries free of disease. To mitigate this risk, it is essential to strengthen links between OVS and intelligence and security agencies. Multisectoral integration increases the ability to detect an attack before it occurs and, if it cannot be prevented, at least react quickly to minimize damage.

This interface is crucial because the criminal dimension of a biological attack requires risk mapping and investigation capabilities (to identify those responsible and prevent future

attacks) that OVS often lack. On the other hand, intelligence services depend on OVS to interpret epidemiological signals and confire the nature of the agent involved.

2 Surveillance: In foot-and-mouth disease-free areas, epidemiological surveillance has two main objectives:

- 1. To ensure the early detection of any suspicious events.
- 2. To verify the continuity of the disease-free status, i.e., there is no evidence of:
 - foot-and-mouth disease virus infection in the unvaccinated animal population;
 - foot-and-mouth disease virus transmission in the vaccinated population.

Passive surveillance. It is essential to strengthen passive surveillance, based on the timely reporting of suspected animal diseases by producers, private veterinarians, and the community at large. To achieve this, it is essential to have sensitized and trained actors — producers, fiel veterinarians, market and fair personnel, among others — capable of recognizing, detecting, and reporting any suspected foot-and-mouth disease to each country's OVS.

A key tool for achieving this goal is a national communication plan for foot-and-mouth disease, aimed at promoting an attitude of alertness, commitment, and responsibility in the productive sector. In 2025, PANAFTOSA/VPH published a technical guide for the development of these plans, which provides practical tools to improve coordination among livestock stakeholders and encourage early reporting.

The following elements are critical to the success of passive surveillance:

- A robust communication and health education strategy for awareness-raising, led by the OVS in coordination with the private sector, aimed at increasing knowledge about the disease and reporting channels. For example, easily accessible online courses for livestock producers, allowing for continuous updating of information.
- Agile, transparent, and reliable financia compensation mechanisms (compensation or indemnific tion funds) that provide producers with assurance that reporting a suspected case will not result in serious financia losses if foot-and-mouth disease is confirmed. The availability of a fl xible compensation fund is crucial to facilitate, if necessary, the immediate slaughter of animals during an outbreak and to compensate affected producers, reducing their reluctance to report. Some countries have established private funds administered by PPPs, to which each producer contributes a small fee per animal (for example, when sent for slaughter). This practice is a positive model that could be replicated.

- Continuous training of veterinarians and technicians, even in countries that have been free of outbreaks for long periods, is essential to keep their knowledge up to date on clinical signs, differential diagnoses, and procedures to follow when outbreaks are suspected.
- Modern, accessible, and comprehensive reporting systems that facilitate communication among stakeholders when reporting suspected cases, including digital platforms, mobile applications, emergency telephone lines, and in-person report at local OVS offices.

Enhanced surveillance in free populations without vaccination. In unvaccinated populations, in addition to passive surveillance and in accordance with the risk context, it is recommended to implement surveillance strategies that strengthen the sensitivity of the system in specific subpopulations.

Examples include surveillance targeting border areas adjacent to countries or regions with different health statuses—for example, boundaries between free areas without vaccination and areas that still vaccinate or non-free countries—where it is recommended to maintain differentiated surveillance programs, especially when there is the possibility of frequent illegal entry of animals.

Likewise, surveillance should be targeted at critical points, such as farms located in the vicinity of laboratories that handle foot-and-mouth disease virus and organic waste treatment plants (landfills) In the latter case, surveillance should be aimed at verifying that there are no domestic or wild pigs that could come into contact with the waste.

Enhanced surveillance in vaccinated disease-free populations. In vaccinated populations, induced immunity may reduce or mask the clinical expression of the disease, thereby decreasing the sensitivity of passive detection. In situations of insufficient post-vaccination immunity, subclinical transmission of the virus may occur.

Therefore, in addition to passive surveillance, systematic active surveillance strategies should be incorporated, such as those applied in various countries in the Region:

- Probabilistic serological sampling aimed at detecting nonstructural proteins, to rule out viral transmission.
- Post-vaccination immunity studies to evaluate the effectiveness of vaccination campaigns and guide adjustments to the national strategy.
- Risk-based designs, for example, prioritizing subpopulations with lower coverage or immune response, or including the risk factors mentioned in the previous section.

Digitization and modernization of information systems. Veterinary services should focus on data collection and continuous evaluation of information within an information system. There is an urgent need to modernize information and surveillance management systems, incorporating technologies that optimize traceability and real-time decision-making. Examples of these innovations include:

- Mobile applications for animal and herd traceability.
- Georeferencing technologies and smart sensors to monitor livestock movements, especially in border areas or areas that are difficut to access.
- Use of drones and smart cameras to reinforce fiel supervision.
- Data analysis using artificia intelligence to identify production and health patterns or anomalies that may indicate possible suspiscious events.

The sustainability of foot-and-mouth disease-free status depends not only on the absence of outbreaks, but also on the dynamic and adaptive capacity of surveillance systems. The continuous strengthening of OVS, inter-institutional coordination, the participation of the productive sector, and the progressive incorporation of digital technologies are the essential pillars for ensuring timely detection, rapid response, and international health transparency.

3 Emergency preparedness, rapid response, and crisis management: Despite robust preventive measures, there is always the possibility of (re)introduction of the virus, whether through illegal channels, animal migration, contaminated products, or even intentionally (bioterrorism). It is therefore essential that countries be fully prepared to respond immediately and effectively to a foot-and-mouth disease emergency, minimizing its impact. In this regard, each OVS must have an updated National Contingency Plan that clearly details the procedures to be followed in the event of an outbreak, such as quarantine, zoning, sanitary slaughter, emergency vaccination, epidemiological tracing, among other actions.

These plans should not be file away but rather tested regularly through various types of simulated exercises (cabinet, *drills*, functional, or full-scale). These training exercises should be part of a continuous training plan for the OVS. Ideally, the participation of the private sector and other government institutions that make up national emergency systems, such as ministries of health, environment, and security forces, will be key to identifying operational gaps and improving procedures.

In addition, the productive sector (meat industry, dairy plants, slaughterhouses, etc.) should collaborate with the OVS in developing business continuity plans that can be activated in the event of quarantines or interruptions in the movement of animals. These plans should include measures such as temporary storage, reinforced biosecurity protocols,

and alternative marketing channels, with the aim of mitigating the impact on the food supply chain during the contingency.

To strengthen preparedness measures, modeling studies can be implemented to assess possible scenarios for the introduction of foot-and-mouth disease and its impact based on the simultaneous application of various control measures, such as movement restrictions, sanitary slaughter, and emergency vaccination. Although these studies have limitations, the information they provide is valuable for countries to prepare their human resources, equipment, and vaccine doses, as well as to estimate times and costs in the event of an outbreak.

A critical element of preparedness is ensuring rapid access to emergency foot-and-mouth disease vaccines. In this context, BANVACO plays a key role in ensuring access to concentrated antigens of strains relevant to the Region. Within the framework of this Action Plan, Member States, together with experts from the Region and under the coordination of PANAFTOSA/VPH, will be able to delve deeper into the technical aspects that underpin the strategy and operational use of vaccination as a tool for the control and eradication of foot-and-mouth disease outbreaks. All foot-and-mouth disease-free countries will be encouraged to sign agreements to participate in the regional bank, thus ensuring their participation and access to a reserve of doses in case of need. Annex 3 presents the operation and governance structure of BANVACO.

At the national level, it is recommended to maintain a minimum reserve of diagnostic reagents and personal protective equipment intended exclusively for emergencies, as well as to develop contingency plans for laboratories.

Another essential component is crisis communication. There should be a specific communication plan in place for foot-and-mouth disease emergencies, which can be activated immediately to provide transparent information to the population, international markets, and international organizations, thereby avoiding rumors or unfounded alarms.

As part of continental preparedness, it is proposed to form an Emergency Management Group within the framework of COHEFA, composed of experts from different countries, under the coordination of PANAFTOSA/VPH and at the request of the host country, which can be mobilized in the event of an alert to provide technical assistance on the ground to the affected country. This regional task force would ensure that no country faces an emergency alone that could threaten the entire region.

At the national level, OVS should have a clearly define and structured health emergency unit responsible for leading the response to outbreaks of foot-and-mouth disease or other transboundary animal diseases, as already recommended in the PHEFA Action Plan 2021-2025. This unit should have clear lines of authority, protocols in place, and trained personnel.

Similarly, each service should draw up an inventory of logistical resources that can be mobilized in an emergency: lists of accredited veterinarians who could be called upon, equipment for euthanasia and disposal of carcasses, vehicles, mobile laboratories, etc., ideally pre-agreed through agreements with other institutions (armed forces, civil defense) or with the private sector.

Finally, it is advisable to implement a digital information system for emergencies that allows data to be documented and recorded, as well as real-time monitoring of all actions, communications, samples sent, and results during the crisis, facilitating the generation of information for decision-making and traceability during and after the emergency.

4 Strengthening laboratory capacities at the regional level: The network of foot-and-mouth disease diagnostic laboratories in the Americas has been a pillar of PHEFA's success and keeping it strong is essential to maintaining disease-free status. It is essential to avoid dismantling or weakening national laboratories now that the disease has been eradicated in much of the continent, as their role becomes even more crucial in the stages of prevention, preparedness, and rapid response.

On the contrary, offici veterinary laboratories must maintain standards of excellence and have quality certific tions. All national foot-and-mouth disease reference laboratories will be encouraged to implement or update their quality management system in accordance with International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17025:2017, accrediting key testing methods such as serology, molecular PCR diagnosis, genetic sequencing, and genomic surveillance.

Genomic surveillance is a strategic tool for monitoring viral evolution and identifying variants with a potential impact on animal health. For this capacity to be effective and sustainable, it is essential that countries have professionals specialized in metagenomics and bioinformatics. These experts are responsible for processing and interpreting large volumes of genetic data, generating robust phylogenetic analyses, and translating genomic information into useful evidence for decision-making. Their incorporation strengthens the national capacity to respond to health emergencies and contributes to the integration of laboratories into regional and international surveillance networks.

In terms of infrastructure, PANAFTOSA/VPH is in the fina stages of preparing to launch a new high-biosafety laboratory at its headquarters in Duque de Caxias, Rio de Janeiro. This facility will allow for the safe handling of live foot-and-mouth disease virus for diagnostic purposes, antigen production, and vaccine quality control testing, without posing a risk to regional livestock. The laboratory is scheduled to begin operations in 2026 and responds to the need for modernized, safe facilities that meet the highest international standards.

This regional capacity must be sustained, strengthened, and fully utilized. PANAFTOSA/VPH will continue to support national laboratories through technical cooperation in the provision of reference reagents, control panels, and technical training. Intercomparison trials and proficien y tests coordinated by PANAFTOSA/VPH for the vesicular laboratory network will continue, ensuring diagnostic harmonization and technical competence in all countries.

In addition, a Regional Bank of Reagents and Diagnostic Kits will be established, which will include ELISA 3ABC kits, antigens for typing, primers for PCR, among others supplies, administered by PANAFTOSA/VPH and finan ed with contributions from the countries. This bank will make critical supplies immediately available in the event of a health emergency.

At the same time, each country must have a contingency plan for laboratories that clearly define the procedures to be followed in the event of an outbreak of foot-and-mouth disease. This plan must include express shipping routes for samples to reference laboratories (regional or international), the specific tests to be performed at the national level, and the criteria for requesting external support, among other key operational aspects. The effectiveness of these plans must be verified through mock shipments of samples to PANAFTOSA/VPH or other designated centers, ensuring that the chain of custody and diagnostic time meets the expected standards.

Given that the foot-and-mouth disease virus is kept in some laboratories for diagnostic or antigen production purposes, biocontainment standards and compliance monitoring will be reinforced. The Regional Commission on Biological Risk and Laboratory Biosafety, under the coordination of PANAFTOSA/VPH, will assist in the review of safety protocols and issue recommendations for all laboratories that handle the virus or its derivatives, through technical visits and ensuring the continuous performance of its activities.

This complements BANVACO's efforts, as robust biosafety is an essential condition for handling vaccine strains without jeopardizing disease-free status.

Finally, the PANAFTOSA/VPH reference laboratory will conduct vaccine potency studies on vaccines formulated with antigens that will be included in BANVACO, as well as antigenic correlation studies (*vaccine matching*) with isolates from the PANAFTOSA/VPH virus collection or in the event of the emergence of new strains in other regions, in order to evaluate the effic y of stored vaccines against these strains. PANAFTOSA/VPH, in collaboration with other reference centers, will participate in these tests, ensuring that the Region is prepared with the most appropriate vaccines in the event of an exogenous viral incursion.

The priority actions for this specificobjective are detailed in annex 2.



Regional management and governance

Successfully achieving and sustaining the eradication of foot-and-mouth disease in the Americas requires a robust regional governance framework to coordinate and monitor national strategies. At this fina stage of PHEFA, it is proposed to strengthen the role of COHEFA as the governing body that integrates all countries in the Americas, now that most herds are located in countries that are free without vaccination.

For its part, the South American Commission for the Fight Against Foot-and-Mouth Disease (COSALFA) will continue to operate as a key technical forum at the subcontinental level (South America and Panama), meeting routinely to assess progress, disseminate recommendations, and facilitate regional cooperation. The synergy between COHEFA and COSALFA, with the support of Pan American Health Organization (PAHO) through PANAFTOSA/VPH as technical secretariat, has been a differentiating factor in the Region, avoiding duplication and ensuring consistency in actions.

Likewise, COHEFA will promote broad interinstitutional technical alignment: partnerships with international organizations such as WHO, FAO, and IICA will be maintained, and regional mechanisms such as the International Regional Organization for Agricultural Health in Mesoamerica, the Community of Caribbean Countries, the Andean Community, and the Permanent Veterinary Committee of the Southern Cone will be strengthened.

Reference is made here to the PHEFA Action Plan 2021-2025, which clearly sets out the role of international organizations and institutions associated with technical cooperation and the mobilization of resources for regional projects related to foot-and-mouth disease within the framework of PHEFA.

Finally, harmonizing regional actions with the Mexico-United States Commission for the Eradication of Foot-and-Mouth Disease is essential to strengthen synergies and ensure that the continent speaks with one voice on foot-and-mouth disease, without gaps or weak links. In this context, COHEFA will once again play a decisive role.

In the area of emergency vaccine availability, with the creation of BANVACO, strategic alliances will be sought with other existing regional vaccine banks around the world to complement capacities and, eventually, exchange antigens if any of them face specifi strains. This will increase the robustness of the global foot-and-mouth disease safety system.

In summary, the governance of PHEFA 2026-2030 will be based on proven participatory mechanisms but adapted to the new reality. Resolutions will be issued by COSALFA and recommendations by COHEFA that reflec the commitments described here. PAHO, through PANAFTOSA/VPH, will continue to act as the technical secretariat for these commissions and as a bridge for communication and cooperation between countries, ensuring the ongoing coordination of PHEFA, even after the disease has been eradicated.



Goals, monitoring, evaluation and reporting

The plan establishes the goal of eradicating foot-and-mouth disease throughout the Region of the Americas by 2030, ensuring the sustainability of the health status achieved and the capacity of countries to prevent the introduction of the virus, as well as to achieve its rapid detection and eradication in case of introduction.

Each specifi objective described will be broken down into actions and indicators to facilitate monitoring (annexes 1 and 2). These indicators will make it possible to evaluate compliance with the plan.

As tools for the ongoing monitoring and evaluation of PHEFA, PANAFTOSA/VPH, in its role as technical secretariat of COHEFA, will prepare annual reports on the status of footand-mouth disease programs in South America and Panama, which will be presented at each COSALFA meeting. These reports will include information related to the progress of the actions outlined in annexes 1 and 2.

Additionally, in 2028, data will be collected from all countries and a mid-term hemispheric report on the 2026-2030 Action Plan will be prepared for COHEFA, covering the countries of North America, Central America, and the Caribbean, with an emphasis on the prevention and maintenance of free status actions provided for in Annex 2. This technical report will analyze the degree of progress in each component and issue recommendations for the second half of the period.

Similarly, at the end of 2030, a final evaluation of the PHEFA Action Plan will be conducted, covering the results achieved, lessons learned, and the degree of compliance with the objectives.

All these reports and evaluations will be made publicly available through the PAHO Digital Library (IRIS: <u>iris.paho.org</u>) to ensure transparency and accountability. In this context, it is reaffirmed that the progress made and the eradication of foot-and-mouth disease are also included in PAHO's 2030 disease elimination initiative and constitute a regional public good, whose preservation also requires systematic advocacy and monitoring of any gaps in compliance with the plan, as an essential mechanism for protecting the results achieved.



Financing and sustainability

The eradication phase and maintenance of disease-free status require sustained financia resources at both the national and regional levels. It is imperative that all countries continue to invest in strengthening their veterinary services—especially in epidemiological surveillance, laboratory capacity, and response capacity—even when foot-and- mouth disease has disappeared from their territory. The risk of an emergency is not eliminated, only controlled, and therefore the health infrastructure should not be dismantled, but rather reoriented toward surveillance for early detection and emergency preparedness.

To finan e the actions outlined in this Action Plan, mixed funding sources are proposed, mainly national public budgets, supplemented by contributions from the private productive sector (e.g., through existing livestock sector foundations or funds) and international technical cooperation (PAHO, FAO, Inter-American Development Bank, or others). Each country should ensure that the budget line for animal health is not reduced after eradication but rather maintained or redistributed among new priorities (preparedness, compensation, ongoing training, etc.). At the regional level, countries are encouraged to continue contributing to PAHO's PHEFA fund, which provides financin for coordination and technical cooperation activities.

Long-term sustainability will also depend on the institutionalization of many of the mechanisms described here, for example, ensuring that emergency and compensation funds are backed by legislation, that PPPs have legal recognition to act beyond foot-and-mouth disease, that foot-and-mouth disease surveillance is integrated into permanent animal health programs, etc. This will ensure that structures remain in place beyond specifi individuals or administrations.

On the other hand, transparent financia management and accountability practices will be adopted. At the national level, public-private shared funds will be encouraged to publish annual income and expenditure reports, and the health results obtained will be communicated to contributors (producers and the livestock sector) so that they can see the return on their investment in the form of health protection and improvements in emergency prevention and preparedness.

In conclusion, the eradication of foot-and-mouth disease in the Americas is close to being achieved thanks to decades of collective effort. The 2026-2030 Action Plan charts the path to achieving this historic goal and preserving the gains made. It requires the unwavering commitment of governments, trade associations, technicians, producers, the livestock industry, the pharmaceutical industry, and academia working together under the principles of solidarity, transparency, and scientifi excellence. The legacy of a foot-and-mouth disease-free American continent will not only bring economic prosperity and food security but will also serve as a global example of health cooperation.

References

- Cárdenas NC, de Menezes TC, Countryman AM, Lopes FPN, Groff FHS, Rigon GM, Gocks M, Machado G. Integrating epidemiological and economic models to estimate the cost of simulated foot-and-mouth disease outbreaks in Brazil. Preventive Veterinary Medicine. 2025;242:106558. 2005. Available at: https://doi.org/10.1016/j.prevetmed.2025.106558.
- Cárdenas NC, Viali dos Santos D, Lima DM, Daza Gutierrez HO, Gareca Vaca DR, Machado G. Footand-Mouth Disease in Bolivia: Simulation-Based Assessment of Control Strategies and Vaccination Requirements. Transbound Emerg Dis. 2025:9055612. Available at: https://doi.org/10.1155/tbed/9055612.
- 3. Clements N, Diel DG, Elvinger F, Koretzky G, Siler J, Warnick LD. The role of veterinary diagnostic laboratories during COVID-19 response in the US. PLoS ONE, 2024. 19(6): e0286239. Available at: https://doi.org/10.1371/journal.pone.0303019.
- 4. Venezuelan Health Services Foundation, National Institute of Comprehensive Agricultural Health. COSALFA 50 Presentation Situation in Venezuela and Eradication Plan. Santa Cruz: COSALFA; 2023.
- 5. World Organisation for Animal Health and Food and Agriculture Organization of the United Nations. OIE/FAO FMD Reference Laboratory Network. Annual Report 2012. Paris and Rome: OMSA and FAO; 2013. Available at: https://www.fao.org/fileadmin_user_upload/eufmd/docs/Pirbright_reports/OIE-FAO_FMD_Reference_Laboratory_Network_report_2012_.pdf
- 6. World Organisation for Animal Health and Food and Agriculture Organization of the United Nations. WOAH/FAO Foot-and-Mouth Disease Reference Laboratory Network. Annual Report 2023. Paris and Rome: OIE and FAO; 2023. Available at: https://www.wrlfmd.org/sites/world/files_quick_media/WOAH-FAO%20FMD%20Ref%20Lab%20Network%20Report%202023.pdf.
- World Organisation for Animal Health and Food and Agriculture Organization of the United Nations.
 2024 Annual Report of the OIE/FAO Reference Laboratory Network for Foot-and- Mouth Disease.
 Paris and Rome: OIE and FAO. 2024.
- 8. World Organisation for Animal Health, Food and Agriculture Organization of the United Nations. Global Strategy for the Control of Foot-and-Mouth Disease. Paris and Rome: OIE and FAO; 2012.
- 9. World Organisation for Animal Health, Food and Agriculture Organization of the United Nations. WOAH-FAO FMD Reference Laboratory Report Apr-Jun 2025. Paris and Rome: OIE and FAO; 2025. Available at: https://www.wrlfmd.org/sites/world/files-quick_media/WOAH-FAO%20FMD%20-Ref%20Lab%20Report%20Apr-Jun%202025_0.pdf.
- 10. World Organisation for Animal Health. (). "One Health." Concept and application. Paris: OIE; 2022. Available at: https://www.woah.org/es/que-hacemos/iniciativas-mundiales/una-sola-salud/.

- 11. World Organisation for Animal Health. A Global Partnership to Mitigate Biological Threats. Paris: OIE; 2021. Available at: https://www.woah.org/en/a-global-partnership-to-mitigate-biological-threats/.
- 12. World Organisation for Animal Health. Chapter 4.18: Vaccination. In: Terrestrial Animal Health Code, pp. 1-12. Paris: OIE; 2024. Available at: https://www.woah.org/fileadmin/ ome/esp/Health_standards/tahc/current/chapitre_vaccination.pdf.
- 13. World Organization for Animal Health. Chapter 8.8: Foot-and-mouth disease virus infection. In: Terrestrial Animal Health Code, pp. 1-40. Paris: OIE; 2024. Available at: https://www.woah.org/fileadmin/ome/esp/Health_standards/tahc/current/chapitre_fmd.pdf.
- 14. World Organisation for Animal Health. Biological Threat Reduction Strategy. Paris: OIE; 2024. Available at: https://www.woah.org/en/what-we-do/global-initiatives/biological-threat-reduction/.
- 15. World Organisation for Animal Health. WAHIS: World Animal Health Information System. Paris: OIE; 2025. Available at: https://wahis.woah.org/#/home.
- 16. Pan American Health Organization (PAHO). (n.d.). Elimination Initiative [Section "Eradication"]. Pan American Health Organization. Retrieved September 2025: https://www.paho.org/es/iniciativa-eliminacion#erradicacion.
- 17. Pan American Health Organization. Regional Foot-and-Mouth Disease Antigen Bank. BANVACO. Washington, D.C.: PAHO; 2025. Available at: https://www.paho.org/es/panaftosa/banvaco.
- 18. Pan American Health Organization. Risk assessment of foot-and-mouth disease virus type C in South America. Washington, D.C.: PAHO; 2017. Available at: https://iris.paho.org/handle/10665.2/50454.
- 19. Pan American Health Organization. Foot-and-mouth disease: comparative analysis between vaccinated and unvaccinated status. Washington, D.C.: PAHO; 2023. Available at: https://iris.paho.org/handle/10665.2/57558.
- 20. Pan American Health Organization. Guide for the development of a national communication plan on foot-and-mouth disease. Washington, D.C.: PAHO; 2025. Available at: https://iris.paho.org/handle/10665.2/66440.
- 21. Pan American Health Organization. Status report on foot-and-mouth disease eradication programs. Years 2022–2023. Washington, D.C.: PAHO; 2024. Available at: https://www.paho.org/sites/default/files/i_forme_situacion-fieb_eaftosa-2022-2023-rev_0.pdf.
- 22. Pan American Health Organization. Status report on foot-and-mouth disease eradication programs in South America and Panama, 2024. Washington, D.C.: PAHO; 2025. Available at: https://www.paho.org/es/documentos/informe-situacion-programas-erradicacion-fieb e-aftosa-sudamerica-panama-2024.
- 23. Pan American Health Organization. Final report of COSALFA 50. Washington, D.C.: PAHO; 2024. Available at: https://iris.paho.org/handle/10665,2/64193.

- 24. Pan American Health Organization. Manual of procedures for the care of suspected foot-and-mouth disease and other vesicular diseases. Washington, D.C.: PAHO; 2025. Available at: https://iris.paho.org/handle/10665.2/67434.
- 25. Pan American Health Organization. 2021-2025 Action Plan for the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA). Washington, D.C.: PAHO; 2021. Available at: https://www.paho.org/es/documentos/plan-accion-2021-2025-del-programa-hemisferico-erradicacion-fieb e-aftosa-phefa.
- 26. Pan American Health Organization. Hemispheric Program for the Eradication of Foot-and- Mouth Disease: Action Plan 2011-2020. Rio de Janeiro: PANAFTOSA-PAHO/WHO; 2011. Available at: https://iris.paho.org/bitstream/handle/10665,2/49641/programahemisferico_spa.pdf.
- 27. Pan American Health Organization. Hemispheric Program for the Eradication of Foot-and- Mouth Disease: Action Plan 1988-2009. Washington, D.C.: PAHO; 1988. Available at: https://iris.paho.org/handle/10665.2/51210.
- 28. Pan American Health Organization. Recommendations of the 13ªMeeting of the Foot-and- Mouth Disease Evaluation Committee (COHEFA 13). 2016. Available at: https://iris.paho.org/bitstream/handle/10665.2/50467/recomendacionesCOHEFA13_spa.pdf?sequence=1&isAllowed=y.
- 29. Pan American Health Organization. Resolutions of the 48th Ordinary Meeting of the South American Commission for the Control of Foot-and-Mouth Disease (COSALFA 48). Washington, D.C.: PAHO; 2022. Available at: https://iris.paho.org/bitstream/handle/10665.2/54841/resolucionescosalfa48_spa.pdf?sequence=1&isAllowed=y.
- National Service for Agrifood Health and Quality. Resolution 460/2024. Exclusion of serotype C from footand-mouth disease vaccines. Offici Gazette. Buenos Aires: National Service for Agrifood Health and Quality; 2024. Available at: https://www.boletinoficial.gob.ar/detalleAviso/primera/306868/20240507.

Annexes

Priority actions to eliminate the remaining regional risk of foot-and-mouth disease

N.º	Main focus	Action	Expected outcome	Time for implementation (months)	Indicator	Comments
1	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	There is political commitment will to finance and implement the operational plan with the aim of eradicating foot-and-mouth disease in the country and certifying it as free before the WOAH	Approval by the country's Minister of Agriculture with budget allocation for the execution of the operational plan	6	Resolution and budget published	
2	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Define the roles of the institutions involved and harmonize procedures in vaccination cycles	Implement collection by Funvessa for the application of the foot-and- mouth disease vaccine with the aim of self- sustaining the system	12	Vaccination cycle with fees implemented	
3	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Implement official quality and potency control of the vaccine used in the country	Operationalize official control of the quality and potency of the foot-and-mouth disease vaccine produced in the country	12	100% of the vaccine used in the country with official control	
4	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Establish a process of internal health zoning based on the characterization of production systems and risk maps through seroepidemiological studies	Establish the zones and epidemiological risk of foot-and- mouth disease in Venezuela. Adjust the routine vaccination strategy, if necessary	12	Zones established by INSAI	
5	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Strengthen the official veterinary service (INSAI), including the official laboratory	Gradually improve the physical structure, equipment, materials, and human resources in local and regional offices, the central plant, and the laboratory	24	Areas established by INSAI with all offices having adequate physical structure, vehicles, and personnel	
6	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Implement a training plan for the official veterinary service	Gradually train INSAI veterinarians and veterinary assistants, including laboratory staff	24	Areas established by INSAI with at least 80% of personnel trained	Establish a continuing training plan

N.°	Main focus	Action	Expected outcome	Time for implementation (months)	Indicator	Comments
7	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Update and maintain the farm and animal registry	With the improvement in vaccination coverage by FUNVESSA, in conjunction with INSAI, it is expected that the registry of farms and animals susceptible to footand- mouth disease will be gradually updated	36	Areas established by INSAI with a 100% updated registry of farms and animals	Updated registry of animals and farms with animals of species susceptible to foot-and-mouth disease
8	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Improve the system for controlling and monitoring animal movement	Implement an electronic system for issuing movement permits, with compliance with vaccination cycles as a requirement for movement	36	Electronic system implemented	
9	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Improve foot-and-mouth disease vaccination coverage	In conjunction with the cadastral update, it is expected to reach equal to or greater than 90% coverage in the target population	36	Areas established by INSAI with coverage of animals and farms equal to or greater than 90%	
10	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Improve the epidemiological surveillance system for foot-and-mouth disease	Have trained physical and human resources to adequately respond to suspected vesicular diseases, taking samples when necessary	36	Areas established by INSAI with 100% of notifications adequately addressed	
11	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Structure and operationalize the program's information system to support decision- making	Harmonize all systems used in the foot- and-mouth disease program and avoid duplication of work	36	Systems used in the foot-and- mouth disease program harmonized and integrated	
12	Eradicate foot-and- mouth disease in Venezuela (Bolivarian Republic of)	Plan, execute, and evaluate the seroepidemiological studies necessary for certification as a foot-and-mouth disease-free zone/country by the WOAH	Measure herd immunity and (absence of) viral transmission in vaccinated herds	48	Study completed in the areas established by INSAI	Then implementation of the above actions

N	° Main focus Act	etion	Expected outcome	Time for implementation (months)	Indicator	Comments
1	surveillance at the borders	rveillance in the border area between plombia and Venezuela (Bolivarian	Colombia will maintain and strengthen prevention, surveillance, and emergency preparedness measures in the border area with Venezuela (Bolivarian Republic of)	6	Reinforced surveillance plan implemented	Binational agreement on joint actions at the border between the two countries must be updated
1.	surveillance at the borders surveillance at the borders vith Venezuela (Bolivarian Ven	enezuela (Bolivarian Republic of)	Brazil will maintain and strengthen prevention, surveillance, and emergency preparedness measures in the border area in Roraima with Venezuela (Bolivarian Republic of)	6	Reinforced surveillance plan implemented	Binational agreement on joint actions at the border between the two countries must be updated
1,	public-private resources to fi foot (Bol	ave strategic partners, public or private, finance actions aimed at eradicating ot- and-mouth disease in Venezuela olivarian Republic of)	Have signed agreements for financing PHEFA actions in Venezuelan territory	24	Agreements signed for the implementation of actions planned in the PHEFA in support of Venezuela (Bolivarian Republic of)	PANAFTOSA/VPH, in coordination with donor institutions or countries and with the approval of Venezuela (Bolivarian Republic of)

Priority actions to consolidate and maintain the eradication of foot-and-mouth disease in the Region of the Americas

N.º	Main focus	Action	Expected outcome	Time for implementation (months)	Indicator	Comments
1	Complete the transition from foot- and-mouth disease-free countries to foot-and-mouth disease- free status without vaccination	Standardize the annual update of the registry of farms and animals susceptible to foot-and- mouth disease	Maintain the register up to date after lifting vaccination against foot-and-mouth disease	12	Decree or resolution published	
2	Complete the transition from foot- and-mouth disease-free countries to foot-and-mouth disease- free status without vaccination	Maintain APPs in a scenario without vaccination for foot-and-mouth disease	Definition of APP roles in the new scenario	12	Updated agreement	
3	Complete the transition from free countries to free status without vaccination	Develop a border surveillance plan with countries that continue to vaccinate	Border surveillance plan implemented	12	Resolution published and surveillance implemented	
4	Complete the transition of free countries to "free without vaccination" status	Update or revise requirements for the import or export of animals and animal products in the new non-vaccination scenario	Updated and agreed health requirements for the import and export of animals and animal products	12	Updated health requirement	
5	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Access to a foot-and-mouth disease antigen bank	Access to emergency vaccines	12	Become a member of BANVACO or another vaccine bank	

N.º	Main focus	Action	Expected outcome	Time for implementation (months)	Indicator	Comments
6	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Create or strengthen the Animal Health or Foot-and-Mouth Disease Emergency Fund	Have a compensation fund, preferably privately managed, with sufficient resources to support emergency and preparedness actions	12	Fund created and sustainable (regularly fed by contributions from livestock farmers and other sectors of the livestock production sector)	
7	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Maintain and strengthen the operational capacities of the OVS	Ensure that veterinary services maintain (and even expand) their prevention, surveillance, and response capabilities to detect and act quickly in the event of any viral incursion	12	Maintain adequate human, physical, and logistical resources for the OVS to carry out its activities	Implement a coordinated system of supervision in local, regional, and central units to verify procedures, structure, and activities
8	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Create or maintain public-private coordination committees, especially with livestock farmers	Group for monitoring and discussing the implementation of actions related to animal health	12	Resolution published - Meeting schedule established	
9	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Develop a continuing education plan for the OVS	Continuing education plan developed and implemented, including simulation exercises	12	Continuing education plan for foot-and- mouth disease published	
10	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Update the foot-and-mouth disease contingency plan	Updated contingency plan	24	Foot-and-mouth disease contingency plan updated and published	
11	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Establish and train the national emergency management group	National emergency management group established and trained	24	Resolution published/ training certificates	
12	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Have an adequate amount of emergency supplies in reserve	Updated inventory and adequate quantity in reserve	24	Updated inventory available to the person responsible for the emergency sector	

N.º	Main focus	Action	Expected outcome	Time for implementation (months)	Indicator	Comments
13	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Conduct or update studies analyzing the risk of introduction and modeling the spread of the foot-and-mouth disease virus	Data on the impact of an outbreak of foot-and-mouth disease in the country and on containment measures; mapping of the main routes of entry of the foot-and- mouth disease virus into the country	24	Published studies	As a prerequisite, updated data on farms, animals, and movements are required
14	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Develop a laboratory contingency plan	Updated contingency plan	24	Laboratory contingency plan published	
15	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Develop communication plan	Communication plan developed and implemented	24	Foot-and- mouth disease communication plan published	Guidance for developing a national foot-and-mouth disease communication plan
16	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Review and update, if necessary, the foot- and-mouth disease program	Have an updated surveillance plan for the free without vaccination scenario	24	Published plan	Procedures manual for responding to suspected cases of foot-and-mouth disease and other vesicular diseases
17	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Strengthen prevention, especially at borders and points of entry	Updated legislation and manuals; signed agreements; trained dog brigades; identification of high-risk epidemiological units; exchange of experiences with other OVSs on the continent	24	Legislation and manuals published, agreements signed, canine unit implemented	List for biosecurity verification on farms and at animal fairs
18	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Develop or review regulations on feeding pigs with waste	Improved and shared waste surveillance	24	Resolution published and surveillance implemented	
19	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Regulate the prohibition of pigs and other farm animals in landfills	Improved surveillance of pigs and other farm animals in landfills	24	Resolution published and surveillance implemented	

N.º	Main focus	Action	Expected outcome	Time for implementation (months)	Indicator	Comments
20	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Create mechanisms to improve multisectoral integration	Create intersectoral committees to work in an integrated manner with security forces, especially intelligence, health, environment, and civil defense	24	Committees created and active. Meeting schedule published	
21	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Develop business continuity plans	Have the private sector develop continuity plans for foot-and- mouth disease outbreaks, with support and supervision from the OVSs	24	Approved continuity plans	
22	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Implement a national animal health emergency unit	Animal health emergency unit formally established in the OVS organizational chart	24	National emergency unit established in countries	
23	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Maintain and strengthen the animal health laboratory	The animal health laboratory is vital not only for foot-and-mouth disease emergencies and surveillance, but also for all other officially controlled diseases	36	Laboratory with adequate equipment and personnel, implementing ISO 17025, for routine and emergency demands	
24	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Modernize information systems	Implement mobile applications for real-time batch traceability, use of geolocation technologies, and implementation of a computerized emergency management system	36	System developed and implemented	
25	Strengthen systems for prevention, surveillance, preparedness, and response to foot-and- mouth disease emergencies	Create a Hemispheric Emergency Management Group	Group of professionals from countries in the Region of the Americas who receive ongoing training so that, if necessary, they can support countries on the continent that may be affected by an outbreak of foot-and-mouth disease	48	Group formed and trained	PANAFTOSA/VPH will coordinate with experts from the countries

Functioning and governance structure of the Regional Antigen Bank for Foot-and-Mouth Disease

The Regional Antigen Bank for Foot-and-Mouth Disease (BANVACO) is an initiative created in the Americas to ensure the immediate availability of emergency vaccines for foot-and-mouth disease.

Discussions on the BANVACO project began at the 12th Meeting of the Hemispheric Committee for the Eradication of Foot-and-Mouth Disease (COHEFA) in 2012, when the countries of the Americas approved the proposal to create a regional antigen bank as a strategic tool for responding to health emergencies.

The fina draft of the founding agreement was sent to Member States in December 2018, and PAHO was entrusted with its management through PANAFTOSA/VPH, ensuring its supranational character, neutrality, and technical and logistical capacity in the procurement, storage, and distribution of emergency antigens and vaccines for foot-and-mouth disease.

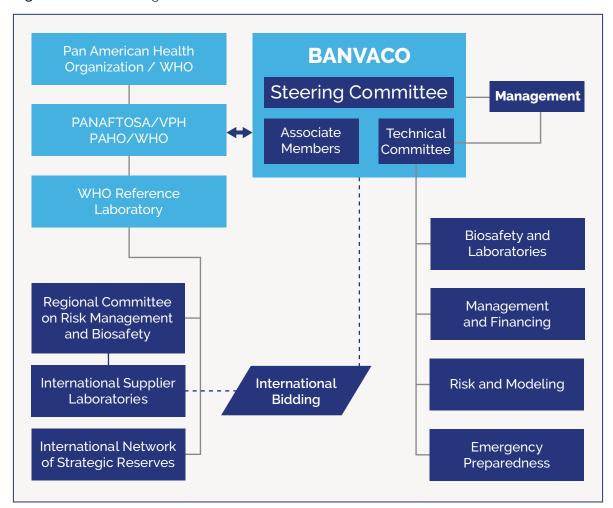
BANVACO was definitifiely created in August 2025, with the participation of three national authorities on its Board of Directors:

- National Animal Health and Quality Service (SENACSA), Paraguay.
- Phytosanitary and Zoosanitary Regulation and Control Agency (AGROCALIDAD), Ecuador.
- Department of Animal Health (DSA/MAPA), Brazil.

All national authorities of PAHO member countries can join BANVACO as members of the steering committee by signing the Constitutive Agreement. Alternatively, they can apply for participation as associate members of BANVACO, until they achieve the status of members of the steering committee once the Constitutive Agreement has been signed.

The governance structure of BANVACO is presented in Figure A1. Additional details can be found on the initiative's website, available at www.paho.org/en/panaftosa/banvaco

Figure A1. BANVACO governance structure.





Note: This document was translated with the support of the DeepL tool.

ACTION PLAN







Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health