

bulletin



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*The OIE PVS Pathway:
Reflections and directions at the 10-year mark*



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The PVS Pathway: evolving to give Veterinary Services better support

‘In the 20th Century, the State could be seen as the problem preventing the economy from succeeding. Today, the State, its good governance and its capacity to ensure the rule of law, is seen as the solution to economic problems.’

Paul Romer, economist (January 2017)

For many years the OIE has strenuously promoted the concept of good governance, arguing that the success of any animal health action depends on the existence of effective, efficient and sustainable public structures.

It is interesting to note that leading economists now also recognise that public structures should no longer be neglected. Writing in the foreword to the *World Development Report 2017: Governance and the Law*, recently published by the World Bank, Dr Jim Yong Kim, President of the World Bank Group, emphasises that ‘*demands for services, infrastructure, and fair institutions are continuing to rise*’ and that ‘*it is vital that resources be used as effectively as possible*’. He further adds that ‘*without paying greater attention to stronger governance, the goals of ending extreme poverty and boosting shared prosperity (...) will be out of reach*.’

In support of these economic analyses, there is a convergence of views among experts to the effect that good governance and strong, accountable institutions are essential conditions for reducing poverty and encouraging development. This is particularly apparent when every day we see evidence that the performance of public institutions is crucially important for poor populations, who rely to a large extent on services provided by the State.

Some people might feel these concerns to be far removed from the activities of an organisation such as the OIE, whose primary vocation is to improve animal health. This would be misguided, because the improvement of animal health, and especially that of production animals, is not an end in itself. Our mission, and more generally that of the national Veterinary Services, is more complex.

- » We have a social mission in terms of food security, as animal diseases generate production losses that could be significantly reduced through better on-farm health management.
- » We also contribute to the economy of animal production sectors, with the aim of opening up or developing markets.
- » We lastly have a public health mission, combating animal diseases that are transmissible to humans, either directly (zoonoses) or via food.

Thus, our actions make a direct contribution to protecting the livelihoods of millions of poor families by limiting losses from animal diseases and, indirectly, the OIE is a player in environmental protection, given that the preservation of livestock farming activities is a positive factor in maintaining grazing land in disadvantaged areas and keeping transhumance routes open.

Consequently, for our field of activities, the existence of well-



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organised, fully functional veterinary public health structures is a precondition for good animal health governance. In this respect it should be remembered that Dr Bernard Vallat, the former Director General of the OIE, was firmly convinced of this and, determined to turn words into actions, initiated an ambitious, innovative programme, namely the PVS Pathway, the 10th anniversary of which we are proudly celebrating this year. A great many countries were quick to show an interest in this programme, and our thanks are due to the donors for enabling its launch and practical implementation. Nowadays, even very advanced

States' implementation of the International Health Regulations (IHR) by means of external missions, opens up new avenues that could lead to fresh developments within the framework of the Tripartite Agreement between WHO, FAO and OIE, which was recently updated¹.

The progress achieved over the past 10 years clearly demonstrates that the PVS programme remains an essential tool for attaining the objective of good governance in the field of animal health and veterinary public health. Nevertheless, with the experience gained from some 390 missions in 131 countries, I felt the

The performance of public institutions is crucially important for poor populations, who rely to a large extent on services provided by the State

countries are joining the programme, and donors are incorporating some of the conclusions of PVS Pathway missions into the preparation of their development projects for the livestock sector, all of which is most encouraging for the future.

Furthermore, the implementation of a similar programme by WHO, designed to evaluate its Member

time had come to pause and take stock, to analyse the reasons behind the successful achievements as well as the less positive results, and thus be able to chart the appropriate course for the years ahead. To this end, I decided to arrange a meeting to exchange views and explore different approaches, without a priori considerations or predetermined conclusions: this was the purpose of the PVS Pathway 'Think Tank' Forum, organised by the OIE on 4–6 April 2017, to which we invited representatives of beneficiary countries, PVS Pathway experts, representatives of partners and donors and OIE staff (from Headquarters and Regional and Sub-Regional Representations).

1. www.oie.int/2017/tripartite



The PVS programme remains an essential tool for attaining the objective of good governance in the field of animal health and veterinary public health

The OIE Regional Activities Department, and in particular the team in charge of the PVS Pathway, worked tirelessly to prepare for the 'Think Tank', producing numerous preparatory documents for participants to receive in advance of the meeting, thereby

I hope that the articles in this new issue of the *Bulletin*, largely devoted to the PVS Pathway, satisfy your curiosity and the information provided fulfils your expectations of the OIE as an organisation that listens to its Member Countries and partners, to ensure that our actions are always in line with the issues and challenges facing the Veterinary Services.

Whether you are a representative of a country that has benefited from PVS Pathway missions, a PVS Pathway expert, a representative of

ensuring lively, informed and fruitful discussions. The three days of deliberations, alternating between plenary sessions and working groups, were incredibly rich in suggestions and views. We now have a wealth of material to analyse in order to select the key ideas; we are going to:

- a) map out the future evolution of the PVS Pathway;
- b) specify the internal linkages with the OIE's other missions, such as the evaluation of application dossiers for official recognition of status in terms of certain specific diseases;
- c) foster progress on collaborative arrangements with WHO to develop joint or coordinated tools for evaluating health systems;
- d) create a new communication dynamic.

donors that support the programme or a member of the OIE teams that contribute to the smooth running of the missions, thank you for your involvement and thank you for your support.

With your help, we are in the process of building the PVS Pathway of tomorrow!

Monique Éloit
Director General

<http://dx.doi.org/10.20506/bull.2017.3.2691>

OIE PVS Pathway Think Tank Forum

Reflections and directions at the 10-year mark

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The OIE PVS Pathway is over ten years old... and still going strong! This ten-year birthday milestone in early 2017 provided the OIE with a symbolic opportunity to pause and reflect on this landmark programme, to celebrate how far we have come but, more importantly, to set directions for an even brighter PVS Pathway future.

The PVS Pathway Think Tank Forum was held in Paris on 4–6 April 2017 with the stated objective: **to work together, in our respective roles as OIE Member Countries, staff, partners, and experts, to review and plan for the strategic evolution of the OIE PVS Pathway in improving animal health and welfare globally.**

Background

As a flagship programme of the OIE, the PVS Pathway is an independent, country-driven, stage-by-stage process of systems evaluation and planning, to strengthen a country's Veterinary Services in compliance with the OIE's internationally agreed standards on the quality of Veterinary Services. Further background on the PVS Pathway can be found on the OIE website¹. A short, five-minute, YouTube video has also been developed, summarising the ten-year history of the PVS Pathway and also briefly covering the PVS Think Tank Forum².

The programme has proven to be an unmitigated success over the last decade. The numbers do not lie. Close to 140 Member Countries became actively engaged via an OIE PVS Evaluation mission, with over 100 of those also requesting the next step of an OIE PVS Gap Analysis mission, and nearly 50 requesting a second round through a PVS Evaluation Follow-up mission. There has also been strong involvement in PVS Pathway complementary missions ('treatments'), including more than 60 Veterinary Legislation Identification missions and 13 PVS Pathway Laboratory missions. Contrary to a prevailing myth that the PVS Pathway is only suitable for developing countries, recent years have seen full, active engagement from highly developed nations, including Australia, Japan and Canada. This is all firmly aligned with the OIE's core mission of improving animal health and welfare around the world.

There is growing evidence of the PVS Pathway's major global impact on strengthening national Veterinary Services in areas as diverse as improved government and donor funding, clearer governance structures and better national coordination, improved intersectoral collaboration, and enhanced animal and veterinary public health surveillance, disease control, emergency response, border control, food safety, laboratory, veterinary education, legislative and animal welfare systems.



1. www.oie.int/pvspathway
2. www.youtube.com/watch?v=iymtiMQjXJE



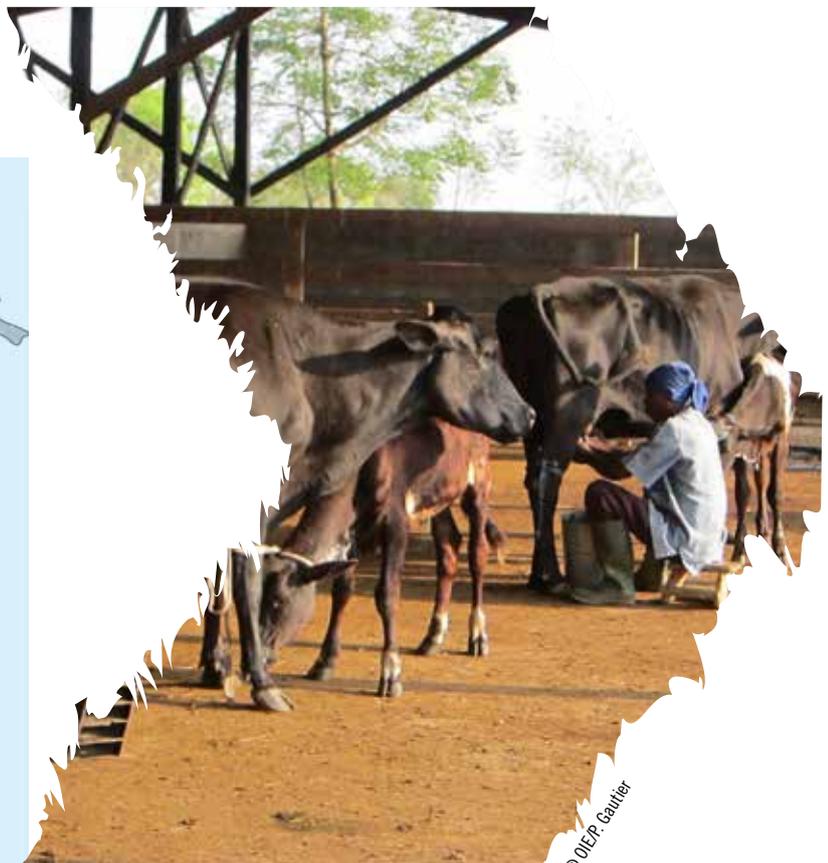
The PVS Pathway Think Tank Forum

The biggest risk with successful, long-running programmes such as the OIE PVS Pathway is complacency. Recognising this, the OIE organised the PVS Pathway Think Tank Forum (the Forum) as a platform to review, consult and plan for the evolution of the PVS Pathway.

The challenge is to maintain all that is good and unique about the OIE PVS Pathway, i.e. the factors that have led to its considerable success to date, whilst at the same time working together to evolve the programme, so that it can adapt to shifting contexts and priorities. The target was, in effect, to re-invent the PVS Pathway, to engender renewed enthusiasm and bolster support, so that its future can be assured as it continues to deliver real value to global animal health and welfare.

To this end, some basic current PVS Pathway characteristics, identified as key success factors, were highlighted so that they could be maintained and protected through any evolution process:

- a) an **independent, external** process to evaluate and plan for stronger Veterinary Services
- b) a **voluntary, country-driven** process, primarily focused on a country's **internal** systems and resources to optimise **sustainability**
- c) effective and efficient tools/methods, with a firm **basis in the OIE's agreed international standards**
- d) a culture of being **participatory, supportive and collaborative**, rather than being directive or presenting risks
- e) a **broad-based systems approach**, which promotes sustainability and is not driven by current trends nor what particular contributors may dictate as subject matter
- f) a **longer-term strategic focus (5–10 years)**, which encourages countries to plan with a more sustainable and long-term outlook, beyond short-term annual budget or election cycles.



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One key aim of the Forum was to develop far stronger and wider **collective** ownership of the development and implementation of any new PVS Pathway directions, since this is appropriate, given its maturity and global prevalence. To achieve this, carefully selected Forum invitees were equally divided into four key PVS Pathway stakeholder 'streams' (each of approximately 15–20 participants, with a total of 74 participants), as follows:

- 1 **Member Countries**
- 2 **OIE Staff**
- 3 **PVS Pathway Experts**
- 4 **OIE Partners and Donors**

These four stakeholder streams became the basis of the whole structure or format of the Forum. After the experience gained from approximately 350 PVS Pathway missions, the major challenges to PVS Pathway success are well understood and can be categorised into four aspects. These four aspects, their most relevant PVS Pathway stakeholders, and corresponding questions to explore, formed the structure of the PVS Think Tank Forum, as follows.

1 **Country use of the PVS Pathway**

– **OIE Member Country Delegates and representatives**

How can OIE Member Countries optimise their benefits from their OIE PVS Pathway experience and use?

2 **OIE support and use of the PVS Pathway**

– **OIE Staff (including regional staff)**

How can the OIE better coordinate PVS Pathway activities and follow-up with Member Countries, and how can it make better use of the PVS Pathway to deliver value to its own mandates and to support Members?

3 **PVS Pathway methods and delivery**

– **OIE PVS Pathway Experts**

How can the PVS Pathway methods be enhanced, including its basic methodology (PVS Tool and Manuals), expert training and range of complementary missions?

4 **Partners' use and support of the OIE PVS Pathway**

– **OIE Partners (including Donors)**

How can key partners of the OIE benefit from their collaborative engagement with the PVS Pathway methods and/or results, and how can the PVS Pathway better meet the needs of those interested in financially supporting its ongoing success?

A considerable amount of consultation and a number of pilot projects were undertaken before the Forum, to seek, collate, develop and test ideas or concepts for PVS Pathway evolution, with the intention that these topics would provide the foundation for deeper discussion, prioritisation and development at the Forum. As a result of this process, four to five of these themes were explored and discussed in depth, under each of the four stakeholder streams.

PVS Pathway Think Tank Forum outcomes

The Forum produced some overall themes. The OIE will enhance the profile, impact and resourcing of the PVS Pathway by elevating the programme beyond its veterinary and technical focus to a higher strategic and intersectoral level; in particular, through engaging and linking with priority global agendas. In terms of country engagement, the OIE will adopt a more flexible, tailored approach to create a more targeted and responsive PVS Pathway with enhanced country ownership,

whilst maintaining its integrity. These directions are appropriate, given that global veterinary engagement is already strong, and the basic tools and methods of the PVS Pathway are long established and robust, with many countries already possessing a solid baseline of PVS Pathway evaluation and planning, on which they can build. New approaches, guided by what already exists, extensive piloting and lessons learned will provide PVS Pathway options that can better adapt to the governance

and technical priorities of Member Countries, the OIE and its partners. With all this, the whole-of-systems approach and philosophy of the PVS Pathway as an independent, voluntary and country-driven process, based on internationally agreed standards, are key strengths that should be maintained. The following outcomes build on these overarching principles and, again, are grouped by stakeholder stream.

1 Enhanced PVS Pathway engagement options

Member Countries led on this aspect, discussing and providing suggestions on options to tailor their PVS Pathway involvement and to optimise the sustainability of their PVS Pathway results. All options had already been subject to extensive 'proof of concept' piloting and refinement by the OIE.

- *PVS Self-Evaluation*: Practical training in and planning assistance with the PVS Pathway Tool will improve a country's capacity to understand and make better use of the OIE PVS Pathway. The option of PVS self-evaluation will be undertaken without OIE involvement in the mission or reporting process. This option is of particular interest at the decentralised level.
- *PVS Pathway Integration with Strategic Planning Cycles*: More formalised integration of the PVS Pathway with new or established national veterinary, livestock, agricultural or health sector strategic planning cycles will lead to stronger, longer-term engagement and ensure sustainable national implementation of the mission's recommendations.
- *PVS Pathway-Specific Content*: The development of specific content for global priority topics (e.g. peste des petits ruminants and antimicrobial resistance) will

further enhance the profile and impact of the PVS Pathway.

- *PVS Pathway Linkages*: Partnerships and synergies with related programmes, most notably with the World Health Organization (WHO) International Health Regulations (IHR) Monitoring and Evaluation (M&E) Framework, will improve intersectoral collaboration and support the implementation of the One Health approach, leading to strengthened national and global health security.
- *PVS Pathway Specialist Staff within National Veterinary Services*: Developing a more permanent national Veterinary Services staff position, one that specialises in the preparation, coordination and follow up of PVS Pathway missions, and is facilitated through the OIE's delivery of PVS Pathway training and follow-up workshops, generally at the sub-regional level. Note that this option is in line with both training for self-evaluation and engagement with the Regional Economic Communities (RECs).

2 Governance, support and use

OIE Staff led on this aspect, emphasising the need for enhanced and broadened OIE ownership and leveraging of the PVS Pathway to advance the OIE mandate.

- *Establishing a PVS Pathway Secretariat and Consultation Mechanisms*: A PVS Pathway Secretariat within the OIE Regional Activities Department, established via an OIE Memorandum (Note de service), will reflect the profile and contribution of the PVS Pathway to the OIE and clarify a coordination role to manage PVS Pathway evolution and its delivery, both within the OIE and via established consultation mechanisms with its Members, experts and partners.

- *PVS Pathway Support and Use by OIE Headquarters:* Reduced silos and improved links among the core activities of the OIE will create a more holistic approach to the preparation, delivery and use of the PVS Pathway. The wealth of information contained in mission reports can contribute to all aspects of the OIE mandate by assisting the OIE to better understand the capacities and needs of its Member Countries.
- *Enhanced Regional Representation and Sub-Regional Representation Offices (RR/SRR) Support:* The RR/SRRs should have a key role in supporting Member Countries and PVS Pathway Expert teams, leading to increased benefits and impacts from PVS Pathway missions.

3 Technical support and training

PVS Pathway Experts led on this aspect, agreeing that training is essential for the proper delivery of the programme while also providing opportunities to update the pool of Experts and improve Member Country, partner and staff engagement.

- *PVS Pathway Training:* A PVS Pathway training strategy should target Member Countries/Partners (with basic information to increase understanding and create national ‘champions’, enhance engagement and increase mission requests, increase the power of self-evaluation and widen the pool of Experts); PVS Pathway Experts (with advanced training to develop new options for PVS Pathway support, such as in strategic planning, specific content and health systems linkages – see section 1 above); and OIE staff (to develop better mission input, follow-up, and particularly analysis/use of results – see section 2 above).
- *PVS Pathway-related Tools/Methods:* The PVS Tool and the core methods, as laid out in the *Manuals*, are robust, so evolution would comprise only wording changes, supplementary information, streamlined formats, and improved coordination between different types of mission. The accommodation of additional concepts in existing Critical Competencies

will facilitate PVS Pathway evolution and develop its scope, while maintaining consistency and comparability. The reporting format will also be considered, including the opportunity of a more informal ‘advice note’ to the OIE Delegate, to accompany the formal full report.

- *Broadened expertise:* Leadership and management skills are key components of good governance: incorporating such capacity-building into the PVS Pathway should be carefully considered.
- *PVS Pathway Experts Pool:* The pool of Experts requires continual renewal and updating to ensure an appropriate balance (e.g. geographical, age, gender and skill set) with an eye to the future.

4 Advocacy and resourcing

OIE Partners led on this aspect, emphasising the importance of increasing the PVS Pathway’s profile, leading to the high-level support required to secure appropriate and sustained financial support.

- *Elevating the PVS Pathway:* The programme needs to move beyond the veterinary technical level to engage and link to global agendas (e.g. Sustainable Development Goals, health security, food security, agricultural development and aid effectiveness), and strategic partnerships (e.g. PVS Pathway–WHO IHR M&E Framework).
- *PVS Pathway Engagement with Regional Economic Communities (RECs) and Other Partners:* Leveraging the PVS Pathway at the regional level could mean better targeting of financial and technical support for projects, facilitated access to Ministers, and enhanced promotion of the PVS Pathway as a relevant programme to support regional harmonisation. Using PVS Pathway reports can link country and regional priorities and ownership with donor support for projects, measuring these priorities and projects against international standards at the systems level. The timing of PVS Pathway missions within a region could be synchronised, and recorded as updated inputs to regional analysis and support.





Key products to be developed from the Forum

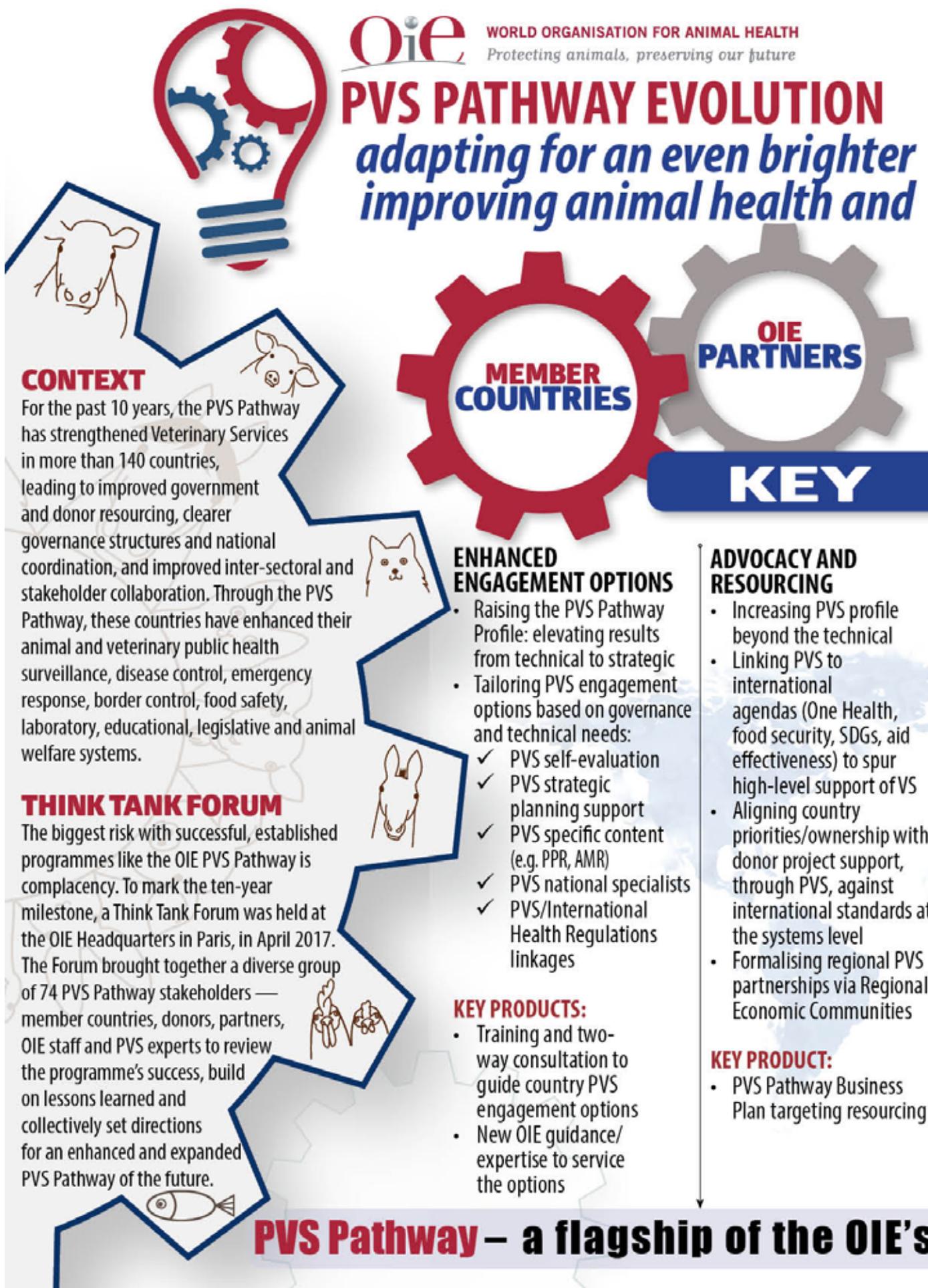
Specific actions will depend on the availability of resources. With that in mind, the following projects were highlighted as key products of the evolution of the PVS Pathway:

- a PVS Pathway Business Plan (or case for investment), targeting resourcing
- a PVS Pathway Training Strategy
- a consultation mechanism between the OIE and its Members to guide the choice of PVS Pathway engagement options
- new or expanded OIE guidance/expertise to service the new PVS Pathway engagement options
- OIE Regional and Sub-Regional Representation office guidance/planning for regional support to the PVS Pathway
- PVS Pathway report analysis and/or usage protocols specific to the relevant OIE departments at OIE Headquarters
- updates to the PVS Tool and methods and the PVS Experts' human resources document.

On pp. 10–11 is an easy-to-follow graphic representation of the Forum outcomes and major follow-up activities: a Forum and PVS Pathway Evolution 'placemat', summarising all of the key findings of the Forum by stakeholder stream, including the key products to be developed.

PVS PATHWAY EVOLUTION

*adapting for an even brighter
improving animal health and*



CONTEXT

For the past 10 years, the PVS Pathway has strengthened Veterinary Services in more than 140 countries, leading to improved government and donor resourcing, clearer governance structures and national coordination, and improved inter-sectoral and stakeholder collaboration. Through the PVS Pathway, these countries have enhanced their animal and veterinary public health surveillance, disease control, emergency response, border control, food safety, laboratory, educational, legislative and animal welfare systems.

THINK TANK FORUM

The biggest risk with successful, established programmes like the OIE PVS Pathway is complacency. To mark the ten-year milestone, a Think Tank Forum was held at the OIE Headquarters in Paris, in April 2017. The Forum brought together a diverse group of 74 PVS Pathway stakeholders — member countries, donors, partners, OIE staff and PVS experts to review the programme's success, build on lessons learned and collectively set directions for an enhanced and expanded PVS Pathway of the future.

MEMBER COUNTRIES

OIE PARTNERS

KEY

ENHANCED ENGAGEMENT OPTIONS

- Raising the PVS Pathway Profile: elevating results from technical to strategic
- Tailoring PVS engagement options based on governance and technical needs:
 - ✓ PVS self-evaluation
 - ✓ PVS strategic planning support
 - ✓ PVS specific content (e.g. PPR, AMR)
 - ✓ PVS national specialists
 - ✓ PVS/International Health Regulations linkages

KEY PRODUCTS:

- Training and two-way consultation to guide country PVS engagement options
- New OIE guidance/expertise to service the options

ADVOCACY AND RESOURCING

- Increasing PVS profile beyond the technical
- Linking PVS to international agendas (One Health, food security, SDGs, aid effectiveness) to spur high-level support of VS
- Aligning country priorities/ownership with donor project support, through PVS, against international standards at the systems level
- Formalising regional PVS partnerships via Regional Economic Communities

KEY PRODUCT:

- PVS Pathway Business Plan targeting resourcing

PVS Pathway – a flagship of the OIE's

>>> PVS

future of welfare globally



GOVERNANCE AND LEVERAGING

- Leading and managing PVS evolution via a PVS Secretariat
- Engaging OIE regional offices to better support all PVS phases
- Breaking down silos to leverage use of PVS results across the OIE mandate
- Facilitating strategic analysis of PVS reports
- Updating the PVS Expert Pool and modernising HR aspects

KEY PRODUCTS:

- Guidance/planning for OIE regional office support
- PVS report analysis and/or usage protocols specific to each OIE Department

TECHNICAL TRAINING AND DELIVERY

- Delivering a PVS Training Strategy with three training elements:
 1. Basic (targeting countries): Enhance country ownership, preparation and use, potentiate PVS self-evaluation, and widen expert pool
 2. Staff (targeting regions and HQ): Enhance PVS support and use by the OIE, with a focus on report analysis to support all elements of the OIE mandate
 3. Specialised (targeting experienced experts): Capacitate delivery of the new forms of PVS support to countries (e.g. PVS/IHR linkage, strategic planning, specific content)
- Integrating new expertise (e.g. management, leadership, strategic, financial)
- Minor "tweaks" to basic PVS methods (e.g. Tool, Gap, baseline docs)

KEY PRODUCT:

- PVS Pathway Training Strategy

SUCCESS FACTORS TO MAINTAIN

- Voluntary
- Country-driven
- Participatory
- Collaborative
- Supportive
- Broadly systems-based
- Established methods and tools
- In-depth, using field evidence
- Knowledgeable experts
- Promotes longer term sustainable change
- Founded on OIE international standards

ENABLERS

- Political will from countries who:
 - engage through an official PVS request
 - have a clear understanding of the PVS processes, options and requirements before the mission
 - ably prepare for and support the mission
 - respond positively to PVS recommendations (such as via integration into country strategic planning)
- Support of donors and partners, both for OIE's PVS Pathway delivery and their own use of results
- Leadership and management development
- Training, targeting all of the above

core mandate



OIE PVS Pathway

OVERARCHING AND CROSS-CUTTING OIE PVS

PHASE 1 – Preparatory PVS TRAINING

MEMBER COUNTRIES & PARTNERS



BASIC PVS TRAINING FOR MEMBER COUNTRY VS & SELECTED PARTNERS

- Roll out nationally or regionally (+/-) via RECS
- Creates national PVS Specialists & 'Champions'
- Promotes (tied with) PVS mission requests
- Enhances PVS country ownership/understanding/mission preparations/conduct/use
- Enhances decision making on new PVS options
- Potentiates PVS self-evaluation option
- Widens PVS Expert Pool
- E-learning aspect to be explored

PVS EXPERTS



ADVANCED PVS TRAINING TO SERVICE NEW PVS ENGAGEMENT OPTIONS

- Plenary session plus specialist sessions on PVS options
- Group training in Paris
- Leadership and Management aspects to be explored
- E-learning aspect to be explored

OIE STAFF



BASIC PVS TRAINING WITH ANALYTICAL FOCUS:

- RRs/SRRs – country support/follow up
- HQ – report analysis & use
- E-learning aspect to be explored

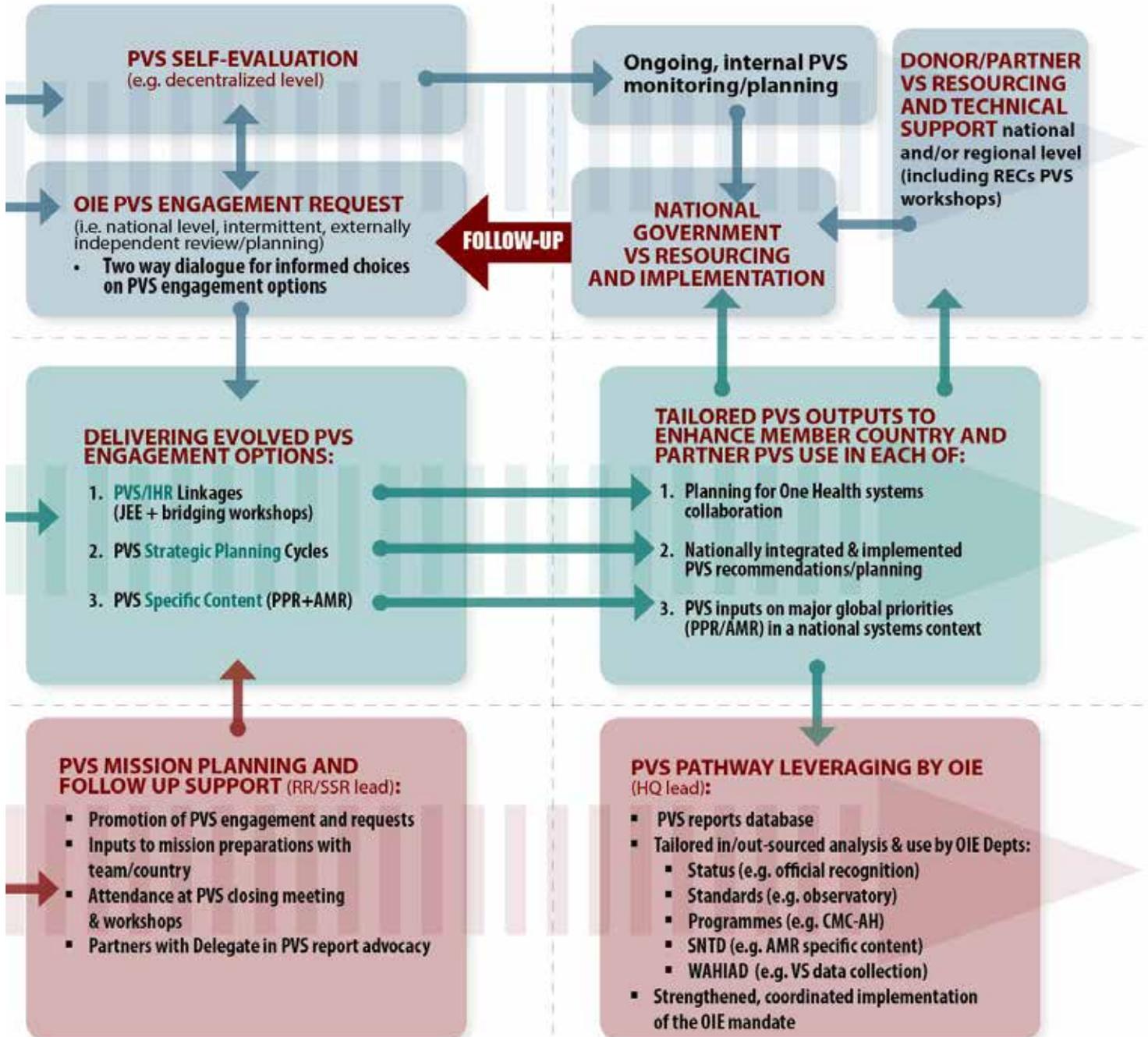


Evolution Implementation Schematic

PATHWAY GOVERNANCE, FINANCIAL (DONOR) AND COMMUNICATIONS SUPPORT

PHASE 2 – Evolved PVS DELIVERY

PHASE 3 – Enhanced PVS USE





Implementation of PVS Pathway Evolution

The OIE has been working hard since the Forum to implement its outcomes and PVS Pathway Evolution is being intensively rolled out. The OIE is currently in a 12-month Planning/Preparation/Piloting phase which began soon after the Forum and will end with an official launch of the OIE PVS Evolution, planned for the 2018 General Session, approximately one year after the Forum.

On pp. 12-13 is a PVS Pathway Evolution Implementation Schematic which conceptually describes how PVS Evolution will be implemented. It emphasises the inter-relationships between the various key stakeholder streams and their related activities. The OIE has now also developed a detailed PVS Evolution Gantt chart, based on the Schematic, including specific activities and their timing under each of the four categories of activity. The final result will be a more tailored PVS Pathway, enabling Member Countries and partners to work with the OIE in deciding on the form of their PVS Pathway engagement and use, based on their specific needs.

As part of this implementation, almost all of the concepts or options discussed at the Forum have been or are being subject to an intensive period of piloting by the OIE, Member Countries, PVS Pathway Experts and key partners and donors. Many of these activities were initiated long before the Forum and have already provided evidence of their value in refining PVS approaches. Again, keeping to this basic four-stream

structure, as consistently applied throughout the Forum and PVS Pathway Evolution process, the following pages contain some examples of PVS Pathway Evolution pilot or case studies under each of the four stakeholder streams. They provide an opportunity to understand the PVS Pathway Evolution in action, and as applied in the field. The relevant articles are as follows:

PVS Evolution Piloting Case Studies

- | | |
|---|-----------|
| 1. Member Countries stream – PVS self-evaluation in China | pp. 15–20 |
| 2. OIE Staff stream – PVS Pathway inputs to the OIE procedure for official recognition of disease status | pp. 21–25 |
| 3. PVS Experts stream – Delivery of a PVS Pathway training workshop in India | pp. 26–30 |
| 4. OIE Partners/Donors stream | |
| a) Use of the OIE PVS Pathway in the design and delivery of World Bank development programmes across Africa and Central Asia | pp. 31–32 |
| b) ProgRESSVet: a capacity-building programme based on the PVS Pathway | pp. 33–35 |

The OIE PVS Pathway Think Tank Forum (and its resulting programme of PVS Pathway Evolution) represents a significant milestone in the decade-old PVS Pathway, the delivery of the OIE's Sixth Strategic Plan, and the evolving relationship between the OIE, its Member Countries, experts and partners. The OIE will continue to keep all key stakeholders informed as it collaborates with them to deliver on PVS Pathway Evolution, to ensure that the Pathway will continue to lead the way in terms of health-related, systems-based, capacity-building and support for all countries of the world. We are all looking forward to the next decade!

<http://dx.doi.org/10.20506/bull.2017.3.2692>

The PVS Pathway: www.oie.int/pvs/pathway



PVS Self-Evaluation in China

Veterinary Bureau, Ministry of Agriculture,
the People's Republic of China

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Since the People's Republic of China joined the OIE as a Member Country in 2007, with all of the attendant rights and responsibilities, it has been actively engaged in the work of the organisation, such as applying PVS self-evaluation based on the OIE methods. Through continuous exploration and study, the Ministry of Agriculture (MOA) has found a suitable form of implementing PVS self-evaluation in China that matches well with the country's actual situation.

1. Progress of PVS self-evaluation in China

1.1. Introduction and research (2010–2013)

In 2012, the OIE and MOA jointly organised a training session on the OIE PVS Tool (Fig. 1), introducing the OIE PVS evaluation concepts and methods to the Chinese Veterinary Services for the first time, at both the central and provincial level. Meanwhile, MOA has undertaken follow-up research on the theory, standards and methods of OIE PVS evaluation as they evolved, and actively held further internal training

sessions, laying the foundation for the implementation of PVS self-evaluation within China.

1.2. Integration and transformation (2013–2014)

Based on the actual situation in China, MOA has developed a provincial PVS tool, along with appropriate evaluation procedures and methods, and launched a provincial PVS self-evaluation pilot project in Beijing and Liaoning provinces (Fig. 3).



Fig. 1

In April 2012, MOA and the OIE organised training on the OIE PVS Tool in Beijing



Fig. 2

In July 2013, MOA held a workshop on PVS evaluation in Qingdao

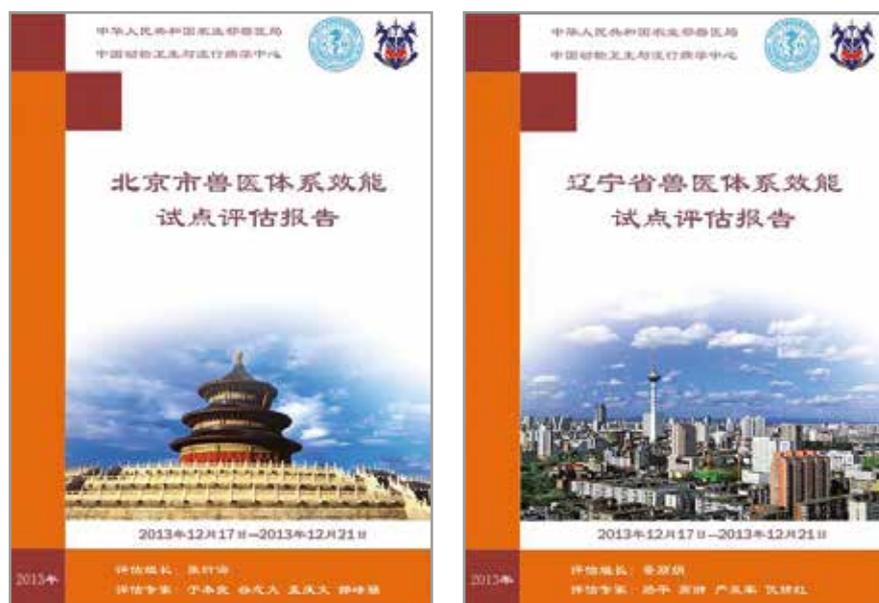


Fig. 3

The PVS self-evaluation reports of Beijing City and Liaoning Province

1.3. Extension and application (2014–2016)

Based on the experiences of the pilot project, MOA has further improved the provincial PVS Tool, evaluation procedures and methods, and arranged for other provinces throughout the country to conduct PVS self-evaluation.

1.4. Improvement and development

MOA has fully reviewed and analysed the results of its provincial PVS self-evaluations, and continues to improve its technical system for PVS evaluation.

2. Action taken by China to implement PVS-based self-evaluation

In the course of using the OIE PVS Evaluation Tool, the MOA has made appropriate adjustments to the OIE Tool and relevant OIE procedures for PVS evaluation, in accordance with national conditions, mainly by adding supplementary features and adjusting various aspects, as described below.

2.1. Adjusting and refining critical competencies in the OIE PVS Tool to make them more suitable for China

First, comparative research on laws and regulations was carried out. The relevant requirements of more than 80 laws and regulations in China were linked with the content of the OIE *Terrestrial Animal Health Code*, so that the Chinese legal and regulatory basis for China's provincial PVS Tool could be established. **Second**, some critical competencies in the OIE PVS Tool were adjusted and refined to make them more suitable for PVS self-evaluation in the Chinese provinces. Based on the framework of the OIE PVS Tool, five critical competencies, including III-3., 'Official representation'; IV-3., 'International harmonisation'; IV-4., 'International certification'; IV-5., 'Equivalence and other types of sanitary agreements'; and IV-6., 'Transparency'; all suitable for evaluating the performance of Veterinary Services at the national level, were deleted in China, given the Tool's use at the provincial level. Taking into account the situation of the Veterinary Services in China, one critical competency,

Table I

List of Critical Competencies of Provincial PVS evaluation in China (those highlighted in red were adjusted and refined in China, volumes 1 and 2)

Chapter I: Human, Physical and Financial Resources

- 1-1 Professional and technical staffing of the Veterinary Services
- 1-2 Competencies of veterinarians and veterinary para-professionals
- 1-3 Continuing education
- 1-4 Technical independence
- 1-5 Stability of structures and sustainability of policies
- 1-6 Coordination capability of the Veterinary Services
- 1-7 Physical resources
- 1-8 Operational funding
- 1-9 Emergency funding
- 1-10 Capital investment
- 1-11 Management of resources and operations

Chapter II: Technical Authority and Capability

- 2-1 Veterinary laboratory diagnosis (A.B.)
- 2-2 Laboratory quality assurance
- 2-3 Risk analysis
- 2-4 Quarantine and border security
- 2-5 Epidemiological surveillance and early detection (A.B.)
- 2-6 Emergency response
- 2-7 Disease prevention, control and eradication
- 2-8 Food safety (A.B.C.)
- 2-9 Veterinary medicines and biologicals
- 2-10 Residue testing
- 2-11 Animal feed safety
- 2-12 Identification and traceability
- 2-13 Animal welfare

Chapter III: Interaction with Interested Parties

- 3-1 Communication
- 3-2 Consultation with interested parties
- 3-3 Accreditation/authorisation/delegation
- 3-4 Veterinary Statutory Body (A.B.)
- 3-5 Participation of producers and other interested parties in joint programmes

Chapter IV: Access to Markets

- 4-1 Preparation of legislation and regulations
- 4-2 Implementation of legislation and regulations and compliance thereof
- 4-3 Zoning
- 4-4 Compartmentalisation



Fig. 4

In May 2014, MOA held training sessions on PVS evaluation in Qingdao



Fig. 5

Experts on China's PVS self-evaluation carry out an on-site assessment

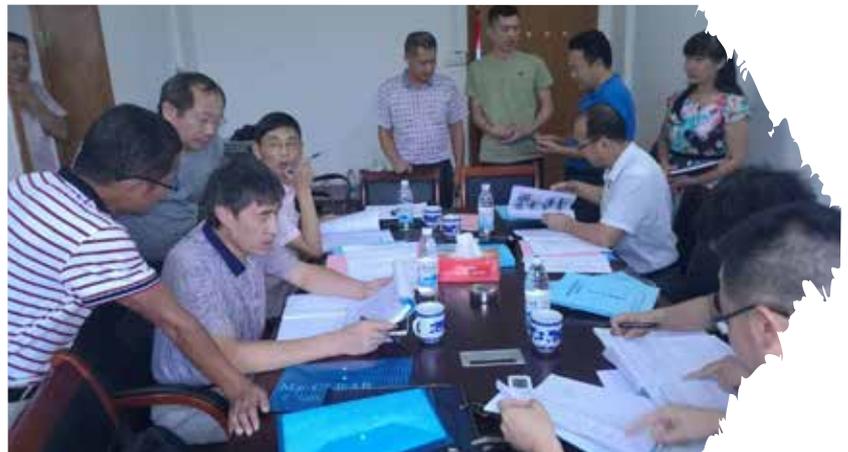


Fig. 6

Experts on China's PVS self-evaluation carry out on-site information verification



Fig. 7

Some provincial PVS self-evaluation reports in China



Fig. 8
In April 2016, the Chinese delegation participated in OIE training on PVS evaluation for East Asia

entitled 'Veterinary Services construction', was added to the provincial PVS Tool. At the same time, the 'Competencies of veterinarians and veterinary para-professionals' in the original OIE PVS Tool were transformed into the following five critical Competencies:

1. Personnel in the Veterinary Authority
2. Personnel in animal health supervisory institutions
3. Personnel in animal disease control centres
4. Licensed veterinarians, and
5. Village-level veterinarians and animal health workers.

In addition, to adapt to the real situation in China, the contents of another 30 critical competencies, such as '*Veterinary laboratory diagnosis*' (II-1); '*Laboratory quality assurance*' (II-2); and '*Risk analysis*' (II-3); in the OIE PVS Tool were adjusted and more than 100 descriptions for the critical competency levels of advancement were further refined. Finally, the Provincial PVS Tool was formulated and released.

2.2. Innovating and applying a variety of scientific methods, to analyse PVS self-evaluation results

The MOA in China innovated and applied many analytical methods, such as radar map analysis methods, clustering and merging methods, sorting and analysing self-assessment data and materials from the provinces, identifying gaps and weaknesses, and proposing strategic recommendations (Fig. 9). Compared with more traditional data analysis and display methods, such as histograms and pie charts, the radar map analysis method can simultaneously display a comprehensive image with an intuitive and visual picture of a number of critical competencies, while also displaying the gaps and weaknesses in between. The biggest feature of the clustering and merging analytical method, which sets it apart from

more traditional methods, is the classifying process. Clustering and merging analytical methods can automatically classify sample data, with no need to define classifying criteria, and find the gaps between the data. Through these forms of analysis, the regional gaps in the critical competencies under the heading of 'Fundamental Constituents of Human, Physical and Financial Resources' in the eastern and western provinces of China, as well as the gaps between provinces in the results of the PVS-based self-evaluation, were revealed (Fig. 10).

2.3. Exploring the establishment of an entire set of assessment systems, including at the county and provincial levels

After completing the nationwide PVS-based self-evaluation of Veterinary Services at the provincial level, the MOA explored the establishment of a set of critical competencies for self-evaluation of Veterinary Services within counties, taking into consideration practical veterinary performance at the grassroots level. The content includes four chapters (similar to the Fundamental Components), i.e.:

- 'Guaranteed Capacity'
- 'Administrative Management Capacity'
- 'Supervision and Executive Capacity'
- 'Technical Supporting Capacity'.

There are 44 critical Competencies, covering all the practical work and functions of the Chinese Veterinary Services at the county level.

At this point in time, developing PVS-based self-evaluation in China has resulted in a set of very high-quality critical competencies and working procedures that are specifically tailored to the Chinese situation.

3. Experiences gained in China's PVS self-evaluation

China has gained a series of valuable experiences through the process of introducing, researching and extending PVS-based evaluations of its own practical performance, which has played an important role in the successful implementation of PVS self-evaluation.

3.1. Establishing an assessment system suitable for China's practical performance under the OIE PVS Tool framework

The OIE PVS Tool is a comprehensive benchmarking tool based on the OIE's international standards for evaluating the performance and quality of a country's veterinary management system and Veterinary Services. When applied to China's Veterinary Services,

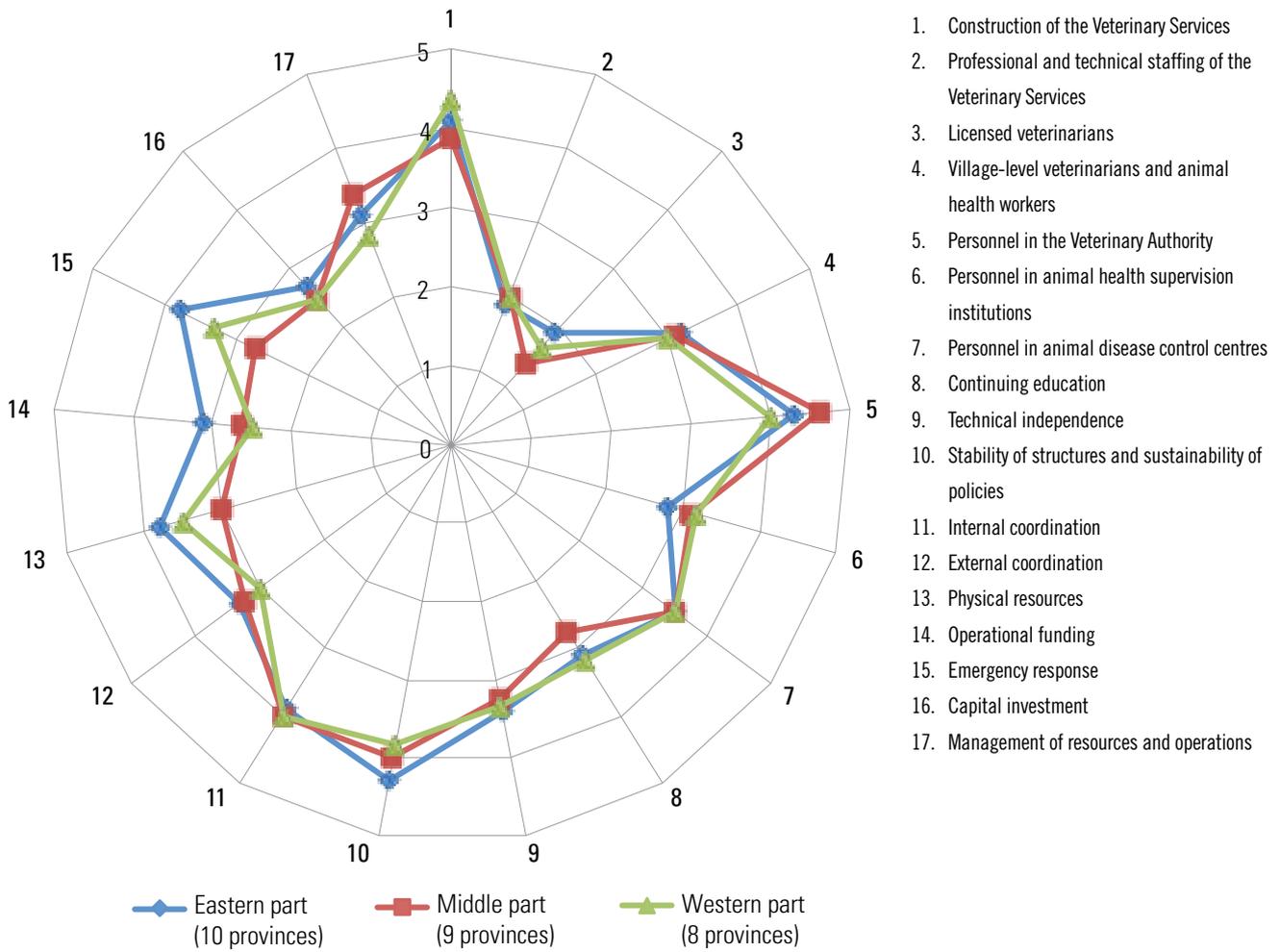


Fig. 9 Radar map of advancement levels of critical competencies in the areas of human, physical and financial resources in the eastern, central and western provinces of China

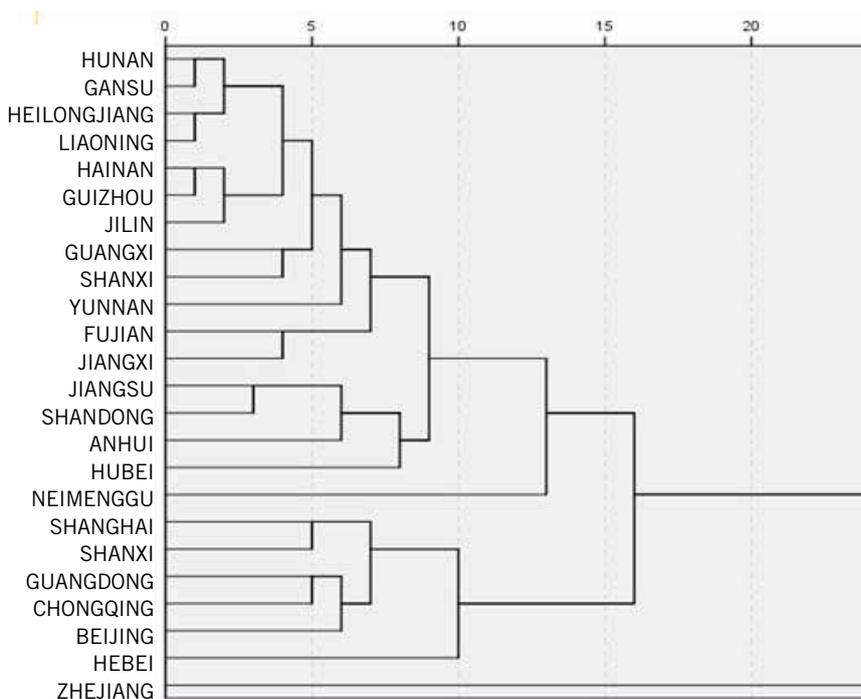


Fig.10 Clustering and merging map of data analysis of advancement levels for 17 critical competencies in human resources, physical resources and financial resources

the critical competencies were adjusted under the overall framework of the OIE Tool to make them more suitable for the country or region concerned.

3.2. Using a pilot project initially, and then extending it, while continuing to refine the critical competencies and evaluation methods

As the PVS Tool was a new concept for China, the MOA in China introduced and applied the PVS Tool in stages. The four stages were: pilot trials, extension nationwide, exploration and adjustment during the process, and the final establishment of critical competencies and technical assessment methods that were suitable for China's practical veterinary needs. At the same time, the concept of PVS self-evaluation was extended to the Veterinary Services step by step, from the national level gradually down to the provincial and then the county level.

3.3. Grasping the scientific PVS concept to enhance veterinary capacity-building

Veterinary activity in China has been evolving to manage new situations, such as the effective prevention and control of major animal diseases, safeguarding animal production food safety, and expanding and adapting to incorporate necessary skills and tasks. After identifying gaps and weaknesses in the present system, via the first round of PVS self-evaluations, and after two to three years of targeted resourcing and improvement, a second round of PVS self-evaluation of Veterinary Services and veterinary capacity will be conducted, as appropriate. Using this method, Veterinary Services can be improved, by employing consistent methods to evaluate and plan improvements and to make adjustments to achieved objectives as necessary, over time. This is crucial to guarantee the progressive and continuous improvement of Veterinary Services at all levels as time goes by.

4. Benefits of PVS self-evaluation for capacity-building of Veterinary Services in China

4.1. The PVS Tool has become an important measure to promote the development of Chinese Veterinary Services

The MOA in China issued the *National Animal Health Development Plan* (2016–2020) in 2016, stating its commitment to improve the overall performance of Veterinary Services as a core task, establishing the veterinary PVS self-evaluation mechanism, drafting administrative methods for PVS self-evaluation that incorporated critical competencies for capacity-building, and emphasising PVS self-evaluation as a vital method for further reforming veterinary management systems and improving Veterinary Services.

4.2. PVS self-evaluation will be accepted and applied by more provinces

Provinces in China are taking various measures to actively push forward PVS self-evaluation at the city and county level. For example, Beijing, after the pilot project, and fully aware of the important role of PVS self-evaluation in measuring and enhancing its Veterinary Services, developed critical competencies in the PVS self-evaluation that target animal disease control institutions and animal health supervision and enforcement institutions, promoting further PVS self-evaluation of these two systems over time.

4.3. Veterinary Services capacity continuously strengthened through PVS self-evaluation

Veterinary Services in several provinces of China have been making positive use of their assessment results after PVS self-evaluation, especially in terms of human, physical and financial veterinary resources. For example, Gansu Province has adapted the concept and measures involved in PVS self-evaluation into its daily working plan, and constantly uses it to improve its Veterinary Services, working mechanisms and core capacity-building. After its PVS self-evaluation, the Department of Agriculture and Animal Husbandry in Gansu Province submitted its assessment report to the Gansu Provincial Government and, based on this, obtained strong support by way of investment in human resources and veterinary laboratories and the construction of animal health supervision and inspection stations along its highways, further consolidating the foundations of its veterinary systems.

<http://dx.doi.org/10.20506/bull.2017.3.2693>

In summary, through a careful adaptation of the OIE PVS Pathway methods and Tool to match the Chinese situation, PVS self-evaluation in China has had and will continue to have a positive impact on animal and veterinary public health at all levels within China.



PVS Pathway inputs to the OIE procedure for official recognition of disease status

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Introduction

Following a request from its Member Countries in 1994, the OIE developed a procedure for the official recognition of freedom from foot and mouth disease (FMD), a procedure that was extended to the recognition of disease-free status for six additional diseases: rinderpest (until its global eradication in 2011); contagious bovine pleuropneumonia – CBPP; bovine spongiform encephalopathy – BSE; African horse sickness – AHS; peste des petits ruminants – PPR; and classical swine fever – CSF. The procedure was also adapted for the endorsement of the official national control programmes of three diseases (FMD, PPR and CBPP).

The official recognition of disease-free status and the endorsement of official control programmes are based on Resolutions adopted by the World Assembly of OIE Delegates and on internationally agreed standards¹ set out in the OIE *Terrestrial Animal Health Code (Terrestrial Code)*. Amongst the relevant standards and requirements are those specific to the desired disease status and those related to horizontal animal health activities, such as animal disease notification or identification and traceability.

The requirements related to the performance of Veterinary Services (VS) in Section 3 of the *Terrestrial Code* must be met before any official status is recognised. To assist the national VS to establish their current level of performance, the OIE has developed the PVS Tool for the Evaluation of Performance of Veterinary Services, which is used in PVS Pathway missions to identify gaps and weaknesses in the ability of VS to comply with OIE international standards, to share a common vision

with stakeholders, and to establish priorities and carry out strategic initiatives.

To ensure that the countries applying for recognition of their disease status or endorsement of their official control programmes are compliant with the OIE requirements for the performance of VS, the questionnaires that countries must submit with their applications (Chapter 1.6. of the *Terrestrial Code*) ask for information on national VS. However, PVS reports can be used as a complementary source of information, as stated in the standard operating procedures available at www.oie.int/official-status/procedure. These procedures detail the different steps of the assessment of applications for official status recognition and official control programme endorsement and clearly state that available complementary information should be considered systematically.

It is important to emphasise that, while compliance with the OIE requirements for VS is a pre-requisite for official status recognition, assessment of PVS Pathway reports is not a compulsory step of the OIE's official recognition procedures. However, where available, given that they contain useful independent, third-party information on the performance of national VS based on OIE standards, the OIE has regularly made use of such reports.

To further strengthen the procedures for official recognition, a methodology was recently developed to standardise and simplify the systematic analysis of PVS reports as inputs to the official OIE recognition procedures. This concept was presented, discussed and supported during

1. The international standards are also adopted by the World Assembly of OIE Delegates





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Taken during a PVS mission in Egypt in 2009

the PVS Pathway Think Tank Forum. The purpose of this article is to present this methodology, the use of which is considered as a pilot activity for evolving the PVS Pathway through improving and optimising the use of PVS reports in other aspects of the OIE's core activities.

The three-step methodology

The methodology was based on the OIE PVS Tool and the PVS Evaluation Manual of the Assessor. Each of the 47 PVS critical competencies (CCs) evaluated during PVS Evaluation or Evaluation Follow-Up missions was considered.

Generally, reports more than five years old should be interpreted with additional caution, given the risk of the data being outdated, although this depends on the level of change over that time, including changes in resourcing.

The assistance of OIE PVS experts has allowed the robust interpretation of each CC and of their respective Level of Advancement (LoA).

Similar approaches to using PVS Evaluation reports were developed when drafting the Global FMD Control Strategy (2012) and, later, the Global Control and Eradication Strategy for PPR (2015), with its PPR Monitoring and Assessment Tool (PMAT). When developing the current methodology, attention was paid to these related approaches and each time the methods did not align, the rationale was given.

Each of these steps was considered for all the six diseases (excluding rinderpest) for which official status can be recognised by the OIE and for the three diseases for which an official control programme can be endorsed. Each disease was considered separately, as the capacities that VS need to obtain and maintain a particular status vary depending on the disease and the type of status requested (e.g. disease-free with vaccination or disease-free without vaccination).

Step 1: Selection of critical competencies

The selection of which CCs should be included in the systematic analysis of PVS reports was based on the relevant requirements of the *Terrestrial Code* and the Global FMD Control Strategy and the PMAT. When discrepancies were identified with the Global FMD Control Strategy and the PMAT, the rationale was provided.

In total, 44 CCs were selected out of the 47 existing CCs, some being relevant only for a few diseases (e.g. BSE vs CBPP) or statuses (programme endorsement vs status recognition;

THE METHODOLOGY WAS ORGANISED IN THREE KEY STEPS:

Step 1 – Selection of the CCs of relevance to be used in systematic assessment for the recognition of official disease status or the endorsement of official control programmes.

Step 2 – Categorisation of the selected CCs based on the level and type of relevance and on the form and follow-up of their assessment.

Step 3 – Guidance on the LoA generally expected for each selected CC for the recognition of official disease status or the endorsement of an official control programme, with the caveat that the accompanying text should always also be referred to.

disease-free without vaccination vs disease-free with vaccination), most (33) being relevant for all. As an example, the two CCs related to food safety issues, namely *'II-8 A Regulation, authorisation and inspection of establishments for production, processing and distribution of food of animal origin'* and *'II-8 C Inspection of collection, processing and distribution of products of animal origin'* were considered relevant only to BSE. The majority of the other CCs were linked either to horizontal requirements (considered as prerequisites for official recognition) or to disease-specific requirements of the *Terrestrial Code*. Three CCs, namely *'II-10 Residue testing'*, *'II-13 Animal welfare'* and *'IV-5 Equivalence and other types of sanitary agreements'* have been excluded as not being sufficiently related to the required competencies for official recognition of disease status or endorsement of national official control programmes.

Step 2: Categorisation of the selected critical competencies

Considering the limited time and resources available to perform the analysis, it was decided to categorise the selected CCs into three different categories, each requiring a different approach to how the analysis of the PVS report is performed and how it is brought to bear on official status recognition and programme endorsement.

- **Category '+'** refers to generic CCs on non-technical aspects of VS governance (human, physical and financial resourcing; management; education; and stakeholder engagement) that contribute generally to the overall confidence in the animal health system, its resources and governance and, as a consequence, in the requested official status/programme endorsement. For the sake of efficiency, these CCs will be assessed collectively by reviewing the executive summary of the PVS Evaluation reports. LoA will also be reviewed.
- **Category '++'** refers to more technical CCs that have a technical impact on status recognition or programme endorsement. They will be addressed individually. If the expected LoA is reached, further review will not be necessary. If not, the other qualitative information available in the PVS report will be carefully considered. In case of remaining discrepancies, a request for clarification will be submitted to the Member Country.
- **Category '+++'** refers to technical CCs that will be reviewed individually and in detail, and include those with direct technical relevance to status recognition or programme endorsement, such as those related to surveillance or laboratory capacity. All relevant evidence and/or qualitative information available in the PVS report will be routinely reviewed, irrespective of the LoA. In case of any discrepancies, a request for clarification will be submitted to the Member Country.

As those who undertake the work – OIE staff, the relevant OIE *Ad Hoc* Group and the OIE Scientific Commission for Animal Diseases (SCAD) – are subject to time and resourcing constraints, the categorisation aimed to balance the need for a robust analysis approach with the need to use time and resources efficiently.

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Taken during a PVS mission in South Africa in 2012

Two examples of the selection and categorisation of CCs are as follows:

- ‘IV-7 Zoning’ is defined as ‘The authority and capability of the VS to establish and maintain disease free zones, as necessary and in accordance with the criteria established by the OIE (and by the WTO SPS Agreement where applicable)’. For the purposes of recognising a whole country as disease free, this CC is considered to be category ‘++’ (**zoning can be adopted in response to disease incursion**), but for the purposes of recognising a zone as being disease free, this CC is considered to be category ‘+++’.
- ‘II-5 A & B Epidemiological surveillance and early detection / Passive epidemiological surveillance and Active epidemiological surveillance’, was one of the more challenging CCs to categorise, due to the possible different interpretations of the terms ‘passive’ and ‘active’ and the absence of definitions available in the *Terrestrial Code*. Therefore, the categorisation of this CC took into consideration the specific characteristics of each disease and the possible different surveillance approaches implemented in different countries.

Step 3: Guidance on the level of advancement

For each CC selected and categorised (Steps 1 and 2), the expected LoA was determined based on the requirements of the *Terrestrial Code* and the expected level of performance.

As commonly accepted, an LoA of 3 was considered to be the general level indicating compliance with OIE standards. To guarantee the acquisition and maintenance of an official status, a higher LoA has been considered more appropriate in several cases. An LoA below the identified expectation for any particular CC does not automatically disqualify countries from achieving either status or programme recognition, but it does mean that the accompanying qualitative information within the PVS Evaluation report will be reviewed and further exchanges with the country may be considered. Such CC findings must also be interpreted in the context of the overall quality of the PVS report, the country dossier, and other relevant information. Common sense, rather than hard and fast rules, needs to be applied.



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Taken during a PVS mission in Laos in 2007

Conditions for use of PVS reports

The OIE PVS Evaluation and Follow-up mission reports are considered as a source of very useful information that, where available, should be systematically analysed to complement the status application. When reviewed in tandem with the country dossier, they can increase the level of independence and objectivity of the OIE’s status application review. However, the methodology has to consider certain limitations. For example, it is preferable to review recent PVS reports, given the risk of country data being outdated and also given the changes to the PVS methodology and PVS Tool over time.

In addition, when validating the report of the PVS Evaluation, countries can select the level of confidentiality that will be attributed to the report. Countries can agree to the reports being made publicly available (which includes being posted on the OIE website²), reports being made available for the OIE’s partners and donors only, or for reports to remain confidential between the OIE and the country. From 2017, a specific clause in the confidentiality form that countries sign will indicate that all PVS reports will be made available to OIE Specialist Commissions, Working Groups and *Ad Hoc* Groups, under their existing confidentiality provisions, and only where this will make a meaningful contribution to their OIE activity. The use of confidential reports finalised prior to 2017 by such groups for official recognition of disease status purposes is contingent on the approval of the applicant Member Countries.

2. www.oie.int/en/support-to-oie-members/pvs-evaluations/oie-pvs-evaluation-reports/



Conclusion

OIE PVS Evaluation and Evaluation Follow-Up reports, where available, have always been included as part of the evidence base for OIE's procedures for official recognition of disease status and endorsement of national official control programmes. Now, a more formal and systematic process has been developed that balances added value and consistency with efficiency. This pilot activity is in line with recommendations of the OIE PVS Pathway Think Tank, and particularly those discussed in detail under the OIE staff stakeholder stream. Once the process has been trialled it will be used to better utilise PVS reports as an input in other aspects of the OIE mandate.

The new methodology for careful but efficient analysis of PVS reports will be systematically used by the OIE Status Department from 2017 and may be adjusted depending on feedback. It contributes to the overall effort to strengthen the OIE procedures for official status recognition and official control programme endorsement by enhancing the evidence base and further improving transparency, consistency, independence and objectivity.

The use of PVS reports in other areas of the OIE mandate, such as disease transparency, standards implementation and global strategies for disease control

and eradication, are also being closely explored as part of OIE PVS Pathway Evolution, as relevant to OIE staff. Given the great success of the PVS Pathway to date and the level of investment by Member Countries, PVS experts, partners and donors in the process, finding ways for the OIE to start making the most of existing and future PVS Pathway reports makes good sense. There is a vast repository of relevant, objective and updated information available, collected at field level by OIE trained experts and compiled and presented through a process which is itself based on OIE's international standards.

Finally, the use of the PVS reports to inform other OIE activities will not only benefit the OIE. Exchanging information with Member Countries on the progress made since the deployment of the PVS missions and using the reports to highlight areas for attention in the real-life disease context will strengthen the follow-up of the implementation of the recommendations made during the PVS missions and further demonstrate their value to Member Countries, OIE partners and global animal health.

<http://dx.doi.org/10.20506/bull.2017.3.2694>

References

1. World Organisation for Animal Health (OIE) (2013) – Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool) Manual of the Assessor, Experts' Manual, Volume 2: Guidelines for writing an OIE PVS evaluation report.
2. Schmitt B.J. (2003). – Veterinary diagnostic laboratories and their support role for Veterinary Services. In *Veterinary Services: organisation, quality assurance and evaluation* (E. Correa Melo & F. Gerster, eds). *Rev. Sci. Tech. Off. Int. Epiz.*, **22** (2), 533–536. doi.org/10.20506/rst.22.2.1418.
3. World Organisation for Animal Health (OIE) & Food and Agriculture Organization of the United Nations (FAO) (2012). – The global foot and mouth disease control strategy. Strengthening animal health systems through improved control of major diseases. Available at: www.oie.int/doc/ged/D11886.pdf.
4. World Organisation for Animal Health (OIE) & Food and Agriculture Organization of the United Nations (FAO) (2015). – Global strategy for the control and eradication of PPR. Available at: www.oie.int/PPRStrategy.
5. World Organisation for Animal Health (OIE). – Technical disease cards. Available at: www.oie.int/technicalcard.
6. World Organisation for Animal Health (OIE) (2017). – Quality of Veterinary Services. Terrestrial Animal Health Code, Section 3. Available at: www.oie.int/index.php?id=169&L=0&htmfile=titre_1.3.htm.

Delivery of a PVS Pathway training workshop in India

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PVS Pathway training in the context of PVS Evolution

OIE PVS Pathway training delivered by OIE PVS Experts is a key component of PVS Pathway Evolution. As detailed in the cover article (see p. 14), one of the recommendations of the PVS Think Tank Forum was that the OIE develop and deliver a three-part PVS Pathway training strategy as follows:

- a) PVS Pathway basic training for national Veterinary Services – to strengthen Member Countries' understanding of, and engagement with, the PVS Pathway in order to increase their sense of ownership and improve outcomes
- b) Advanced training for experienced PVS Pathway Experts – to service new PVS Pathway engagement options such as strategic planning, specific content, or linkages with the International Health Regulations (IHR)
- c) PVS Pathway basic training for OIE staff – to build capacity for ongoing support to countries (OIE regional staff lead) and for report analysis and use (OIE HQ staff lead).

This article focuses on the first part of this training strategy, namely **basic PVS Pathway training for staff and stakeholders of national Veterinary Services**. Experience has now demonstrated that raising both awareness and understanding of PVS Evaluation methods and processes in Member Countries has a suite of benefits, including:

- creating national PVS Pathway 'champions' with a strong understanding of PVS
- promoting (and can be tied with) PVS Pathway mission requests
- enhancing country ownership of the PVS Pathway
- enhancing the effectiveness of mission preparations and the mission itself, and (most importantly) improving the use of reports
- enhancing decision-making on new PVS Pathway Evolution options
- potentiating the PVS Self-Evaluation option, including at decentralised level
- widening the pool of OIE PVS Pathway Experts.

PVS Pathway training workshops (3–4 days in duration) targeting OIE Member Countries are not new. They have been delivered at both sub-regional and national levels, e.g. for the European Union in 2011 (in Belgium), for China in 2012, for the CVP¹ countries of South America in 2013 (in Argentina), for Singapore in 2014, for Australia in 2015, for East Asia in 2016 (in the Republic of Korea) and for Canada in 2016.

As can be observed, these training workshops have tended to target high-income countries. Early on, the workshops were designed to build capacity in these countries to enable them to make use of the PVS Tool to undertake a PVS Self-Evaluation, because at that stage they were not interested in external assessment. A case study of PVS Self-Evaluation in China has been covered earlier in this issue of the *Bulletin* (see pp. 15–20).

1. CVP – Permanent Veterinary Committee of the Southern Cone, comprises representatives from Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay

More recently, however, PVS Evaluation information seminars and training workshops have been delivered for a different purpose – to build support for a request for an external PVS Evaluation and better prepare countries for the evaluation once requested. In Australia and Canada, one-day PVS information seminars targeting a wide audience proved effective in building support and eliciting requests for PVS Evaluation missions, and three-day training workshops targeting technical staff proved to be the perfect launching pad for actual PVS Evaluation mission preparations within these countries.

PVS information seminar and training workshop in India, August 2017

Most recently, a one-day PVS Evaluation information seminar, followed immediately by a three-day PVS Evaluation training workshop, was held in New Delhi for Indian veterinary staff and stakeholders. Both the workshop and the seminar were delivered by three OIE trainers, Dr John Weaver (experienced PVS Team Leader, having worked in India), Dr John Stratton (OIE HQ staff and PVS Expert) and Dr Pasang Tshering (OIE regional staff). The two events took place at the request of the Indian Government as part of communications, training, preparations and planning for the initial OIE PVS Evaluation of India.

PVS training workshop delivery has been very well developed using a truly interactive format, in line with best practice principles of adult education, and the training in India proved to be the perfect forum for invaluable, detailed planning for India's PVS Evaluation, which will be very complex given the size and scale of the country and its decentralised nature.

The PVS information seminar was delivered to approximately 120 participants from across the country on 16 August 2017. The stated objective was to: *'Convey a solid, general understanding of both the PVS Evaluation methods and benefits to elicit broad support at all levels for the planning, preparation, conduct and follow up of an OIE PVS Evaluation in India'*.

The PVS training workshop was delivered to approximately 50 participants from across the country from 17 to 19 August. The stated objective was to: *'Through in-depth training in the PVS Evaluation methods, facilitate key technical staff involved to plan carefully, prepare well, support ably and follow up effectively on a successful and carefully adapted OIE PVS Evaluation of India'*.

This mission represented India's first formal engagement with the OIE PVS Pathway. OIE PVS Pathway engagement by India is of strategic importance given India's huge influence on global animal health. India is the world's second largest country by population and the world's



Dr Suresh S. Honnappagol (left), Animal Husbandry Commissioner (Chief Veterinary Officer), Indian Department of Animal Husbandry, Dairying and Fisheries, Chair of the workshop and co-author of this article; and Dr Praveen Malik (right), Director of the Chaudhary Charan Singh National Institute of Animal Health, and key organiser of the workshop

largest democracy. It has easily the world's largest bovine population (just over 300 million head, nearly a third of the global total²) and the second largest small ruminant population (approximately 300 million head), closely following China.

In terms of animal disease, India is the country with the highest number of dog-mediated human rabies deaths (approximately 20,000 of the estimated 59,000 total annual deaths globally occur in India³), and is of vital importance in terms of the global epidemiology of the two diseases that are the object of the current FAO/OIE global disease control strategies, namely PPR and FMD.

India is also unique in other ways which are relevant to livestock health, for example, the particular religious and cultural status of cattle in the country has an impact on livestock trade and disease management.

Given these distinctive characteristics, when India expressed an interest in OIE PVS Evaluation, the OIE proposed that any mission be preceded by a PVS Evaluation information seminar and training workshop to help both the OIE and India better prepare and plan for their landmark PVS Evaluation. Traditionally, PVS information seminars and PVS training workshops have been held separately (as was the case in Australia and Canada), but following a discussion and correspondence between India and the OIE, it was agreed to hold these events back to back in New Delhi.

Both events benefitted from strong engagement and enthusiasm from India, thanks to strong leadership and support from the OIE Delegate, Mr Devindra Chaudry, and India's Animal Husbandry Commissioner (i.e. Chief Veterinary Officer), Dr Suresh S. Honnappagol. Dr Honnappagol skilfully chaired all sessions in a positive

and engaged manner for the full four days. Out of the 29 Indian States, 27 were represented at the PVS training, and there was also representation from industry, and other relevant sectors, such as veterinary drug regulation and animal welfare.

Given the large number of participants and the gallery seating, the PVS Information Session was largely presented in standard lecture style and provided an overview of the PVS Pathway. The subjects covered by the trainers' presentations included the OIE (a brief introduction), the PVS Pathway, the PVS Tool and the Critical Competencies, PVS Pathway Evolution, and preliminary perspectives on an Indian PVS Evaluation process.

The Indian Government was also invited to present an overview of its Veterinary Services. In addition, the public health agency, the Indian National Centre for Disease Control, also gave a presentation on national efforts in relation to the WHO IHR Monitoring and Evaluation Framework, covering inter-sectoral collaboration relevant to health security in the country.

Following the PVS Information Seminar, there was a three-day in-depth training workshop which included a Theory Day, a Practical Day and a Planning Day. The Theory Day was devoted to exploring the PVS Tool in detail through both presentations and interactive sessions targeting the 47 Critical Competencies. There was also a more detailed presentation on India's Veterinary Services, focusing on the four PVS Fundamental Components. The Practical Day involved no lectures and was devoted to group work exercises. These included a PVS Evaluation 'role play', which involved looking at each Critical Competency and then working as a PVS Evaluation Team during a simulated PVS Evaluation mission in a hypothetical country, 'Tryland'.

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2. <http://beef2live.com/story-world-cattle-inventory-ranking-countries-0-106905>
 3. www.who.int/features/2016/eliminating-rabies-india/en/



©Department of Animal Husbandry, Dairying and Fisheries (DAHDF), India



The opportunity to plan for the OIE PVS Evaluation in India

The Planning Day involved a presentation on the management of a PVS Evaluation mission and in-depth discussions on planning and preparing for an upcoming PVS Evaluation mission to India. Four groups, with Indian national government leads for each (and OIE support for three of them), focused on PVS Evaluation mission planning in the areas of:

- a) developing a national PVS Evaluation Briefing and Communications Strategy
- b) developing a national governance mechanism to coordinate the PVS Evaluation in India (i.e. a national PVS Taskforce)
- c) initiating work on developing the PVS Evaluation mission itinerary (including field sites)
- d) initiating a process to provide the incoming team with baseline documentation on the Indian Veterinary Services.

The Indian leads each presented their discussions to the broader group.

Agreed outcomes in terms of national PVS Evaluation planning in India, arising from both senior level discussions and via the group and plenary work on the final training day are:

OIE PVS Evaluation of India will be a national evaluation and not be restricted to a few priority states

This was recommended after hearing that the national Veterinary Services have a very significant role in improving animal health and welfare and veterinary public health via substantive national veterinary legislation, core responsibilities in areas such as quarantine/borders, drug regulation and international trade, and through a livestock

health and disease control scheme managed nationally that provides consistency and supplementary technical and financial support to all state and union territory veterinary services across nine national veterinary priorities.

Given India's size, national PVS Evaluation should be conducted in two stages, with two missions, each of three weeks' duration, using the maximum-size team to enhance coverage

Although there was basic agreement on the need for a national mission, the trainers and trainees also agreed that it would be impossible to visit all states. The CVO suggested a regional approach whereby the visited states within each region would be considered representative of the other states within the region in terms of geography and livestock systems. There are five major regions in India and, as with almost all missions, it was decided that the mission team would divide into pairs or singles for the field component of the mission to ensure that each region was covered.

Before it was decided that there would be two missions, alternative options were discussed, including having a larger team (e.g. six experts) or having a longer mission. A larger team would be difficult to manage logistically and also complicate report drafting (i.e. so many inputs and styles). A longer mission (e.g. six weeks) could be too intense and demanding in a country like India and busy experts may not be available to be away from home for long periods.

India will progress preparations based on the excellent work that was accomplished on the final day of the training workshop

A national PVS Taskforce comprised of national and state Veterinary Services representation ('nodal points') was formed, states are initiating data collection and field site planning and will meet in New Delhi at a national preparation workshop

scheduled for late 2017 to discuss completed data sets and to progress detailed itinerary planning.

Options regarding PVS Pathway Evolution will be considered after the initial two-phased PVS Evaluation

Although India expressed interest in the PVS Evolution options being developed by OIE for its Members, such as PVS Self-Evaluation, strategic planning, specific content and PVS/IHR linkages, a PVS Evaluation using the standard methodology (albeit with split initial missions), will be undertaken initially. At this point, India might consider how more evolved forms of PVS engagement, as developed by the OIE, might be useful to them. The option which generated the greatest interest, as determined via a prioritisation exercise during the PVS training, was PVS strategic planning support. Given that it will not be possible to cover all states in the initial PVS Evaluation, the feasibility and/or need for further OIE missions could be investigated or the option of PVS Self-Evaluation could be explored as a means to achieve further coverage of states if required.

Conclusion

Both the PVS Evaluation information seminar and the training workshop were interesting and fruitful due, in large part, to the level of engagement and enthusiasm of those who attended. India is committed to undergoing an OIE PVS Evaluation and a satisfactory agreement was achieved on almost all elements. In liaison with India, the OIE is now launching preparations from its end.

The PVS information and training week strongly reinforced the value of organising these types of PVS Pathway training/preparatory events in advance of missions. They help to improve country readiness and engagement at all levels/sectors, particularly in complex or large-scale settings. It is clear that such efforts make a difference in terms of improving understanding of the PVS Pathway and ensuring mission preparedness. This should improve not only the overall quality of the mission and the report, but also the capacity of the recipient country to meaningfully respond to report findings and to strengthen their Veterinary Services.

In India, the training was delivered nationally, given the country's size, but, in most cases, it will be more realistic and efficient to deliver this training at sub-regional level. This is envisaged as part of PVS Pathway Evolution, and preliminary planning is already taking place in Africa and Central America.

Basic PVS Evaluation training, and in particular that targeting OIE Member Countries, has the potential to add much to the PVS Pathway and to increase its impact. The OIE is looking forward to developing and delivering more such training as part of the evolution of the PVS Pathway, as this will benefit animal and veterinary public health around the world.

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Use of the OIE PVS Pathway in the design and delivery of World Bank development programmes across Africa and Central Asia

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Improving animal health has a beneficial impact on a whole raft of major issues, such as food security, public health, trade, economic development and poverty reduction. Consequently, the actions of the Veterinary Services and their impact on world animal health – a core aspect of the OIE's mandate – should be considered a global public good.

These major issues, which are strongly aligned with the objectives of the World Bank, have inevitably brought our two organisations, the OIE and the World Bank Group, closer together.

Over the years, the *modus operandi* for our collaboration has been built around a tool, developed by one organisation, recognised by the other, and relevant to the missions of both, namely the Performance of Veterinary Services (PVS) Pathway, including its various components¹ and the reports and recommendations to countries that it generates.

Since 2007, the PVS Pathway has been helping OIE Member Countries sustainably improve their national Veterinary Services' compliance with international standards. The OIE makes PVS reports available to the World Bank whenever possible, in other words when the country concerned has agreed to their being communicated to donors and other partners.

An investment is prepared in light of an audit of the current situation and an analysis of weaknesses, needs and opportunities. The OIE PVS Pathway and its various components is capable of making a very concrete contribution to this preparatory work, supported by

qualitative and quantitative information. For the World Bank Group, it therefore constitutes a structured basis on which to develop investment projects with a country or group of countries.

In practical terms, in addition its technical quality and the fact that it is recognised by numerous partners, the PVS Pathway offers numerous advantages, as it ensures:

- a basis for discussion founded on a political commitment by the country to evolve, given that the PVS Pathway is voluntary and is conducted at the country's request;
- alignment of the proposed recommendations and measures with international standards validated by the World Assembly of the OIE Delegates (181 Member Countries);
- the necessary independence for the evaluation carried out prior to preparing the investment;
- a control of its contents, notably through a peer review procedure;
- consistency with the evaluations carried out in other countries and regions, as it is developed within a framework defined and harmonised by the OIE;

1. PVS Evaluation, PVS Gap Analysis, PVS Pathway Follow-Up Missions

- a holistic approach in that the tool covers a broad spectrum of the fields that make up or impact upon the Veterinary Services, such as legislation, training, laboratories, and the organisation of the public and private sectors.

The World Bank often complements the recommendations stemming from the PVS Pathway by developing a national strategic plan, based largely on the results of missions.

A number of projects financed by the World Bank during the past decade have been developed based on PVS Evaluations. These include projects in Kyrgyzstan², Azerbaijan³, Zambia⁴ and, more recently, Cameroon⁵, Burkina Faso⁶, Mali, Niger and Nigeria⁷. Not only is this list of countries likely to grow, the World Bank also values the PVS Pathway for operations of a regional nature, involving at least three countries.

For example, the PVS reports were a driving force behind the development of a regional ‘animal health’ component for two large investment projects underway in West Africa and Central Africa: the Regional Sahel Pastoralism Support Project (PRAPS) and the Regional Disease Surveillance Systems Enhancement (REDISSE) Project.

The PRAPS Project Appraisal Document (PAD) clearly states that ‘the design of this component draws upon findings and recommendations from the PVS Pathway reports for each participating country’ and that ‘PVS Pathway reports provide objective evidence to identify priorities and guide investments.

Information from the six PVS Pathway reports was consolidated to design a consistent regional program for PRAPS’. These few short sentences summarise a vast amount of preliminary work, including an intermediate stage with regional analyses of the available PVS reports. On this basis, PRAPS is currently investing over USD 50 million for animal health in the six countries of the Sahel.

Ultimately, the PVS Pathway is an excellent tool that guides first and foremost the governments of evaluated countries, but also donors, to ensure more judicious investment in strengthening the Veterinary Services and their governance.

The PVS Pathway is proving to be an asset, but soon could even be seen as an indispensable prerequisite for investment decision-making in the animal health sector.

Its holistic, multi-stakeholder approach gives the prospect of a global and long-term impact on the means and actions of the Veterinary Services, which is a key criterion in the choices made by the World Bank. Without doubt, the World Bank will continue to work hand in hand with the OIE and its PVS Pathway to promote animal health and strengthen the Veterinary Services in the years ahead. One of the challenges is therefore to regularly update the evaluations and recommendations produced.

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2. Avian Influenza Control and Human Pandemic Preparedness and Response Project – P099453; Pasture and Livestock Management Improvement Project – P145162; IFAD Livestock and Market Development Project
3. Avian Influenza Preparedness Project – P066100; Azerbaijan Agricultural Development and Credit Project 2 – P090887; Agriculture Competitiveness Improvement Project – P122812
4. Livestock Development and Animal Health Project – P1221232
5. Livestock Development Project (PRODEL)
6. Livestock Sector Development Support Project (PADEL-B)
7. Projects under preparation



ProgRESSVet: A capacity-building programme based on the PVS Pathway

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ProgRESSVet (*Programa Regional de Educación Sistemática de Servicios Veterinarios*) is a collaborative effort led by the Center for Animal Health and Food Safety (CAHFS) at the University of Minnesota, United States of America, and *Centro Buenos Aires para la Capacitación de los Servicios Veterinarios* (CEBASEV), Argentina, the OIE's designated Collaborating Centres for Veterinary Service capacity-building in the Americas.

The challenge

- » Capacity-building and workforce development for Veterinary Services is challenging for a number of reasons, including barriers related to language, financial resources to support the training and time availability.
- » As a result, the capacity-building process has traditionally been limited as efforts have fallen short of what is required for the sustainable development of the capacity, such as continuity and systematic coordination of the learning process for official veterinarians on OIE advanced competencies, in a timely and affordable manner.

The solution

- ProgRESSVet is an innovative educational initiative aimed at building the capacity of Veterinary Services in Spanish-speaking countries of the Americas.
- The programme was designed and developed by CAHFS and CEBASEV, with the technical collaboration of many professionals from different countries in the Americas.

What are OIE advanced competencies?

Building upon the *OIE's recommendations on the competencies of graduating veterinarians ('Day 1 graduates')* to assure national Veterinary Services of quality (2012), the advanced competencies provide further guidance regarding the knowledge, skills, attitudes and aptitudes required for a veterinarian to work within the Veterinary Authority and, ultimately, to play a role in improving the quality of services provided. The OIE has provided for advanced competencies in the following areas [1]:

- 3.1. Organisation of Veterinary Services
- 3.2. Inspection and certification procedures
- 3.3. Management of contagious disease
- 3.4. Food hygiene
- 3.5. Application of risk analysis
- 3.6. Research
- 3.7. International trade framework
- 3.8. Administration and management of veterinary service

These advanced competencies serve as the basis for the ProgRESSVet curriculum and are explicitly mainstreamed into every course in the programme.

- The basic idea was to create and implement a training programme, delivered predominantly on line, to enhance the human resource capabilities of Veterinary Services in Latin America. The programme is based upon the OIE’s advanced competencies for Veterinary Service professionals and seeks to enhance the knowledge and skills necessary for advanced practice in Veterinary Services. Apart from providing individual and group training, ProgRESSVet is aligned with the OIE’s concept of Veterinary Services as a Global Public Good, encouraging participants to see their work as an active part of broader national, regional and international systems.
- The name of the programme was decided through a voting process involving stakeholder representatives. The name ProgRESSVet was selected because:
 - a)** it combines the languages of both Collaborating Centres involved in the proposal, as the acronym is in English whereas the name itself is in Spanish, the primary language of programme delivery;
 - b)** the combination of languages reflects the multiple cultures and diversity of key players and participants in the initiative;
 - c)** the acronym refers to one of the ultimate goals of the programme (to progress Veterinary Services).
- The programme was launched in March 2017 and its first cohort included ten participants from the Veterinary Authorities of six countries: Argentina, Bolivia, Brazil, Paraguay and Uruguay (coordinated by the Permanent Veterinary Committee of the Southern Cone [CVP]), together with the United States of America (coordinated by the United States Department of Agriculture [USDA] mission in Mexico, to facilitate the participation of a Mexican veterinarian employed by the USDA).

Utilising the PVS Pathway

ProgRESSVet course topics were identified based on a review and analysis of PVS Pathway mission reports from the region, starting with those publicly available on the OIE PVS Pathway Evaluation Reports site [2] and continuing with others shared voluntarily by countries based on a



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confidentiality agreement. After a systematic review of the reports, in April 2017 a group of individuals familiar with the OIE PVS Evaluation process met in Minneapolis, Minnesota (United States of America) for a series of meetings to identify further topics and themes for ProgRESSVet courses. Following those meetings, a preliminary programme was presented to the Chief Veterinary Officers in the region to achieve consensus among key actors on the ProgRESSVet scope and approach.

Training framework

ProgRESSVet courses are delivered on-line, employing the best-known and innovative practices for distance, technology-supported education. Individual courses based on OIE advanced competencies include learning activities and assessments aligned with content-specific learning goals, with a focus on the application, integration and sharing of new knowledge and skills. A certificate is awarded to any participant who successfully completes all eight courses in the ProgRESSVet portfolio (pass mark 60%), passes a final examination or practical exercise for each course (60%+, administered on-line) and passes a final, comprehensive exam for the entire programme (60%+, administered in person at the end of the sequence of courses). In addition, each participant must complete an independent project, under the guidance of programme instructors serving as topic-specific mentors based on their subject-area expertise. More information about final projects is provided below.

Programme features

- The programme follows a hybrid model, with two in-person activities, one at the beginning and one at the end of the programme and, in between the two, a sequence of eight on-line courses. All activities are conducted in Spanish.
- Each course is led by two coordinators, appointed by CAHFS and CEBASEV and selected on the basis of their professional background and expertise.
- Coordinators design the content and invite speakers to expand and deepen the scheduled topics.
- Participants are designated by the OIE Delegate of their respective country; the Delegates also pledge to grant each participant six hours of dedicated professional release time per week to complete the programme.

ProgRESSVet courses

Course	OIE advanced competency	Coordinators
Introduction to intergovernmental organisations	International trade framework	Emilio A. León (CEBASEV) and Kaylee Myhre Errecaborde (CAHFS)
Basic statistics	Research	Andrés Gil (University of the Republic [Udelar], Uruguay) and Julio Álvarez (CAHFS)
Principles of epidemiology	Management of contagious disease	Emilio A. León (CEBASEV) and Sergio J. Duffy (CEBASEV)
Spatial analysis	Management of contagious disease	Fernando Mardones (Andrés Bello University [UnAB], Chile) and Julio Álvarez (CAHFS)
Risk analysis	Application of risk analysis	Emilio A. León (CEBASEV) and Fernando Sampedro (CAHFS)
Organisation and administration of Veterinary Services	Organisation of Veterinary Services (administration and management)	Abelardo De Gracia (Organismo Internacional Regional de Sanidad Agropecuaria [OIRSA], Panama) and Scott Wells (CAHFS)
Veterinary public health	Management of contagious disease	Manuel Sánchez (Pan American Foot and Mouth Disease Center [PANAFTOSA]) and Claudia Muñoz (CAHFS)
Policy	All	Andrés Perez (CAHFS) and Kaylee Myhre Errecaborde (CAHFS)

Innovation and application

- ProgRESSVet has been designed with features that allow participants to keep working while studying. The programme has been highly modularised to facilitate translation and adaptation to other languages.
- A ‘common case’ example is used as a connector between and among courses so that participants can use the knowledge gained on each course to analyse a problem. In the 2017 version of the programme, the common case is a foot and mouth disease epidemic in a fictional country, which has been simulated using an epidemiological model and a combination of laboratory and field data.
- During the programme, participants are required to complete a final project in which they apply knowledge gained through the programme to a topic of interest to their Veterinary Service. The topic is selected by each participant in consultation with the OIE Delegate of his/her country. There are three options for the final project, as follows.
 - a) Type A project:** the participant evaluates and proposes a change in national or sub-national legislation/regulation/policy in relation to the prevention, control or eradication of a disease or condition. The end product is a new regulation or legislation.
 - b) Type B project:** the participant undertakes a preliminary analysis of data, develops a testable hypothesis related to a proposed change in national or sub-national legislation/regulation/policy, designs a study to test the hypothesis and estimates the budget required to test the hypothesis. This project option is proposed to participants who see a critical need for a national or sub-national policy change related to the prevention, control or eradication of a disease but lack the necessary or complete evidence or data to justify such a change.
 - c) Type C project:** the participant undertakes a project that focuses intensively on the data that needs to be included in an eventual proposed change in national or sub-national legislation/regulation/policy. Such a project might include developing or revising protocols for collecting, organising, cleaning and analysing data that would allow a participant to translate raw data into evidence to design the hypothesis related to emerging issues in a national context. This project option is proposed to participants who have identified a need for further study of an issue in order to prioritise it within their Veterinary Service.

ProgRESSVet is expected to become the premier resource for capacity-building of Latin American Veterinary Services, in collaboration and coordination with regional governments. The hope, too, is that ProgRESSVet will eventually evolve into a global programme, designed and coordinated with other OIE Collaborating Centres for Veterinary Service capacity-building.

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References

1. www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/Vet_Edu_AHG/DAY_1/DAYONE-B-ang-vC.pdf
2. www.oie.int/support-to-oie-members/pvs-evaluations/oie-pvs-evaluation-reports/

OIE PVS Pathway for efficient Veterinary Services

PVS Evaluation missions

State of Play – as at 1 December 2017

OIE Region	OIE Members	Requests received	Missions completed	Reports available for distribution to donors and partners
Africa	54	53	51	43
Americas	30	26	26	19
Asia and the Pacific	32	27	25	14
Europe	53	20	19	12
Middle East	12	13	11	6
Total	181	139	132	94

PVS Evaluation mission requests

• Africa (53)

Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Rep., Chad, Comoros, Rep. of the Congo, Dem. Rep. of the Congo, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

• Americas (26)

Argentina, Barbados, Belize, Bolivia, Brazil, w Chile, Colombia, Costa Rica, Dominican Rep., Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela.

• Asia and the Pacific (27)

Australia, Bangladesh, Bhutan, Brunei, Cambodia, Fiji, India, Indonesia, Iran, Japan, Dem. People's Rep. of Korea, Laos, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Caledonia, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand, Timor Leste, Vanuatu, Vietnam.

• Europe (20)

Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Georgia, Iceland, Israel, Kazakhstan, Kyrgyzstan, Former Yug. Rep. of Macedonia, Montenegro, Romania, Serbia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.

• Middle East (13)

Afghanistan, Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestinian N.A. (observer), Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.

* Including second mission

In red: completed missions

Legislation identification missions

State of Play – as at 1 December 2017

OIE Region	OIE Members	Requests received	Missions completed
Africa	54	41	36
Americas	29	9	8
Asia and the Pacific	32	9	7
Europe	53	5	4
Middle East	12	5	4
Total	180	69	59

PVS Gap Analysis missions

State of Play – as at 1 December 2017

OIE Region	OIE Members	Requests received	Missions completed	Reports available for distribution to donors and partners
Africa	54	52	50	35
Americas	30	19	13	10
Asia and the Pacific	32	22	18	9
Europe	53	10	9	4
Middle East	12	10	5	0
Total	181	113	95	58

Legislation identification mission requests

• Africa (41)

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African (Rep.), Chad, Comoros, Dem. Rep. of the Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

• Americas (9)

Barbados, Belize, Bolivia, Dominican Rep., Guatemala, Haiti, Honduras, Panama, Paraguay.

• Asia and the Pacific (9)

Bhutan, Cambodia*, Fiji, Laos, Mongolia, Myanmar, Papua New Guinea, Vietnam.

• Europe (5)

Armenia, Georgia, Israel, Kazakhstan, Kyrgyzstan.

• Middle East (5)

Afghanistan, Kuwait, Lebanon, Saudi Arabia, United Arab Emirates.

In red: completed missions

* Including a full mission following an initial pilot mission

PVS Gap Analysis mission requests

• Africa (52)

Algeria, Angola, Benin*, Botswana, Burkina Faso, Burundi, Cameroon, Central African (Rep.), Chad*, Comoros, Dem. Rep. of the Congo, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea*, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar*, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

• Americas (19)

Argentina, Barbados, Belize, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Suriname.

• Asia and the Pacific (22)

Bangladesh, Bhutan, Brunei, Cambodia, Fiji, Indonesia, Iran, Dem. People's Rep. of Korea, Laos, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Philippines*, Sri Lanka, Thailand, Timor Leste, Vanuatu, Vietnam.

• Europe (10)

Armenia, Azerbaijan, Bosnia and Herzegovina, Israel, Kazakhstan, Kyrgyzstan, Serbia, Tajikistan*, Turkey.

• Middle East (10)

Afghanistan, Jordan, Kuwait, Lebanon, Oman, Palestinian N.A. (observer), Saudi Arabia, Syria, United Arab Emirates, Yemen.

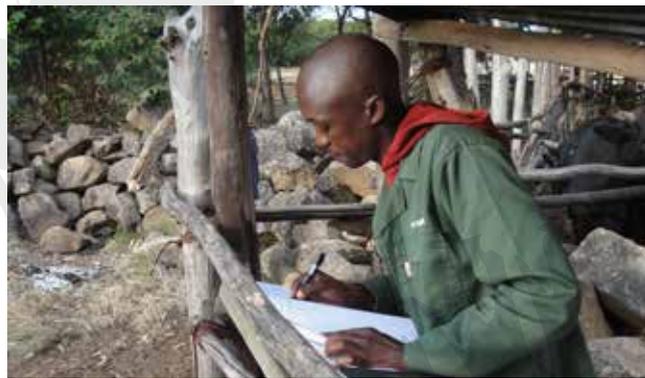
In red: completed missions

*Including second Gap Analysis missions and Aquatic Gap Analysis mission

'The number of countries involved in the PVS Pathway is growing every year, due to its proven usefulness, simplicity and sustainability'

'By supporting Veterinary Services all over the world, the OIE is improving animal health and welfare.'

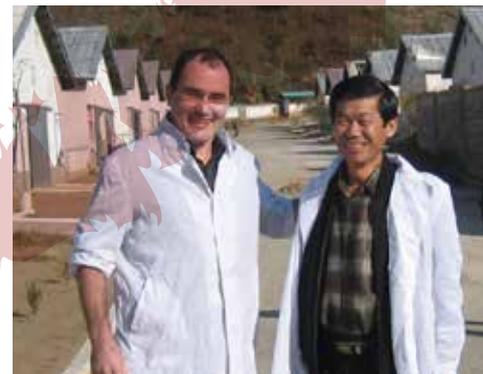
To illustrate the progress made during these ten years, the OIE has produced a new video. Featuring key players in the PVS Pathway, the video highlights the main steps in the programme and its positive outcomes, and looks ahead to the future



In 2017, the OIE celebrated the tenth anniversary of the PVS (Performance of Veterinary Services) Pathway. The PVS Pathway is a comprehensive, multi-staged continuous process which uses a set of complementary tools designed to assist Veterinary Services to improve their governance mechanisms. Since 2007, this flagship programme of the OIE has been helping Member Countries to sustainably improve their Veterinary Services, to bring them into line with the Organisation's international standards.

The PVS Pathway missions and corresponding tools strengthen the capacities of Veterinary Services by helping them understand and better align with the OIE intergovernmental standards that they have democratically adopted. This process focuses on building capacities of systems using a horizontal approach, giving national Veterinary Services tools to identify weaknesses and develop strategies to address these gaps. The PVS Pathway is a comprehensive, long-term process that countries can decide to undertake on a voluntary basis to identify and then address their needs, with the help of OIE trained and certified experts.

her to improve Veterinary Services



Since it was launched, the PVS Pathway has been implemented in over 140 countries and has already had a major global impact on strengthening animal health systems in areas as diverse as resource allocation, improving governance structures and coordination at national level, and intersectoral collaboration. It has allowed improvements to be made worldwide in terms of animal and veterinary public health surveillance, disease control, emergency response, food safety and animal welfare.

Some of the most significant outcomes reported by OIE Delegates are:

- an understanding of the strengths and weaknesses of the Veterinary Services,
- the opportunity to better evaluate their needs,
- a better grasp of OIE standards,
- increased opportunities for training.

The ten-year history of the PVS Pathway and the PVS Think Tank Forum: www.oie.int/pvsvideo



new OIE publications



Trilingual publication
December 2017
29.7 × 21 cm
Approx. 350 pages
ISBN 978-92-95108-32-5
Price: EUR 70

Scientific and Technical Review, Vol. 36 (3) (plurithematic issue)

Volume 36 (3) of the *Scientific and Technical Review* contains 24 articles submitted by experts from around the world on a variety of topics.

Most notably, this new issue examines the epidemiological situation in various parts of the world, as well as several zoonoses, including canine parasitic zoonoses; rabies; and *Clostridium perfringens*, *Toxoplasma gondii* and *Salmonella* spp. infections. The surveillance of companion animal diseases is also

addressed in this context.

The issue also provides updates on the strategy for the fight against foot and mouth disease and the risks of the virus's transmission through international trade in live animals. In addition, animal diseases such as African horse sickness and swine fever are reviewed from an active

surveillance standpoint. It also analyses how certain horse diseases are diagnosed in the laboratory.

Further topics covered in this issue include how veterinary medicine is taught and concerns related to food safety, as well as the relationship between climate change and anthrax.

The annual multi-topic issue of the *Review* is a unique medium through which to disseminate reports on the situation and management of animal diseases worldwide, particularly with regard to countries where the animal health situation is rarely addressed in scientific publications.

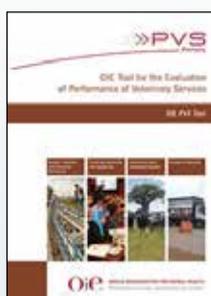
The OIE publishes three issues of the *Scientific and Technical Review* annually. The first two issues of 2017 examined the economics of animal health and biological threat reduction, respectively.

selected OIE publications



Trilingual publication
2012
29.7 × 21 cm
335 pages
ISBN 978-92-9044-876-1
Price: EUR 65
<http://dx.doi.org/10.20506/rst.issue.31.2.50>

Good governance and financing of efficient Veterinary Services
Scientific and Technical Review, Vol. 31 (2)
L. Msellati; Ed.



OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool)



OIE Tool for the Evaluation of Performance of Veterinary Services and/or Aquatic Animal Health Services (OIE PVS Tool: Aquatic)



activities of the OIE Specialist Commissions, Working Groups and *Ad hoc* Groups

Strategic review of OIE Working Groups, and Resolutions 32 and 33 adopted during the 85th General Session



© OIE/A. Ginzburg

Animal Welfare Working Group, June 2016

In 2016, the OIE undertook a review of its Working Groups. This review resulted in Resolutions 32 and 33, both of which were adopted by the World Assembly of Delegates at the 85th General Session. **These resolutions confirmed that the mandates of the Animal Production Food Safety Working Group (APFSWG) and the Animal Welfare Working Group (AWWG) would not be renewed.** The Wildlife Working Group remains, but its terms of reference and membership will be re-evaluated to ensure that it is providing strategic and scientific support to the OIE in its work on health risks at the interface between wild animals, domestic animals, humans and the ecosystem, in line with the OIE's One Health approach.

The review of Working Groups was initiated by Dr Monique Éloit, OIE Director General, in accordance with the

OIE's 6th Strategic Plan, which set out the OIE's intention to undertake a critical assessment of Working Groups to ensure they met the organisation's needs. The review, which was presented to the OIE Council in September 2016, resulted in the decisions outlined in the resolutions.

In presenting Resolution 32 on the APFSWG to the World Assembly, Dr Matthew Stone, OIE Deputy Director General (International Standards and Science), paid tribute to its achievements since 2002. The Group has ensured close working relationships between the OIE and Codex Alimentarius and together the two organisations have developed standards which, when implemented, ensure the production of safe food of animal origin. In particular, Dr Stone acknowledged the enormous contribution of the chair, Dr Stuart Slorach. In accordance with

the Resolution, the OIE's standard-setting activities in the area of animal production food safety will now revert back to the direct oversight of the Specialist Commissions. Strategic coordination with WHO, FAO and Codex will be achieved through the governance mechanisms of the Tripartite Collaboration, which will oversee the interactions of a network of food safety contact points from each of the three organisations.

In presenting Resolution 33 on the AWWG, Dr Stone noted that the animal welfare programme was now well integrated into the work of the OIE, such that the standard-setting function could revert back to the direct oversight of the Specialist Commissions. The development of a new mechanism for strategic engagement with stakeholders is envisaged in the OIE Global Animal Welfare Strategy. To support the implementation of this strategy, an OIE Animal Welfare Forum will be established to provide a discussion forum for OIE Members, the livestock industries, civil society organisations and OIE Collaborating Centres. The key objectives of this Forum will be to identify priorities for standards development and review, and to support their implementation. Dr Stone acknowledged the contribution of the current chair, Dr Abdul Rahman, and that of the previous chair, Dr David Bayvel, who passed away in 2015.



activities of the OIE Specialist Commissions, Working Groups and *Ad hoc* Groups

***Ad hoc* Group on Alternatives for Surveillance for Demonstration of Freedom from FMD and Recovery Periods**

The OIE *Ad hoc* Group on Alternatives for Surveillance for Demonstration of Freedom from Foot and Mouth Disease (FMD) and Recovery Periods was convened from 14 to 16 June 2017 to address Member Countries' requests for flexibility in the post-outbreak recovery periods for FMD. Some Members wish to use alternative methodologies to achieve an appropriate level of confidence in their freedom from FMD, particularly in situations in which emergency vaccination is applied and the vaccinated animals are not removed from the population.

The Group emphasised that recovery of infection-free status, in cases where emergency vaccination is used, but not followed by the slaughtering of all vaccinated animals, should depend on demonstrating the absence of infection in the unvaccinated population, and the absence of transmission of FMD virus in the vaccinated population. To reflect this objective, the Group recommended modifying in the *Terrestrial Animal Health Code* (the *Terrestrial Code*), Article 8.8.7., Point 1.c, which does not currently include the concept of demonstrating the absence of FMD virus transmission.

The Group decided that the recovery period for infection-free status would depend upon the time required to achieve the stated level of confidence. In order to reduce the recovery period, the Group concluded that additional surveillance system components should be implemented, along with other tools, such as post-vaccination monitoring, to increase the level of confidence in freedom from FMD.

The Group discussed the definition and aim of the different surveillance system components, as well as factors contributing to their sensitivity and specificity. Applying these components and tools to vaccinated and unvaccinated populations, with regard to their performance at the herd level and their contribution to overall confidence in freedom from FMD, was also considered.

Finally, the Group agreed that this approach of applying different surveillance system components and other measures to estimate a Member Country's overall confidence in claiming freedom from FMD could be applied to other diseases.

***Ad hoc* Group on Killing Methods for Farmed Reptiles for their Skins and Meat**

Members of the OIE *Ad hoc* Group on Killing Methods for Farmed Reptiles for their Skins and Meat met face-to-face for the first time at OIE Headquarters from 22 to 24 August 2017.

This *ad hoc* Group worked on the draft chapter prepared during electronic exchanges in 2016. The draft chapter for the *Terrestrial Code* includes recommendations to address the need to ensure the welfare of chelonians, crocodylians, lacertilians and ophidians, during the killing process for the use of their skin, meat and other products. The draft text was submitted to the Code Commission during its September 2017 meeting and has been presented for Member Countries' comments.

***Ad hoc* Group on Animal Welfare and Pig Production Systems**

The OIE *Ad hoc* Group on Animal Welfare and Pig Production Systems met for the third time at OIE Headquarters from 29 to 31 August 2017.

The main objective of the *Ad hoc* Group was the analysis and revision of Member Countries' comments to the draft chapter presented in the February 2017 report of the Code Commission. The recommendations of this chapter address the welfare of 'pig production systems', which are defined as all commercial systems in which the purpose of the operation includes some or all of the breeding, rearing and management of pigs (*Sus scrofa*) intended for the production of meat. This text was submitted to the Code Commission during its September 2017 meeting and has been presented for Member Countries' comments.

***Ad hoc* Group on Animal Welfare and Laying Hens Production Systems**

During its September 2017 meeting, the Code Commission extensively reviewed the report of the *Ad hoc* Group on Animal Welfare and Laying Hens Production Systems. This chapter covers the production period from the arrival of day-old birds on the pullet-rearing farm to the removal of hens from the laying production facilities. In addition, the *ad hoc* Group discussed existing problems with the slaughter and disposal of end-of-lay (spent) hens at the completion of the production process. The proposed draft chapter was presented for Member Countries' comments.





Uncertainty of transmission of African swine fever virus in porcine semen

The designations and denominations employed and the presentation of the material in this article do not imply the expression of any opinion whatsoever on the part of the OIE concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

The views expressed in this article are solely the responsibility of the author(s). The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by the OIE in preference to others of a similar nature that are not mentioned.

Stephen Cobb

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E-mail: stephen@srcassociates.org

Keywords

African swine fever virus (ASFV) – boar – porcine – semen.

Several authors have stated that African swine fever virus (ASFV) can be found in boar semen and even transmitted to recipient sows (Thacker *et al.* [1], Wittmann [2], Guérin and Pozzi [3]). The only evidence for this claim provided in any of these sources is a personal communication attributed to D.H. Schlafer. Further searching has indicated that the first report of this personal communication appeared in the non-peer-reviewed proceedings of an international symposium in 1983 [4], which provided no details about the method used to obtain this information or the clinical state or stage of infection of the boar from which the sample was collected. In contrast, Maes *et al.* [5] stated more recently that there is no published evidence to support the hypothesis that ASFV may be present in the semen of infected boars.

African swine fever has been present in Russia since 2007. Lithuania reported the presence of ASF in 2014 and it is likely that the European Union has undergone repeated introductions of ASFV from eastern neighbouring countries since then [6], with outbreaks described in a number of Member States on the eastern fringes of Europe (Poland, Lithuania, Latvia and Estonia) [7], including the Czech Republic [8].

The *Terrestrial Animal Health Code (the Terrestrial Code)* requires porcine semen donors to be kept in: *i)* either an ASF-free country, zone or compartment since birth or for at least three months prior to collection and to show no clinical signs of ASF on the day of collection; or *ii)* if they have been kept in countries or zones not free from ASF, to be kept since

birth, or for at least three months prior to collection, in an establishment demonstrated to have had no cases of ASF in the past three years and to show no clinical signs of ASF on the day of collection [9].

The OIE *Handbook on Import Risk Analysis for Animals and Animal Products* states that: 'It is not acceptable to simply conclude that, because there is significant uncertainty, measures will be based on a precautionary approach. The rationale for selecting measures must be made apparent' [10]. If there is no evidence to suggest that ASFV is likely to be transmitted through the international trade in porcine semen, then the precautionary approach adopted by the continued inclusion of these articles in Chapter 15.1. of the *Terrestrial Code* appears inconsistent with this guidance.

While it has been widely assumed for some time that ASFV is likely to be transmitted in porcine semen, there is no published evidence to support this view. Given the emergence of this disease over the last decade, it is clear that further work is urgently needed to resolve this uncertainty. In the absence of evidence to support sanitary measures for ASFV in porcine semen, their continued imposition may be difficult to justify.

<http://dx.doi.org/10.20506/bull.2017.3.2698>

References

1. Thacker B., Larsen R., Joo H.S. & Leman A. (1984). – Swine diseases transmissible with artificial insemination. *JAVMA*, **185** (5), 511–516.
2. Wittmann G. (1989). – Die Bedeutung viraler Erkrankungen beim Schwein für die Besamung und den Embryotransfer [Significance of viral diseases in pigs during artificial insemination and embryo transfer]. *Tierärztl. Umsch.*, **44**, 580–586.
3. Guérin B. & Pozzi N. (2005). – Viruses in boar semen: detection and clinical as well as epidemiological consequences regarding disease transmission by artificial insemination. *Theriogenology*, **63** (2), 556–572. doi:10.1016/j.theriogenology.2004.09.030.
4. McVicar J.W. (1983). – Boar semen. In Proceedings of an International Symposium on Microbiological Tests for the International Exchange of Animal Genetic Material. International Symposium of Veterinary Laboratory Diagnosticians, Ames, Iowa, 15 June 1983. 70–77.
5. Maes D., Nauwynck H., Rijsselaere T., Mateusen B., Vyt P., de Kruif A. & Van Soom A. (2008). – Diseases in swine transmitted by artificial insemination: an overview. *Theriogenology*, **70** (8), 1337–1345. doi:10.1016/j.theriogenology.2008.06.018.
6. European Commission (2017). – African swine fever – latest developments. Available at: http://ec.europa.eu/food/animals/animal-diseases/control-measures/asf/what-is-asf_en (accessed on 6 March 2017).
7. Department for Environment, Food and Rural Affairs (Defra) (2016). – African swine fever in pigs in Poland, Lithuania and Latvia. Defra, London. Available at: www.gov.uk/government/publications/african-swine-fever-in-pigs-in-poland-lithuania-and-latvia (accessed on 6 March 2017).
8. World Organisation for Animal Health (OIE) (2017). – African swine fever, Czech Republic, immediate notification, 27 June 2017. OIE, Paris. Available at: www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=24159 (accessed on 4 July 2017).
9. World Organisation for Animal Health (OIE) (2017). – Infection with African swine fever virus. In *Terrestrial Animal Health Code*, Chapter 15.1. OIE, Paris. Available at: www.oie.int/index.php?id=169&L=0&htmfile=chapitre_asf.htm (accessed on 19 October 2017).
10. Brückner G., MacDiarmid S.C., Murray N., Berthe F., Müller-Graf C., Sugiura K., Zepeda C., Kahn S. & Mylrea G. (eds) (2010). – Handbook on import risk analysis for animals and animal products, Volume 1: Introduction and qualitative risk analysis. *tion for Animal Health*, Paris, 100 pp.

Staff movements

Arrivals

Regional Activities Department

Alice M. Di Giacinto V.

Chargée de mission



Dr Alice M. Di Giacinto V. joined the OIE Headquarters on 1 September 2017 as Chargée de mission in the Regional Activities Department. She will be responsible for activities related to the OIE Global Programme of Strengthening Veterinary Services, namely the OIE PVS Pathway, including its current developments. She will coordinate, follow and analyse PVS Pathway missions and reports in liaison with OIE Delegates, PVS teams, and OIE staff. She will coordinate OIE contributions to the World Health Organization (WHO) International Health Regulation (IHR) Monitoring and Evaluation Framework, including PVS expert and OIE staff inputs to IHR Joint External Evaluations and PVS/IHR National Bridging Workshops. She will also contribute to the activities to evolve the OIE PVS Pathway for the future, including those arising from the recent OIE PVS Pathway Think Tank Forum.

Dr Di Giacinto V. obtained her Degree in Veterinary Medicine from the Universidad Nacional de Costa Rica. She also has a Masters Degree with emphasis in Animal Welfare and Agricultural Business Economics from Wageningen University



news from headquarters

(the Netherlands). She has experience in the Ministry of Agriculture of Costa Rica (MAG/SENASA) and in WHO, Geneva, as an intern.

Programmes Department

Sophie Muset

Ebola Project Lead Programme and Technical Coordinator



Ms Sophie Muset took up her new post as the EBO-SURSY Project Lead Programme and Technical Coordinator within the Programmes Department on 2 May 2017. Sophie will manage the EBO-SURSY Project: 'Capacity building and Surveillance in Ebola Virus Diseases' using the 'One Health' approach¹. She will manage the planning, monitoring, evaluation and overview of the activities implemented in collaboration with other OIE Departments and partners, Institut Pasteur, the French Agricultural Research Centre for International Development (Cirad) and the French Research Institute for Development (IRD). She will support the establishment of the Project Committees and will coordinate and encourage dialogue with the various stakeholders to ensure the project activity synergy and complementarity.

1. EBO-SURSY Project website: www.rr-africa.oie.int/projects/EBOSURSY/en_index.html

Sophie was previously the Africa Programmes Manager and in charge of Policy Development at the Jane Goodall Institute of Canada, and so brings more than 15 years' experience in wildlife conservation and international development.

Sophie holds two Master Degrees, one in Natural Resources and Environment Management from the National Polytechnic Institute of Lorraine (France) and the other in Animal and Vegetal Resources Management in Tropical Areas, specializing in Wildlife, from the Tropical Veterinary Institute, Liège University (Belgium); she also has a Project Management Professional (PMP) certification issued by the Project Management Institute (USA).

Science and New Technologies Department

Margot Raicek

Chargée de mission



Dr Margot Raicek took up her new post as Chargée de mission within the Science and New Technologies Department on 15 May 2017.

Margot contributes to the OIE annual reports on the use of antimicrobial agents in animals by developing a robust and validated

denominator of animal biomass in the OIE regions. For this project, she works with the World Animal Health Information and Analysis Department and their animal population database, other external databases, and liaises with the OIE Collaborating Centre on Veterinary Medicinal Products. As a member of the Antimicrobial Use team, she also contributes to other projects relating to antimicrobial use and resistance.

Margot graduated as a veterinarian from Cummings School of Veterinary Medicine at Tufts University (North Grafton, Massachusetts, USA) and has a Master of Public Health from the Tufts University School of Medicine (Boston, Massachusetts).

Margot worked as an intern with the OIE Science and New Technologies from August 2016 to January 2017 on alternatives to antibiotics. She also previously completed several internships in veterinary public health, in particular with the USDA-APHIS²-Veterinary Services (in Sutton, Massachusetts, in 2013) and the USDA-FSIS³-Office of Public Health Science (in Washington DC in 2014).

2. USDA-APHIS: United States Department of Agriculture – Animal and Plant Health Inspection Service
3. USDA-FSIS: United States Department of Agriculture – Food Safety and Inspection Service

Staff movements

Africa

Arrivals

OIE Regional Representation for Africa

Kora Brice Lafia

Project Manager



Dr Kora Brice Lafia joined the OIE Regional Representation for Africa, based in Bamako, Mali, on 13 August 2017 as Project Manager for the 'Capacity building and surveillance for Ebola virus disease' EBO-SURSY Project¹. His main tasks in that role will involve technical monitoring and the implementation of activities in collaboration with other OIE departments and external partners. He will play a key role in the production of technical and communication media related to Ebola virus disease. He will also be responsible for overseeing the activities entrusted to the Institut Pasteur, CIRAD (the French agricultural research and international cooperation organisation) and IRD (the French National Research Institute for Sustainable Development), and will facilitate discussions between the

1. EBO-SURSY Project website: www.rr-africa.oie.int/projects/EBOSURSY/en_index.html

partners and experts contributing to the project.

A veterinarian by training, Dr Lafia graduated in 2005 from the Interstate School of Veterinary Science and Medicine (EISMV) in Dakar, Senegal. He also holds a Master of Science (MSc) from the Institute of Tropical Medicine in Antwerp, Belgium. In the last six years Dr Lafia has worked for 'Vétérinaires Sans Frontières Belgium' in Burundi and in the Democratic Republic of the Congo, where he held the position of Country Director.

OIE Sub-Regional Representation for Southern Africa

Kebaneilwe Mpedi

Administrative and Financial Assistant



Mr Kebaneilwe Mpedi joined the OIE Sub-Regional Representation for Southern Africa, Gaborone, Botswana, in July 2017 as Administrative and Financial Assistant (replacing Ms Mpho Saruchera).

Mr Mpedi has a Master's degree in Public Financial Management and a Bachelor's degree in Economics and Public Administration from the University of Botswana. Before joining the OIE, he worked for the insurance company Metropolitan (Royale) Life Botswana, and also spent some time

as a teaching assistant at the University of Botswana.

He will be responsible for administrative and financial reporting, clearance procedures, procurement, recruitment, and the payment of travel expenses, etc. in accordance with OIE *Notes de Service*. He will organise the logistics of regional technical meetings in Southern African Development Community (SADC) countries (travel, accommodation, conference management, producing conference materials, etc.), working closely with administrative and financial staff at OIE Headquarters in Paris. In addition, he will prepare the quarterly financial report for the various imprest accounts for approval by the Sub-Regional Representative and submission to OIE Headquarters.

Departures

OIE Sub-Regional Representation for Southern Africa

Mpho Saruchera



Ms Mpho Saruchera (*née* Mantsho), the Administrative and Financial Assistant at the OIE Sub-Regional Representation for Southern Africa, left the OIE on 18 August 2017, after serving the Representation for eight years.



Americas

Ms Saruchera joined the OIE in June 2009, and was responsible for the day-to-day administrative and financial operations of the office. She assisted with the preparation of annual budgets, accounting, and carrying out bank reconciliations. In addition, she prepared administrative and financial management correspondence and helped with the preparation of quarterly, annual and other reports.

Mpho will be much missed in the office, as she was the 'backbone' of its daily operations and we wish her all the best in her new endeavours.

OIE Sub-Regional Representation for Eastern Africa

Loise Ndung'u



Ms Loise Ndung'u, who was working as a secretary at the OIE Sub-Regional Representation for Eastern Africa in Nairobi, Kenya, left the OIE in late August 2017, after serving the organisation for close to seven years.

Ms Ndung'u joined the OIE on 1 September 2010 when the office was established, having previously served as a Senior Secretary to the Kenya OIE Delegate at the Ministry of Livestock Development. She is looking forward to spending more time with her family and working in her own business. The OIE wishes her all the best in her new endeavours.

Arrivals

OIE Regional Representation for the Americas

María Eugenia Chimenti

Technical Assistant



Dr María Eugenia Chimenti joined the OIE Regional Representation for the Americas in Buenos Aires, Argentina, in June 2017 as a Technical Assistant. She will be supporting activities related to antimicrobial resistance as well as taking part in the work of the Regional Secretariat of the FAO/OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs). Moreover, she will be involved in developing management tools related to the Regional Roadmap for the implementation of the OIE Sixth Strategic Plan.

Dr Chimenti graduated as a veterinarian from the Faculty of Veterinary Sciences of the University of Buenos Aires and specialised in veterinary public health, having taken extra courses in the field of animal welfare. She currently participates in the 'Food Safety Volunteering' project developed by the Faculty, which provides training on food safety and safe handling of food for charity organisations, small farmers and food producers.

Dr Chimenti completed a seven-month internship at the OIE Regional Representation for the Americas on subjects connected to 'One Health' activities, especially antimicrobial resistance.

OIE Sub-Regional Representation for Central America

Catya Martínez Rivas

Technical Assistant



Dr Catya Itzel Martínez Rivas, a Doctor of Veterinary Medicine from the University of Panama, began her new position as Technical Assistant at the OIE Sub-Regional Representation for Central America, in Panama, in June 2017.

She will provide support for the implementation of the OIE's Sixth Strategic Plan (2016–2020) in the Central American and Caribbean area, analysing and following up on the animal health information submitted through WAHIS. Dr Martínez Rivas will also be involved in carrying out the OIE Strategy on Antimicrobial Resistance and the Strategy on Biological Threat Reduction at the sub-regional level. In addition, she will help to develop and organise workshops, conferences and events, as well as represent the OIE at selected meetings.

During her professional career, Dr Martínez Rivas has developed field activities in epidemiological surveillance and animal health care. She also has experience with the

Panamanian Veterinary Services; as Animal Health Coordinator in Bocas del Toro, she was in charge of implementing animal disease control programmes. She has also worked in the Epidemiology Department, where she coordinated the establishment of an epidemiological information system which collated and updated notifiable disease status at the national level.

Dr Martínez Rivas held the office of National Focal Point for Animal Disease Notification as well as for Veterinary Products in Panama, taking part in several courses and workshops. She also represented the official sector on the American Committee for Veterinary Medicinal Products (CAMEVET)² Executive Board.

Her arrival at the OIE Sub-Regional Representation for Central America is part of the cooperative agreement between the OIE and the Panamanian Ministry of Agricultural Development.

2. See box on page 59

Departure

OIE Regional Representation for the Americas

Helia Lemos da Silva



In August 2017, the OIE bid farewell to Dr Helia Lemos da Silva, who held the position of Chargée de mission at the office of the OIE

Regional Representation for the Americas.

Thanks to the support of the Brazilian government, Dr Lemos da Silva, who served as Federal Agricultural Inspector at the Brazilian Ministry of Livestock and Supply (MAPA), was able to work for a two-year term in this Regional Representation.

During her stay, Dr Lemos da Silva attended several meetings and conferences, both as assistant and facilitator, and participated in the organisation of several workshops for OIE National Focal Points. She also translated several documents and articles into Portuguese.

Thanks to her knowledge as the OIE Focal Point for animal disease notification in her country, she made her experience available for evaluating the operation of the WAHIS platform and developed a comprehensive analysis of the results of the PVS Pathway missions in the Americas.

It was a real pleasure to share this time with her, as we discovered that besides being an excellent professional Helia is an amazing person. We wish her the best success in the years to come, and know that she will be able to apply all the knowledge and practices that she acquired in these two years to the benefit of her country.

Europe

OIE Sub-Regional Representation in Brussels

Arrival

Tomasz Grudnik

Animal Welfare Specialist



On 29 May 2017, Dr Tomasz Grudnik joined the OIE Sub-Regional Representation in Brussels, Belgium, as an Animal Welfare Specialist to support the OIE Platform on Animal

Welfare in Europe, alongside other regional animal welfare activities.

Dr Grudnik holds a degree in Veterinary Medicine (2000) and a PhD in Agricultural Sciences (2006) from the Agricultural University of Wrocław, Poland.

He previously worked in the OIE International Trade Department on animal welfare issues, including delivering training for the OIE Improved Animal Welfare Programme (IAWP). Before joining the OIE, he worked for the European Food Safety Authority (EFSA), supporting the work of the Panel on Animal Health and Welfare (AHAW). He was a visiting researcher at the Animal Welfare Programme of the University of British Columbia, Canada, in 2005, and also has five years of practical experience as an official veterinarian in slaughterhouses in Poland and the United Kingdom.

Dr Grudnik is looking forward to applying his knowledge and extending his experience through regional OIE animal welfare activities.

OIE-supported achievements of the VETGOV Programme (2012–2017)

Improving good governance in Veterinary Services delivery in Africa

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What is good governance?

Good governance is about the processes for making and implementing decisions. It is not about making 'correct' decisions, but about the best possible process for making those decisions. In the general context of delivering (local) government services, the main characteristics of good governance are defined as follows¹:

Good governance is accountable
Good governance is transparent
Good governance follows the rule of law
Good governance is responsive
Good governance is equitable and inclusive
Good governance is effective and efficient
Good governance is participatory

OIE standards on the quality of Veterinary Services are very closely aligned with these overarching and widely accepted principles. Their 14 core 'governance' principles of Veterinary Services, as laid down in article 3.1.2. on 'Fundamental principles of quality' in the OIE *Terrestrial Animal Health Code (Terrestrial Code)* and corresponding article 3.1.2. in the *Aquatic Animal Health Code (Aquatic Code)*², are identified as:

Professional judgement	Procedures and standards
Independence	Information, complaints and appeals
Impartiality	Documentation
Integrity	Self-evaluation
Objectivity	Communication
Veterinary legislation	Human and financial resources
General organisation	
Quality policy	

Africa, although certainly not alone, has a poor record when it comes to good governance, and the governance of Veterinary Services is no exception.

In January 2006, in Beijing, China, the OIE presented a white paper on *Ensuring good governance to address emerging and re-emerging animal disease threats – Supporting the Veterinary Services of developing countries to meet OIE international standards on quality*³. This presentation was followed shortly afterwards by a joint seminar on 'Animal health policies, evaluation of Veterinary Services and the role of livestock breeders in the surveillance of animal diseases'⁴, organised by the OIE, in close cooperation with the African Union Interafrican Bureau for Animal Resources (AU-IBAR) and the United Nations Food and Agriculture Organization (FAO), in N'Djamena, Chad, targeting African Member States.

In January 2008, the OIE Sub-Regional Representation for Southern Africa organised a seminar on 'Good Governance for Veterinary Services' for 17 OIE Member States of eastern and southern Africa. The proceedings of this seminar, held in Gaborone, Botswana⁵, introduced the veterinary officials of the region to concepts already enshrined in the OIE Fourth Strategic Plan (2006–2010), such as 'global public goods', including global public health, private–public partnerships in Veterinary Services delivery, the independence of veterinary statutory bodies, and the universal principle of solidarity of richer countries with developing countries, as a way to achieve what is widely referred to today as 'global health security'.

1. www.goodgovernance.org.au/about-good-governance/what-is-good-governance/
 2. www.oie.int/index.php?id=171&L=0&htmlfile=chapitre_quality_aahs.htm
 3. www.oie.int/doc/ged/D1969.PDF

4. www.oie.int/fileadmin/Home/fr/Conferences_Events/docs/pdf/NDJAMENA.pdf
 5. www.rr-africa.oie.int/docspdf/en/2008/OIE-GG-Gaborone-Jan2008.pdf



An OIE PVS Gap Analysis in Liberia, shortly after the end of the Ebola crisis (2016)

Conducting interviews with livestock-sector stakeholders

The establishment of six additional Sub-Regional Representations of the OIE across the world, since the opening of the Botswana office in 2007, is in itself an illustration of how the OIE attempts to bring its governance closer to the Member States. 2007 was also the year in which the OIE, after a pilot phase in 2006, rolled out its PVS Evaluation missions. This 'Performance of Veterinary Services' (PVS) Pathway was designed to objectively measure compliance with the above list of 14 governing principles, in a variety of technical areas, as listed in Chapter 3.2. on the 'Evaluation of Veterinary Services' of the *Terrestrial Code*⁶.

Finally, the year 2007 also signalled the end of the African Union programme for the Pan-African Control of Epizootics (PACE), which, since 2000, had significantly contributed to the worldwide eradication of rinderpest, along with its predecessor programmes, the Joint Programme 15 (JP-15), which began in 1962, and the Pan-African Rinderpest Campaign (PARC), which started in 1986.

These three consecutive programmes represent more than 50 years of sustained and focused technical support to Veterinary Services by the African Union (and its predecessor, the Organisation of African Unity), and more than 50 years of consistent financial support from the European Union (and its predecessor, the European Economic Community), as the main donor to this suite of projects and programmes.

The next continental programme, to be supported under the European

Development Fund, was therefore very much conceived as a further step in the progressive broadening of efforts to strengthen Veterinary Services in Africa, from an initially narrow scope (rinderpest, under JP-15 and PARC) in the 1960s, to the broader capacity to conduct epidemiological surveillance (under PACE) in the 1990s, to the strengthening of Veterinary Services to the full width of VETGOV's mandate, as defined today, often referred to as the 'veterinary domain'.

The signing on 8 February 2011 of the Financing Agreement for the 'Reinforcement of African Veterinary Governance' was therefore not only a logical next step, stemming from a 50-year-old tradition, but also a turning point. It acknowledged that past policies, which considered everything within the Veterinary Services 'domain' to be production-related and therefore private goods that could be privatised, were deeply flawed. It also confirmed that the future would hold the promise of renewed interest and investment in the important public good aspects of Veterinary Services. The many failures to come to terms with avian influenza outbreaks in multiple countries were still fresh in everyone's mind.



Visit to the necropsy facilities of the Central Veterinary Laboratory of the Veterinary Services Department in Manzini, during a PVS Evaluation follow-up mission to Swaziland in 2015

6. www.oie.int/index.php?id=169&L=0&htmfile=chapitre_eval_vet_serv.htm

The ‘Reinforcing Veterinary Governance Programme in Africa’, or ‘VETGOV’ as it would come to be known, was also a turning point in institutional terms as it cemented a three-way partnership which had developed over the years between AU–IBAR, the United Nations Food and Agriculture Organization (FAO) and the OIE. This collaboration came under a single financing agreement with the European Union, using an agreed-upon work programme (referred to as a logical framework) and three distinct operational and financial mechanisms (referred to as contribution agreements), which allowed each of the three partner organisations to use its own internal financial, administrative and operational procedures to contribute to the overall technical goal of the Programme. This overarching objective was not only closely related to the 14 fundamental principles of quality described earlier, but also aimed to establish a link between Veterinary Services as a technical area of intervention and the broader contribution of improved animal health to veterinary public health, livestock trade and livestock development in general. As such, more than any other programme to date, VETGOV would focus on strengthening governance through improving the capacity of Member States and the Secretariats of Regional Economic Communities in Africa to develop policies, strategies, legislation and regulations. Or, as officially stated in the financing agreement: **‘The Reinforcing Veterinary Governance in Africa (VETGOV) Programme is intended to bring about institutional change towards: (i) the establishment of adequate and affordable Veterinary Services at the national level, and (ii) the strengthening of regional institutions to play**

their coordination, harmonisation, support to countries and integration roles in line with the One Health concept’.

In financial terms, the VETGOV Programme, excluding the counterpart contribution of the African Union, was budgeted at EUR 31.2 million, while the total for the OIE component and activities amounted to EUR 3,028,000, for an initial implementation period of five years, which was later extended by seven months, without financial incidence.

In technical terms, the OIE, as per its international mandate, was entrusted with three Programme areas: i.e. enhancing the capacity of countries to assess their compliance with OIE standards (the PVS Pathway); building capacities in veterinary legislation; and ensuring interoperability between the AU–IBAR Animal Resources Information System (ARIS) and the OIE World Animal Health Information System (WAHIS). Table I illustrates how these three Programme areas intersect with the 14 core ‘good governance’ principles.

With the possible exception of the interoperability between ARIS and WAHIS, a truly *ad hoc* technical challenge that needed to be overcome (see below), no specific programmes were created or established for the purposes of VETGOV. Instead, existing OIE programmes were seamlessly integrated into the VETGOV Programme and vice versa. Moreover, the VETGOV Programme evolved over time; for example, as new OIE standards were adopted and introduced. As a consequence, VETGOV also prompted PVS Pathway tools and indicators or capacity-building needs to evolve. This was, in large part, made possible by the fact that VETGOV, unlike its predecessors, was labelled a ‘programme’ and not a ‘project’,

Table I

Coverage of the fundamental principles of providing quality in Veterinary Services through the three VETGOV Programme areas

	Enhancing the capacity of countries to assess their compliance with OIE standards	Building capacities in veterinary legislation	Ensuring interoperability between ARIS and WAHIS
Professional judgement	✓		
Independence	✓		
Impartiality	✓		
Integrity	✓		
Objectivity	✓		
Veterinary legislation	✓	✓	
General organisation	✓	✓	✓
Quality policy	✓	✓	✓
Procedures and standards	✓	✓	
Information, complaints and appeals	✓	✓	
Documentation	✓	✓	
Self-evaluation	✓	✓	
Communication	✓		✓
Human and financial resources	✓	✓	✓



allowing a greater degree of flexibility in how the Programme's objectives could be attained.

It is not possible – in this paper – to provide a detailed account of all activities conducted in the space of 67 months, across the continent, but a concise overview is provided in the following paragraph. The interested reader is also referred to the detailed OIE–VETGOV website⁷ and, in the area of veterinary legislation, the paper called *Harmonising veterinary legislation one region at a time, an update on OIE experiences in Africa*, published in OIE *Bulletin* No. 2017-2, pp. 45-48⁸.

Enhancing the capacity of countries to assess their compliance with OIE standards (the PVS Pathway)

The VETGOV Programme allowed the OIE to pursue its PVS programme in Africa, as initiated in 2007, often with the financial support of the European Union's 'Better Training for Safer Food' (BTSF) initiative, as illustrated in the map below, where dark red indicates those countries that were assessed using funding sources other than VETGOV. These sources often included the BTSF funding mentioned above (pre-2012), but also came from other donors, e.g. Canada.

Except for support to twinning agreements, all 'diagnostic' evaluation and 'treatment' support tools in the PVS toolbox were eligible for funding under the VETGOV Programme. This included PVS (initial) Evaluation missions (already largely completed across Africa by the time VETGOV was initiated); PVS Evaluation Follow-Up missions; PVS Gap Analysis missions; missions under the Veterinary Legislation Support Programme; and PVS Pathway Laboratory missions. This, combined with previous and alternative funding sources, provides a complete palette of PVS-based information and recommendations on 51 out of the 54 OIE Member Countries in Africa. Only the Republic of

Congo, Somalia and South Sudan have not yet entered the PVS Pathway. However, they are expected to be covered as soon as the challenges that have been the cause of this delay are overcome.

Collaboration between the animal and human public health services has always been part of the PVS Pathway initiative. The OIE has encouraged sharing evaluations between the animal and human public health services and developing joint action plans to address any gaps. The opportunities to do so have been growing as more WHO International Health Regulations Joint External Evaluation (JEE) missions are completed by mixed teams under the leadership of WHO, and often including PVS experts who have already undertaken missions in the country concerned. For example, in Africa, 12 countries have completed both JEE and PVS assessments (while 39 other countries in Africa have only undergone PVS missions to date).

In addition, the VETGOV Programme also supported the further capacity-building of certain categories of technical National OIE Focal Points, as indicated in Table II.



Map 1

Countries that have benefited from OIE PVS Gap Analysis missions

Circles indicate small island nations that would otherwise not be visible: Cabo Verde, Sao Tomé and Príncipe in the Atlantic Ocean (no missions yet) and the Seychelles, the Comoros Union and Mauritius in the Indian Ocean (missions conducted). Bright red indicates missions funded under VETGOV.

7. www.rr-africa.oie.int/vetgov.html

8. Available at: www.oie.int/en/publications-and-documentation/bulletins-online/



It is worth noting that the World Health Organisation (WHO) and OIE also organise joint Bridging Workshops between the International Health Regulations 2005 (IHR 2005) Monitoring & Evaluation Framework and the PVS Framework. These workshops bring together national representatives of the animal health and human health services to share the outcomes of their respective assessment frameworks, conduct a review of coordination between the sectors and develop a roadmap of corrective measures to strengthen their coordination at the human–animal interface. In total, WHO and the OIE will have organised ten IHR–PVS Bridging Workshops by the end of 2017, of which four were held in Africa. About 30 other IHR–PVS Bridging Workshops are being considered for the next two years.

Table II

Training programmes for OIE National Focal Points, using VETGOV funding

Type of Focal Point (and language, where relevant)	Cycle	Year	Venue, host country
Veterinary medicinal products (English)	IV	2015	Entebbe, Uganda
Communication (French)	I	2016	Bamako, Mali
Wildlife (French)	IV	2017	Lomé, Togo
Endorsement of official control programmes (English)	I	2017	Kigali, Rwanda

Building capacities in veterinary legislation

In the initial phases of the VETGOV Programme, which roughly coincided with the launch a few months earlier of the Veterinary Legislation Support Programme (VLSP) of the OIE, many of the capacity-building efforts targeted national veterinary legislation and regulation, through a large number of veterinary legislation identification missions, aimed at identifying shortcomings in the existing body of law and prioritising future efforts for regulatory review. Regional training seminars were also held, to raise awareness among national veterinary staff of the principles of legislative drafting, intrinsic and extrinsic quality, regulatory impact assessment, etc. The number of requests for support was such that it exceeded the OIE's capacity to respond and the decision was taken to train a new batch of 27 legislation experts, 13 of whom were veterinarians and 15, lawyers. Out of the 19 African countries which had benefited from VLSP identification missions, seven ended up signing a long-term agreement with the OIE for the development or review of one or several pieces of legislation

by their own national taskforces, with external support from the OIE.

In the later phases of the VETGOV Programme, from 2014 onwards, attention shifted towards the issue of regional harmonisation of veterinary legislation at the community level, i.e. within the Regional Economic Communities. This change in focus did not, however, reduce the OIE's involvement in working to improve stand-alone national regulations and legislation. By pooling human and financial resources, the OIE, FAO and AU–IBAR managed to organise seven regional seminars on regulatory convergence and the harmonisation of regulatory frameworks, in as many Regional Economic Communities (see Table III).

This is an apt illustration of the flexibility granted to this Programme by the donor, and of the willingness of the three implementing organisations to 'go the extra mile' and find pragmatic solutions to take the Programme even further than originally intended.

Three more examples illustrate how the OIE, with the support of FAO and AU–IBAR in some cases, managed to target



Table III

List of African-Union-recognised Regional Economic Communities covered by the VETGOV Programme (in chronological order, since 2014)

Regional Economic Community	Acronym	Year	Venue, host country
Economic Community of Central African States	ECCAS	2014	Yaoundé, Cameroon
Inter-Governmental Authority on Development	IGAD	2014	Khartoum, Sudan
Union du Maghreb Arabe (Arab Maghreb Union)	UMA	2015	Tunis, Tunisia
Southern African Development Community	SADC	2015	Maseru, Lesotho
Economic Community of West African States	ECOWAS	2016	Lomé, Togo
East African Community	EAC	2016	Arusha, Tanzania
Common Market for Eastern and Southern Africa	COMESA	2017	Lusaka, Zambia

Table IV

'Targets in digits' (based on the revised logical framework, 2015)

Numerical result indicators, used in the logical framework	Conducted	Target	Achievement
At least 30 PVS evaluations carried out during the project's life (75% of budgeted missions)	* 36	30 evaluations	100%
Legislation (identification) missions conducted in at least 22 countries (75% of budgeted missions)	** 19	22 countries	86%
National veterinary legislation and/or regulatory frameworks formulated or reviewed by the end of the Programme in at least 30% of participating countries	*** 15	16 countries	94%
At least five national staff will be trained in veterinary legislation in at least 30% of participating countries	**** 210	80 staff	100%

* Five (initial) PVS Evaluation missions; 12 PVS Evaluation Follow-Up missions, 16 PVS Gap Analysis missions and three PVS Pathway Laboratory missions;

** In addition, under the VETGOV Programme, the OIE has conducted technical missions in six African countries to assist them with preparing for or implementing a Legislation Agreement with the OIE – not included in the above tally;

*** By the end of the VETGOV Programme, six OIE 'agreements' had been established or completed using VETGOV funding; nine AU-IBAR agreements were in progress or completed using VETGOV funding; and two more OIE agreements were under way, funded under another EU-funded project (Strengthening of Veterinary Services in Developing Countries + Rabies), not included in the above tally;

**** Since several countries are members of two or more Regional Economic Communities, some individual staff members have benefited more than once from these training courses, but always under the specific harmonisation framework of the Regional Economic Community being visited.

specific legislative issues. One instance was the support given to the network of deans and principals of veterinary faculties and schools in eastern and southern Africa (the Eastern and Southern Africa Association of Veterinary Educational Establishments or ESAVEE); another, the regional conference on the role of veterinary para-professionals (VPP) in Africa (October 2015, Pretoria, South Africa)⁹, while the third was the Sub-Regional Conference on the Harmonisation of Registration of Veterinary Medicinal Products in the SADC region (May 2017, Johannesburg, South Africa)¹⁰.

Ensuring interoperability between the AU-IBAR Animal Resources Information System (ARIS) and the OIE World Animal Health Information System (WAHIS)

Although interoperability, i.e. the ability to exchange data between the two databases, was rapidly achieved at very little cost (the earmarked budget of EUR 200,000 was later reduced), the proposed system, based on *comma-separated value* or CSV files (a simplified spreadsheet format), was considered cumbersome, was never generally adopted by

9. www.rr-africa.oie.int/en/news/20151015.html

10. www.rr-africa.oie.int/en/news/20170517.html





OIE Delegates of Kenya, Sudan and Uganda, in discussion with the Coordinator of the OIE Veterinary Legislation Support Programme, during a working-group session at the last VETGOV seminar on Regional Harmonisation of Legislation in the Veterinary Domain (for COMESA Member States, July 2017, Lusaka, Zambia)

Member States and – with the rapid evolution of technology – rapidly became obsolete with the arrival of more recent, dynamic, platform-based exchange systems, often Cloud-based.

Nevertheless, the system was consistently promoted and explained to OIE Focal Points for Animal Disease Notification during the many training seminars that were held during the lifetime of the VETGOV Programme. AU–IBAR staff, entrusted with the management of ARIS 2.0, were always invited to attend these seminars so that everyone could gain a better

Conclusion

With the possible exception of the rather disappointing uptake of the database interoperability tool by Member States, as mentioned above, VETGOV will no doubt leave a lasting impact on Veterinary Services across Africa, though its true value may only be felt in years to come. This is when the foundations on which strengthened governance has been built will begin to produce long-lasting effects in all targeted sectors, whether animal production, trade or veterinary public health. If we look merely at the number of objectives attained (Table IV), most goals have been achieved and exceeded. The sole exception

(since these outputs and outcomes have not yet been fully measured) is the number of countries who have entered into long-term agreements with the OIE (in some instances, with the support of the AU–IBAR component of the VETGOV Programme) to develop or modernise certain aspects of their veterinary legislation. As for all PVS-related ‘products’, this process too is entirely country-driven and the frequency of these agreements is not and cannot be dictated by the OIE.

Looking forward, a new focus on the PVS Pathway training of Member Countries may provide the OIE with an ideal platform from which to promote PVS mission requests, ensure that countries prepare and plan them well and, most importantly, optimise that country’s use of the PVS Pathway results and recommendations to strengthen its Veterinary Services.



Training National OIE Focal Points in notifying animal diseases to the OIE, using the second version of the World Animal Health Information System (WAHIS) and its upload function for CSV files from, for example, the African Union Animal Resources Information System (ARIS)

At the computer laboratories of the Multimedia University of Kenya

Over and above the fact that the above 'mathematical' targets were largely attained, a few more technical and policy-related key successes of the Programme may be highlighted:

- In the space of less than five years, veterinary legislation has been brought to the forefront of veterinary governance at the national and (sub-) regional level, through an effective alignment of methodologies and approaches between AU-IBAR, the OIE and FAO.
- There is ample evidence of the very robust commitment of African Member States to the OIE PVS Pathway, with VETGOV support being particularly important in the later stages of the PVS Pathway (Gap Analysis and Evaluation Follow-Up missions).
- The attention that has been brought to the category of veterinary para-professionals in Africa (animal health technicians, nurses, meat inspectors) is currently leading to the development of new, specific OIE Guidelines and Recommendations on the skills and training of veterinary para-professionals.
- There is now a high and concerted level of participation of African Member States in the OIE international standard-setting process. This approach to a 'common African position', e.g. at recent General Sessions of the OIE, is not an achievement of the OIE in itself, but a result of the support that AU-IBAR has been able to offer its Member States, initially through the innovative Participation of African Nations in the Sanitary and Phytosanitary Organisations (PAN-SPSO) project, followed by the VETGOV Programme.
- If anything, the VETGOV Programme has demonstrated that successful major continental development programmes demand cross-pollination from different technical implementing organisations at the sub-regional, regional and international level, as well as flexibility from the donor. Not one of the three implementing partners could have succeeded in this endeavour on its own.



Session on the further development of the PVS Pathway, with OIE Delegates and other senior livestock officers, held during the high-level closing ceremony of the VETGOV Programme at the African Union headquarters in Addis Ababa, Ethiopia, 26–28 July 2017

OIE/P. Bastiaensen, 2017

While the authors do not necessarily seek to pinpoint weaknesses or failures, valuable lessons were also learned, which will help all those involved to improve their performance in the future:

- The attempt to achieve full interoperability between WAHIS and ARIS has demonstrated that timing and synchronised action are of the essence when trying to develop initiatives in a rapidly evolving and highly technological environment.
- Development is a long-term and dynamic process, which cannot be constrained to project cycles; the VETGOV Programme has been a good example of programmatic support (not project support), which has the necessary flexibility to adapt actions and outcomes to a changing environment.
- The fact that all three implementing partners were either based (i.e. their Headquarters were situated) or represented in the same city, Nairobi, has been a major contributor to the success of the Programme. The added fact that decision-making and managerial powers were granted to the representatives of the two international implementing partner organisations, FAO and the OIE, to work directly with AU-IBAR and the EU Delegation in Nairobi further facilitated the implementation of the Programme, and thus its achievements.
- The engagement between the OIE, FAO and Regional Economic Communities and their Secretariats has sometimes been challenging, but nonetheless valuable. The important diversity in political scope, size, aims and powers, and the



overlapping membership of the Regional Economic Communities by some Member States, are all factors that contribute to variable outcomes when working in collaboration. Many Regional Economic Communities lack technical human resources dedicated to animal health and welfare, or even livestock, in their Executive Secretariats.

- Working together as three intergovernmental organisations, each with its own mandate(s) and culture, ‘under one roof’ is challenging but worth the effort. It provides the right positive signal to Member Countries.

With the recent closure of the VETGOV Programme, another significant milestone has been reached in the five-decade collaboration between the African Union and the European Union in the area of continental animal health challenges – a collaboration that has, for most of this period, been undertaken in partnership with the OIE and FAO. This is not to say that the cooperation comes to an end, but it will take another shape, one more aligned with: the Paris Declaration on Aid Effectiveness (2005)¹¹; the important milestones in the construction of the African Union, such as the New Partnership for Africa's Development (NEPAD) and the Comprehensive Africa Agriculture Development Programme (CAADP)¹²; the increased role to be played by African Regional Economic Communities (as per the Abuja Treaty of 1991)¹³, etc.

All three VETGOV implementing partners are already engaged in other initiatives aimed at directly or indirectly strengthening Veterinary Services in Africa even further, such as the AU's Livestock for Livelihoods in Africa (Live2Africa) programme or the OIE's Strengthening of Veterinary Services in Developing Countries project, both of these, once again, funded by the European Union. Africa is also a key regional target for OIE PVS Pathway Evolution (see page 14), triggered by the PVS

Pathway Think Tank Forum in April 2017. An important part of this programme will be the provision of basic PVS Pathway training to Member Countries, to strengthen ownership, understanding and engagement in the OIE PVS Pathway processes. In particular, PVS training of Member Country Veterinary Services will enhance within-country preparations, planning and use of the PVS Pathway missions and reports to strengthen veterinary governance. Moreover, and in keeping with the VETGOV spirit, the three implementing partners are currently working on the development of a new ‘tripartite’ regional project, aimed at ‘Promoting Regional Integration in the Area of Harmonisation of Veterinary Legislation’ (PRINT-VETLEG), a direct spin-off of the initiative targeting seven Regional Economic Communities mentioned above, which commenced under the auspices of VETGOV in 2014. In addition, the strengthening of Veterinary Services remains a core component of both the global effort to control foot and mouth disease (FMD) through the FMD Progressive Control Pathway (PCP)¹⁴ and to eradicate peste des petits ruminants (PPR) by 2030, as per the ‘FAO/OIE PPR Global Eradication Programme – contributing to food security, poverty alleviation and resilience – five years (2017–2021)’¹⁵.

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This article is dedicated to the memory of Dr Daniel Bourzat (1949–2017), who was instrumental in designing the OIE Component of the Programme in 2010 and 2011.

<http://dx.doi.org/10.20506/bull.2017.3.2699>

More information on VETGOV: www.rr-africa.oie.int/vetgov.html

11. www.oecd.org/dac/effectiveness/parisdeclarationandaccraagendaforaction.htm
12. www.nepad.org/cop/comprehensive-africa-agriculture-development-programme-caadp

13. <https://au.int/en/organs/recs>
14. www.oie.int/doc/ged/D11886.pdf
15. www.rr-africa.oie.int/docspdf/en/2017/EN_GEP_PPR_Finalweb.pdf

The Americas region tackles antimicrobial resistance

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Progress in fighting antimicrobial resistance: global strategies

Antimicrobial resistance is a subject of great interest both globally and regionally, encompassing several disciplines and areas within Veterinary Services, as well as other government agencies, industries and stakeholders. Given the extent of the problem, the solution calls for the broadest possible approach and is one of the clearest examples of the need to apply the 'One Health' concept.

The role and work of the OIE to promote the responsible and prudent use of antimicrobials for terrestrial and aquatic animals in order to preserve their therapeutic efficacy and prolong their use in both humans and animals, together with the promotion of antimicrobial resistance monitoring, has been an issue of interest to the OIE

and has led to numerous resolutions by the World Assembly of OIE Delegates.

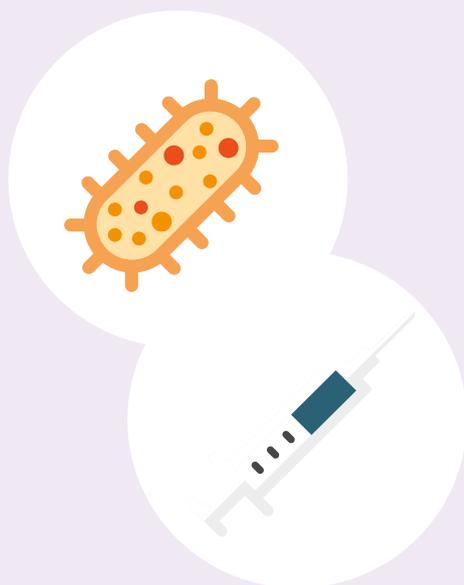
At its 83rd General Session in 2015, the World Assembly of OIE Delegates adopted Resolution No. 26, entitled *Combating antimicrobial resistance and promoting the prudent use of antimicrobial agents in animals*, which committed OIE Member Countries to support the '**Global Action Plan on Antimicrobial Resistance**', adopted by the World Health Assembly of the World Health Organization (WHO) in the same year¹. In fact the Global Action Plan had been rolled out under a tripartite agreement between the Food and Agriculture Organization of the United Nations (FAO), WHO and the OIE, and is based mainly on the development of national action plans on antimicrobial resistance. In addition, Resolution No. 26 proposed the development of a database to collect data on the use of antimicrobials in food-producing animals, which also requires the active participation of OIE Members.

Following on from these actions, antimicrobial resistance featured in the two subsequent General Sessions, resulting in further resolutions: '*Combating antimicrobial resistance*

through a One Health approach: actions and OIE strategy'² (84th General Session) and '*Global action to alleviate the threat of antimicrobial resistance: progress and opportunities for future activities under the 'One health' initiative*'³ (85th General Session).

These resolutions urge OIE Member Countries to fulfil their commitments to the Global Action Plan by implementing OIE standards and guidelines, especially those on the responsible and prudent use of antimicrobial agents. They also provide the basis for the development of an *OIE Strategy on antimicrobial resistance and the prudent use of antimicrobials*⁴, published in November 2016.

OIE National Focal Points for veterinary products have taken part in OIE capacity-building actions across the world. Their two-yearly training courses have included the issue of antimicrobial resistance, awareness of the prudent and responsible use



1. www.who.int/antimicrobial-resistance/publications/global-action-plan/en/
2. Resolution No. 36 adopted by the World Assembly of OIE Delegates on 26 May 2016
3. Resolution No. 38 adopted by the World Assembly of OIE Delegates on 25 May 2017
4. www.oie.int/fileadmin/Home/eng/Media_Center/docs/pdf/PortailAMR/EN_OIE-AMRstrategy.pdf

of veterinary drugs and training in the collection of quantitative data on the use of antimicrobials for the OIE database.

Regional action against antimicrobial resistance: case of the Americas

The various OIE Regional Commissions have played a key role in coordinating the implementation of OIE standards, as well as in the different options for ensuring the proper participation and coordination of the regions in global plans.

The OIE Regional Commission for the Americas defined priority actions needed in the region, in a coordinated manner, in line with the OIE Sixth Strategic Plan for the 2016–2020 period.

It was unanimously agreed that active participation in fighting antimicrobial resistance should be a regional priority, for which the following actions were proposed:

- develop a regional approach, based on OIE and WHO standards and recommendations;
- promote the active participation of Member Countries on the issue;
- seek to integrate the participation of different OIE Focal Points with the Codex Alimentarius Contact Points in order to coordinate their work more effectively;
- promote the development and implementation of surveillance systems for the appropriate and responsible use of antimicrobials in accordance with OIE standards.



The Committee of the Americas for Veterinary Medicines (CAMEVET) is a regional project aimed at facilitating the harmonisation of veterinary drug standards, registration and controls among Member Countries. It is a forum for debate involving both the public and private sectors and provides an extra support tool for coordinating activities in the area of antimicrobial resistance. Since 2014, every annual CAMEVET seminar has included a workshop on antimicrobial resistance to provide technical information and information on OIE standards.

Some of these actions were made possible by impetus from the tripartite partnership at the global level and its actors at regional and national levels.

In the case of the Americas, the Committee of the Americas for Veterinary Medicines (CAMEVET), as a regional project for public-private collaboration, has brought the issue closer to the veterinary product industry and other related sectors (see box above).

The first success stories in the Americas

Many countries in the Americas are working to develop national action plans to tackle antimicrobial resistance. Mentioned below are those action plans linking Veterinary Services with public health services and other stakeholders, which are already up and running.

United States of America

In December 2014, the United States Department of Agriculture launched its antimicrobial resistance action plan integrating and outlining the activities to be undertaken in three areas: surveillance; research and development; education, extension and outreach⁵.

Canada

In March 2015, the Government of Canada launched its 'Federal Action Plan on Antimicrobial Resistance and Use in Canada' in order to start taking action to help prevent, limit and control the emergence and spread of antimicrobial

resistance. The plan identifies priority actions in the strategic areas of surveillance, stewardship and innovation⁶.

Argentina

In June 2015, the Argentine programme for the control of antimicrobial resistance in animals intended for human consumption was approved by the Ministry of Health



Dr Andrea Ellis from the Canadian Veterinary Service making a presentation on antimicrobial resistance at the 23rd Conference of the OIE Regional Commission for the Americas in Santa Cruz de la Sierra (Bolivia) in November 2016

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5. www.usda.gov/topics/animals/one-health/antimicrobial-resistance-overview-amr

6. www.canada.ca/en/health-canada/services/publications/drugs-health-products/federal-action-plan-antimicrobial-resistance-canada.html



The tripartite alliance at regional level: representatives from FAO, the OIE, OIRSA and PANAFTOSA at an FAO workshop in Buenos Aires (Argentina) in May 2017

and the Ministry of Agriculture, Livestock and Fisheries. The strategy nominates a coordinating committee and serves as the basis for developing actions within the National Health and Agrifood Quality Service (SENASA) and the other agencies involved⁷.

The tripartite alliance and support for regional actions

As mentioned earlier, the OIE concluded a tripartite agreement with FAO and WHO in 2010, in which the three organisations undertook to tackle priority issues requiring a One Health approach, including antimicrobial resistance.

In the Americas, in line with OIE standards and the Global Action Plan on Antimicrobial Resistance, the FAO Regional Office for Latin America and the Caribbean and the Pan American Foot and Mouth Disease Center (PANAFTOSA PAHO/WHO) have served as regional contacts for building relationships, networking and coordination.

As there are other supranational agencies in the Americas with a regional or subregional scope that

have ongoing programmes, links have been forged with the regional organisation for plant protection and animal health (*Organización Internacional Regional de Sanidad Agropecuaria* – OIRSA), the Inter-American Institute for Cooperation on Agriculture (IICA) and the Permanent Veterinary Committee of the Southern Cone (CVP). This does not preclude other subregional organisations from joining the partnership.

Future challenges

Much work remains to be done in the region and it is becoming increasingly urgent for countries to implement measures against antimicrobial resistance, with a need to implement an approach based on the One Health concept.

However, Member Countries in the Americas are well aware of the issue and are already working to tackle it. Proof of this is that, to date, around 70% of the 30 OIE Member Countries in the Americas have reported being in the process of developing



To date, there has been constant communication between the different organisations, with face-to-face and online meetings held on a regular basis.

their national plans, in line with the Global Action Plan. So success stories are set to become commonplace in the region.

<http://dx.doi.org/10.20506/bull.2017.3.2700>

7. Available (in Spanish) at: www.saij.gov.ar/rsrscgd100039120150622-2015-06-22/22605102-1930-001d-gcsr-senoiculoser; and at: www.senasa.gov.ar/senasa-comunica/noticias/el-senasa-creo-su-programa-nacional-de-vigilancia-de-la-resistencia-antimicrobiana-en-animales-de



Multiple contamination routes

A strong biosecurity chain: a must for the entire pig production industry

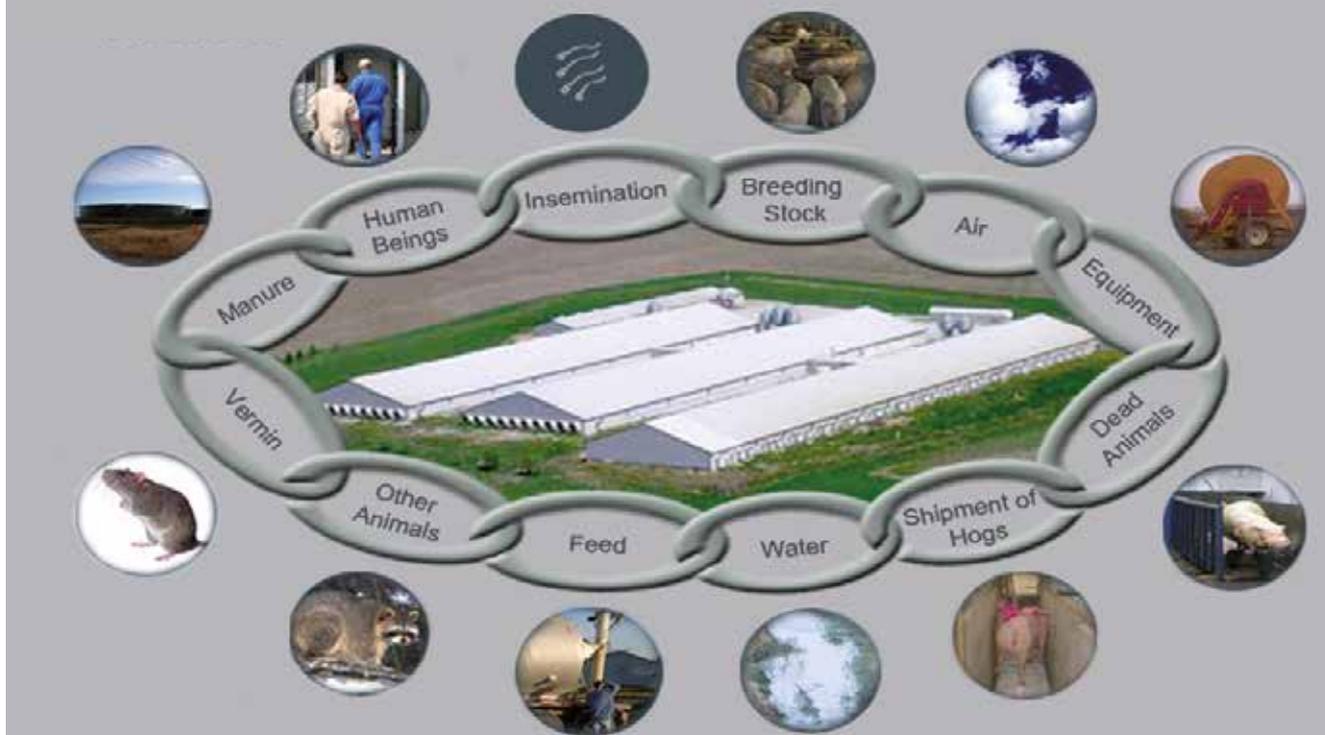


Fig. 1. Biosecurity chain: as strong as the weakest link.

Source: Connor, Joseph F., 4th Asia Pig Veterinary Society 2009 in Japan

knowledgeable representatives from all sectors involved in the swine industry when developing national, regional and international policies. Equally, the economic burden and other impacts of diseases need to be communicated effectively across the sectors.

For these reasons and more, FAO and OIE are continuing to work together on swine disease control in Asia and have recently organised the Second Regional Workshop on Swine Disease Control under the GF-TADs umbrella, with assistance and support from the Veterinary Bureau of the People's Republic of China. The workshop was held in Beijing from 26 to 29 June 2017.

Participants were invited from across the Asia-Pacific region where swine production is important and included experts on swine health and disease, production, economics, value chains and risk assessment, from government, private industry, academic institutes, international organisations and laboratories. Workshops such as this provide a platform for regional strategies to be discussed and formulated and are an important way to share knowledge, experience and information on what is happening across the region. They also develop and build relationships and networks among those working in the

swine industry with common goals of protecting pig health and welfare, improving pig production, reducing the disease burden and improving the lives of communities.

Representatives from FAO and OIE gave updates and answered questions on international standards and how to be involved in the standard-setting process, recommended practices and described the activities that are being carried out as well as the support available to Members. Country participants shared their current national situation, including their own challenges and success stories, so all could learn from each other's experiences. Experts provided valuable insight and updates on the current diseases, challenges and other issues that impact the swine industry.

Dr Katsumasa Kure, a specialist swine veterinarian, discussed production systems and biosecurity practices that can help reduce the impact of an outbreak of disease if it occurs (Fig. 1). Dr Hyunil Kim showed a comparison between human medical and veterinary perceptions of the zoonotic swine diseases in the Republic of Korea and the resources available for information on zoonotic swine diseases (Fig. 2).

The concept of 'One Health' is now very familiar in public health circles, and the correlations among human health, animal health and the ecosystem are well recognised, although much more information is needed to understand these complex interactions. A great deal of work has been done to develop agreement and understanding across the relevant sectors to allow a more integrated approach, particularly with zoonotic and emerging diseases.

The 'One Health' concept is the idea that human health and animal health are interdependent and bound to the health of the ecosystems in which they exist

However, these relationships still need building: the data showed there remains some disconnect between the perceptions of human doctors and those of veterinarians in practice regarding zoonotic swine diseases. Studies are being carried out in Myanmar to better understand value chains and the socio-economic impact of swine diseases, including zoonoses. The Myanmar Pig Partnership is a project being undertaken by the Institute of Development Studies at the University of Sussex, United Kingdom. It focuses on the risks of zoonotic disease emergence associated with the rapid growth and intensification of livestock production in Myanmar in recent years. Dr Ayako Ebata, an agricultural economist working on the project, was able to present some of the data

collected so far and the results of surveys they have done in communities. Generating information on the markets and attitudes of farmers enables better understanding of the factors that influence diseases and trends. Engaging with farmers and understanding the drivers and challenges that influence practices is vital for policy development.

To have the perspectives of private veterinarians and agricultural economists presented in a forum with academia and government broadens the level of understanding and can provide new insights and energy for ideas in policy development. Having feedback and input from those with good technical knowledge and understanding gained from working in the field with farmers is vital for developing sustainable, relatable and effective policies.

Risk pathways have been identified for the introduction of exotic FMD viruses into South-East Asia through studies conducted by the South-East Asia and China Foot and Mouth Disease (SEACFMD) Campaign. Economic considerations drive traders to seek the high value markets in East Asia, with large numbers of live animals and animal products being transported

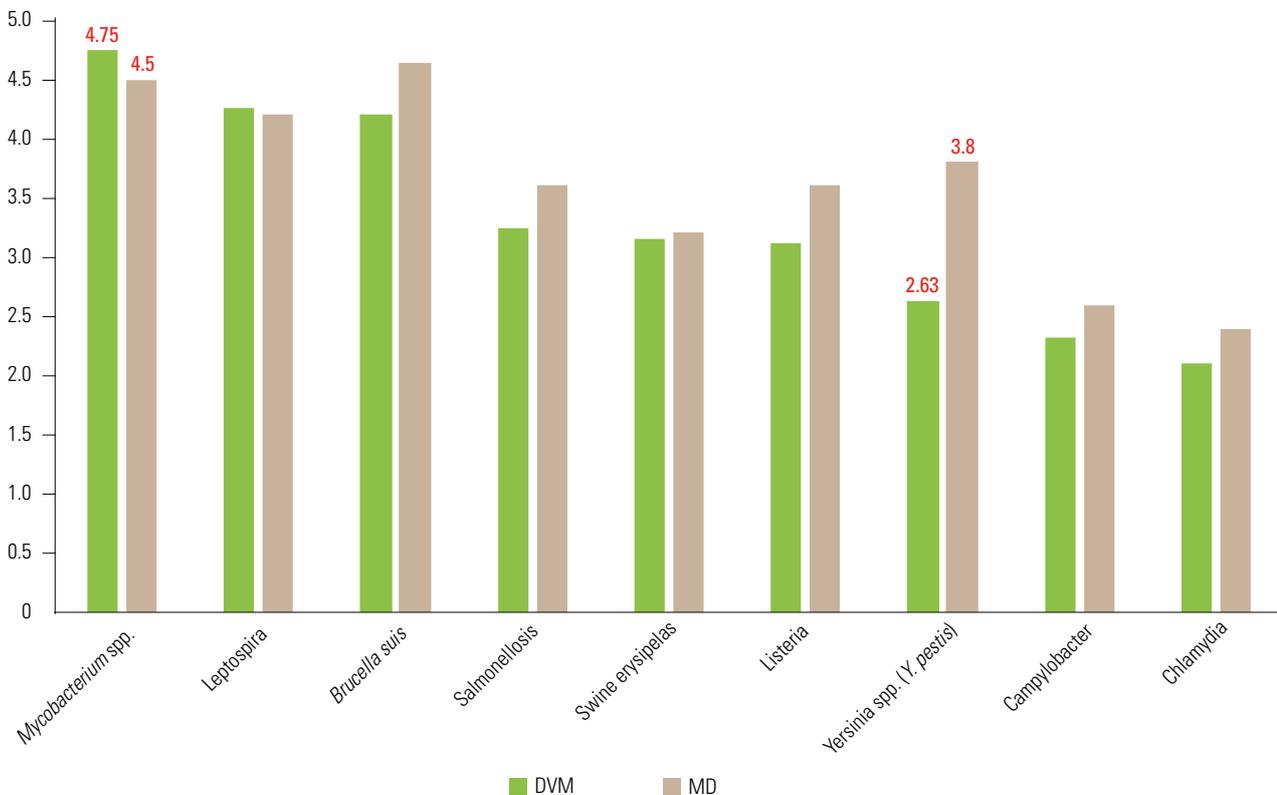


Fig. 2. 'Which diseases are important?' Swine zoonotic diseases and importance given by veterinarians (DVM) vs human medical doctors (MD)

Source: Myung-Sun Chun (2017). Study on extended zoonosis control in livestock. Ministry of Agriculture, Food and Rural Affairs, Republic of Korea



across the continent. This was concluded to be a key risk factor in the introduction and spread of exotic FMD virus.

Although extensive studies have not been carried out on the movements of pigs and pig products, participants discussed the risk factors associated with the spread and introduction of swine diseases. Unofficial trade in both live pigs and products was also thought to be a key risk, as well as introduction by international travellers via air or sea.

At the local level, many participants agreed that a better understanding of value chains is needed and that educating and working with farmers on surveillance and disease recognition and reporting was key to controlling and containing disease outbreaks effectively.

It was also recognised that governments need to work in coordination to tackle the issue of cross-border animal movement, and this is something the region is working on.

Following these discussions, risk assessment and contingency planning were discussed and a table-top simulation exercise, including two mock scenarios involving an incursion of ASF into China, was presented to the group for discussion. The scenarios were created in the China Animal Health and Epidemiology Centre where work is being done on the risk of ASF entering China. Group 1 were given a scenario set in North-East China where there are free-ranging wild boars and dense forest terrain. Group 2 were given a scenario set in South-East China located near a densely populated city with a major international airport.

The various stakeholders and their concerns and reactions were considered and risk mitigation strategies were discussed. In some countries there is no compensation mechanism available if there is the need for culling or a movement standstill, which would have an impact on income for slaughterhouses, traders and others involved in the swine industry. Solutions were not found to many of the

problems raised. The nature of the disease and lack of an effective vaccine highlighted the need to focus on prevention activities and raising awareness, in order to build capacity and strengthen biosecurity measures for ASF and other known or unknown emerging diseases. There is also a need for a greater understanding of the wild pig population, its distribution and potential role in carrying and spreading disease.

The final day of the workshop focused on regional cooperation and strategies. For members of the Association of Southeast Asian Nations (ASEAN) and as part of the ASEAN Sectorial Working Group on Livestock (ASWGL) there is already a regional strategy led by the Philippines to control CSF and other swine diseases, which was discussed among ASEAN members.

For the participants from East Asia and other countries there is no currently agreed cooperative agreement relating to swine diseases, and therefore possible cooperation and suggestions of ways to share information more effectively and develop regional strategies for transboundary swine diseases, including ASF, were discussed.

Given the presence of participants and experts from government, academic and public institutes, laboratories, research and the private sector, partnerships across sectors were also discussed. There was strong positive feedback at the close of the workshop to continue involvement across sectors and involve all levels of swine production, from backyard to large scale commercial farms, to ensure that the national, regional and global policies and strategies that are created consider and represent all aspects of swine disease control and prevention.

<http://dx.doi.org/10.20506/bull.2017.3.2701>



How to further improve the way we work in Europe: the Regional Core Group for Europe strives to enhance the involvement of European countries in OIE activities

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Encouraging the Member Countries of the OIE Regional Commission for Europe (53 countries) to step up their involvement in the regional and even the global activities of the OIE is the ambitious yet crucial target set by the Regional Core Group (RCG), led by the Bureau of the OIE Regional Commission for Europe (the 'Bureau').

The initiative is not new and was originally launched at the 25th Conference of the OIE Regional Commission for Europe in 2012 (Fleesensee, Germany). Four meetings were held to decide on common positions on several chapters of the *Terrestrial Animal Health Code (Terrestrial Code)* circulated for comment and to present them on behalf of the Europe region. Subsequently, following successive changes in the composition of the Bureau, the initiative became more or less inactive.

Three fundamental reasons for becoming more involved:

1. To have international trade standards that can help promote and facilitate trade in animals and animal products from Europe, through a sustained and concerted process of commenting on OIE standards
2. To benefit from support programmes adapted to the priorities, conditions and necessities of the Europe region, by ensuring that the OIE Strategic Plan is implemented in a relevant and realistic manner
3. To defend the best interests of the Europe region in global sanitary governance, through optimal representation on the OIE's policy-making, strategic and scientific bodies (Council, Specialist Commissions, Working Groups, Regional Commissions)

Then, at the 27th Conference of the OIE Regional Commission for Europe, held in Lisbon, Portugal, in 2016, the initiative was given a new lease of life: the RCG was given an expanded membership (see box on p. 66) and a broader mandate. While discussing OIE standards at regional level is still a priority aim of the initiative, it now intends to

make a larger contribution to defining the priorities of the region and implementing them, acting in effect as a **'transmission belt'** between the Bureau, the three OIE Representations in Europe (Moscow, Brussels and Astana) and the OIE Regional Commission for Europe. **Terms of reference** for RCG Europe were drawn up, setting out its main areas of activity.



First meeting of the Regional Core Group for Europe • Belgrade, Serbia, 20–21 December 2016

Left to right: L. Romero (Spain), J. Thomas (Switzerland), M. Klemm (European Commission), B. Plavsic (Serbia), M. Balodis (Latvia), U. Herzog (Austria), K. Schwabenbauer (Germany), N. Leboucq (OIE-Brussels) and M. Sokhadze (Georgia)

These include defining a **Regional Work Plan Framework**. This document was drafted by the Bureau, discussed by RCG Europe and validated by the 53 countries of the Europe region in May 2017. For the period 2017–2020 it proposes a framework for:

- a) implementing the terms of reference of the Regional Commission for Europe, as defined in the OIE Basic Texts
- b) implementing the OIE Sixth Strategic Plan (2016–2020) within Europe.

This Work Plan Framework recognises six priority objectives for the region:

- 1) Contributing to the development of OIE standards and guidelines
- 2) Establishing trust through better transparency and communication between countries
- 3) Ensuring education, capacity and sustainability of the Veterinary Services
- 4) Prevention, control and eradication of priority animal diseases in Europe
- 5) Combating antimicrobial resistance and intensifying 'One Health' policies
- 6) Promoting animal welfare

To achieve these objectives, the Work Plan Framework for Europe lists a number of activities, most of which are designed to promote and support the annual roadmap of the three OIE Representations in Europe (Moscow, Brussels and Astana), while seeking to create synergies and foster complementarities with key initiatives in Europe, such as EuFMD for foot and mouth disease, GF-TADs for priority animal diseases in Europe and REMESA for diseases posing a

risk to Mediterranean countries. It also proposes that consideration be given to providing the Europe region with sufficient financial and human resources to implement the Framework. This involves making an inventory of the resources already available via the statutory contributions of countries in the Europe region (10% of the amount being allocated to regional activities) and the budgets of the initiatives referred to above, and seeking additional resources as required. The 'basic metabolism' of RCG Europe consists of two face-to-face meetings a year (others may also be held on an *ad hoc* basis). The OIE Sub-Regional Representation based in Brussels provides the secretariat for RCG Europe from its own resources.

RCG Europe has already demonstrated its added value at the 85th General Session of the OIE in May 2017 by supporting the adoption of nine chapters of the *Terrestrial Code* on behalf of the entire Europe region – in particular, the chapters on African swine fever and lumpy skin disease, two scourges affecting Europe – and by proposing two Technical Items, one for the 87th General Session of the OIE in 2019 and the other for the 28th Conference of the OIE Regional Commission for Europe in 2018, also on behalf of the 53 countries of the Europe region. A great deal of the preparatory work of discussion and consultation had already been carried out at its first

two face-to-face meetings, in Belgrade in December 2016 (RCG1) and Riga in April 2017 (RCG2). All the working documents, including the Code chapters under discussion, had previously been translated into Russian to facilitate the involvement of Russian-speaking countries, with the much appreciated support of Latvia.

RCG Europe also discussed the new procedure for electing members of the OIE Specialist Commissions at a teleconference in February 2017 and submitted its comments to the OIE Council via Dr Karin Schwabenbauer, Delegate of Germany and member of both the OIE Council and RCG Europe.

Lastly, RCG Europe has been working hard on a complete overhaul of the OIE regional website for Europe (inactive for the past three years). Switzerland generously agreed to finance this activity, based on a costed proposal prepared by the OIE. The new site is due to be up and running in 2018.

The OIE wishes to congratulate the Bureau of the Europe region on this initiative and thanks the countries that have already contributed financially to its development, including the host countries for its meetings (Serbia and Latvia). It should be noted that a similar initiative exists in Asia and has served as a model, notably regarding the name and some of the objectives of the initiative.

Composition of the Regional Core Group for Europe

- 4 members of the Bureau of the OIE Regional Commission for Europe (Latvia, Austria, Serbia, Belarus)
- 2 members of the OIE Council representing Europe (Germany, Russia)
- 5 Member Countries (Spain, Georgia, Kazakhstan, Switzerland, United Kingdom)
- Observer: European Commission
- OIE Representations in Europe (Moscow, Brussels, Astana)

<http://dx.doi.org/10.20506/bull.2017.3.2707>

A (temporary) web page has been created to post information relating to the work of the Regional Core Group for Europe: www.oie.int/RR-Europe/eng/Regprog/en_task_force.htm





Salamah Al Muhairi

Abu Dhabi Food Control Authority (ADFC), United Arab Emirates

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The Middle East region is historically known for its attachment to camels, which are of cultural, social and economic value in the region. They were used for their meat, milk and skin as well as in transportation and entertainment. Nowadays, camels still have an important role in food security, as a source of meat and milk, in addition to their growing role in industry. Camel milk is used to produce milkshakes, cappuccinos, ice-creams and chocolate bars. Some studies suggest that camel milk contains ten times the amount of iron and three times the vitamin C of cows' milk. They also suggest that it is low in fat, more digestible than cows' milk, lower in cholesterol and more suitable for those who are lactose intolerant. Moreover, camels are used for racing and showing, which are considered to be very popular activities in most Middle Eastern communities. These cultural activities are held annually from September to April, and result in intensive animal movements, especially across borders: thousands of camels cross international borders every year. It is worth noting that there were around 14 million camels alive in 2010, with 90% being dromedaries, mostly living in the Horn of Africa, the Sahel, Maghreb, the Middle East and South Asia.

The camel is an interesting and challenging animal owing to its unique immune system. Consequently, many diseases that show clear clinical signs in other animals are subclinical with mild or no clinical signs in camels. The intensive camel movements within countries and across borders, especially from the Horn of Africa to the Middle East, as well as the increase in the international trade in camels, lead to a high risk of transboundary animal diseases (TADs) and zoonotic diseases. In addition, the current husbandry practices and production systems, including sedentarisation practices, are also considered as potential risk factors for camel disease

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occurrence, spread and transmission. Realising the potential risk to animal and human health, the OIE has established and implemented meetings of an international *ad hoc* group of experts to address the bacterial, parasitic and viral diseases of camelids and identify the priority diseases for attention. This will require relevant OIE Reference Laboratories to be contacted and asked for information on the priority diseases in camelids and to review the availability of diagnostic tests validated for camelids.

The objectives of CAMENET:

1. Improving scientific and technological capacities in the epidemiology and diagnosis of camel diseases in the sub-region:
 - promotion of research in the epidemiology and pathology of camel diseases;
 - training of the network member countries' staff in surveillance, diagnosis and prevention of camel diseases;
 - information on and management of health crises related to camels.
2. Contributing to the development, standardisation and validation of specific diagnostic methods for major camel diseases, according to OIE standards and procedures:
 - design and dissemination of specific biosecurity elements in the laboratories of the region;
 - development and validation of diagnostic techniques for camel diseases;
 - production and distribution of diagnostic reagents;
 - harmonisation of laboratory methods used in member countries;
 - development and validation of curative products for camel diseases;
 - development and quality control of specific camel vaccines.
3. Coordinating the support of international organisations (FAO, OIE, WHO) with the national authorities (including the veterinary services) of the member countries in their surveillance and control of camel diseases, including emerging diseases.
4. Facilitating collaboration of national, regional and international institutions with FAO/OIE Reference Laboratories and Collaborating Centres for capacity building and exchange of expertise and cooperation.
5. Promoting specific studies on husbandry/camel breeding practices, socio-economics and other risk factors at the animal–human–environment interface.
6. Disseminating knowledge on camel diseases' control and camel production best practices to member countries and the international scientific community.



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CAMENET, which is hosted by Abu Dhabi in the United Arab Emirates and consists of nine member countries (Bahrain, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates and Yemen). The main objective of the network is to assist member countries in developing their camel sector, in particular through the improved, coordinated control of priority camel diseases.

In order to initiate CAMENET activities, CAMENET member countries have held a number of meetings to agree on the activities and the list of camel diseases of

regional concern, which include:

- gastrointestinal and blood parasites: surra;
- skin diseases: contagious ecthyma, camelpox, ringworm;
- multifactorial diseases: camel calf diarrhoea, respiratory syndrome;
- endemic zoonoses: brucellosis, Rift Valley fever, rabies, tuberculosis;
- pandemic threats of animal origin: Middle East respiratory syndrome coronavirus (MERS-CoV);
- other diseases of high economic impact.

The OIE *ad hoc* group has now expressed a need for enhanced knowledge of pathology and a requirement for specific diagnostic tests and vaccines to investigate and control diseases of camels. The group issued a list of significant diseases of camelids and noted the importance of establishing a network of laboratories for camel diseases. To this end, the Middle East OIE Regional Office has worked very closely with Middle East animal health authorities to establish a knowledge hub for camel diseases in the region. This has resulted in the establishment of the Camel Middle-East Network, known as



official acts

Appointment of permanent Delegates

23 April 2017

Libya

*Dr Zakaria Mohamed
Mustafa Elkhatal*



Director General,
National Centre of
Animal Health,
Ministry of
Agriculture, Animal
and Marine Wealth

28 July 2017

Italy

Dr Silvio Borrello

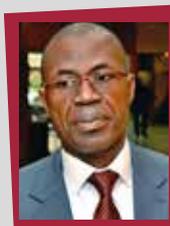


Chief Veterinary
Officer, Director
General of Veterinary
Health and Veterinary
Medicinal Products,
Ministry of Health

3 August 2017

Côte d'Ivoire

Dr Adaman Kouadio



Directeur des
Services vétérinaires,
Ministère des
ressources animales et
halieutiques

29 August 2017

Malawi

Dr Patrick Chikungwa



an Water Development

Director, Department
of Animal Health
and Livestock
Development,
Ministry of
Agriculture, Irrigation

12 September 2017

Algeria

*Dr Mohamed
Abdelhafid Henni*



Directeur
des Services
vétérinaires,
Ministère de
l'agriculture, du
développement
rural et de la
pêche

2 October 2017

Iran

Dr Alireza Rafiepoor

Head, Iran Veterinary
Organization (IVO),
Ministry of Jihad-e-Agriculture

22 October 2017

Kuwait

Dr Ali Al-Qattan

Deputy of Director General of
Animal Wealth, Public Authority
of Agriculture Affairs and Fish
Resources

14 November 2017

Kenya

Dr Obadiah Nyaga Njagi



Director of
Veterinary
Services, State
Department of
Livestock,
Ministry of
Agriculture,
Livestock and
Fisheries

Despite the publication of a number of studies on various camel diseases, more collaborative efforts are needed to increase our understanding. It is worth noting that the identification of MERS-CoV in camels and its connection with human infections has reinforced the importance of capacity building, inter-sectoral collaboration and enhancing knowledge of camel diseases. Since then, there has been a noticeably increased interest in conducting investigations on camels worldwide. In addition, the joint efforts of FAO, OIE and WHO are very evident in supporting countries and encouraging collaborations through the organisation of missions and technical meetings, coupled with update reports and increasing awareness. Recently, the International Atomic Energy Agency (IAEA) has also become involved by conducting training on nuclear techniques for rapid identification of MERS-CoV, in partnership with FAO.

Presentation of OIE Honorary Awards

During the 85th OIE General Session, Dr Botlhe Michael Modisane, President of the World Assembly of Delegates of the OIE, reminded participants that in accordance with the *Basic Texts* of the OIE, honorary awards could be made to members of the veterinary community for outstanding services to veterinary science and to the OIE. He then named the persons selected by the Council in 2017 to receive the awards: Dr David Paton (United Kingdom) for the Gold Medal and Dr Konrad Sachse (Germany), Dr Nikolay Ivanov (Kazakhstan) and Dr Walter N. Masiga (Kenya) for the Meritorious Service Award. Dr Modisane, before formally presenting him with the Gold Medal, commended Dr Paton and recalled the major accomplishments of his career and his outstanding service to the OIE and to the veterinary world, notably as Head of Reference Laboratory for Foot and Mouth Disease at Pirbright (United Kingdom) for many years. He then delivered a speech in praise of Dr Sachse, Dr Ivanov and Dr Masiga, and presented each of them with the Meritorious Service Award. The recipients thanked the President and the Assembly.

The Ordre National des Vétérinaires de France (the French Order of Veterinarians) was announced as the recipient of the 2017 World Veterinary Day prize by the President of the World Veterinary Association, Dr René Carlson. The award was for the best contribution of the year in the veterinary field on the theme 'Antimicrobial resistance – from awareness to action'.

The winners of the 2017 OIE photo competition, on the theme of 'Animal health and welfare, beyond the cliché', selected from each of the five regions of the OIE and the network of veterinary students that took part in the competition (see *Bulletin*, No. 2017-2, pp. 115-120) were presented with their awards by the President.

The OIE PVS Pathway at



Global workshop on the World Animal Health Information System (WAHIS) for recently appointed National Focal Points for Animal Disease Notification to the OIE

The World Animal Health Information and Analysis Department of the OIE organised a global workshop on the World Animal Health Information System (WAHIS) and its public interface at OIE Headquarters in Paris, from 28 to 30 August 2017.

The objective of the workshop was to train recently appointed or untrained Focal Points in the use of WAHIS and its public interface through presentations and practical exercises. The three-day workshop focused on practical learning for participants, including multiple presentations and exercises on WAHIS. Questionnaires, simulations and mock reports on notifiable (listed and emerging diseases), as well as non-notifiable diseases (e.g. of wildlife), were used to make the training content user-friendly. Countries' experiences with real-life reporting of recent terrestrial and aquatic animal disease outbreaks were also presented and analysed to further promote practical learning.

Twenty participants attended this workshop. Some 19 countries were represented; namely, Albania, Argentina, the People's Republic of China, Ethiopia, Hong Kong, India, Indonesia, Iran, Kyrgyzstan, Laos, Morocco, Myanmar, Niger, Qatar, Saudi Arabia, Senegal, Somalia, Switzerland and the United Kingdom, while a team of interpreters relayed the training in English and French.

Those who took part gained practical experience in the various reporting formats of immediate notifications, weekly follow-up reports, six-monthly reports and annual reports.

strengthening of Veterinary Services

the 10-year mark: see the PVS special dossier on pp. 1–39!

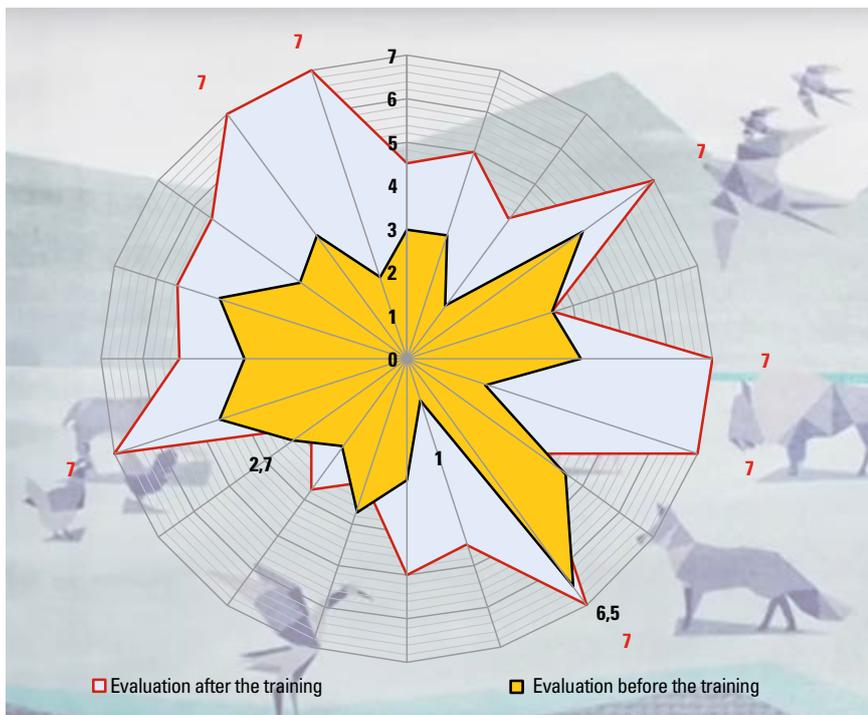


Fig. 1
Results for the self-evaluation quiz conducted before and after the workshop

Interactive online demonstrations on how to fill out these reports and the verification process were conducted with participants to reduce errors and improve the quality of reporting. Identifying the most common errors in the reports helped participants to better understand different aspects of the notification process when submitting animal health data to the OIE.

Furthermore, the search for information on the various tools included in the WAHIS Portal, such as the WAHIS public interface and *World Animal Health*, helped the trainees to recognise the importance of the data they transmit, which ensure the transparency of the animal health situation worldwide.

A seven-question, self-evaluation quiz was conducted before and after training to demonstrate the impact of the workshop and to highlight areas in need of further training in the future. The results of this quiz are represented by the graphic radar in Figure 1.

This graph displays the initial situation (in orange) and the evolution of the participants' knowledge by including their scores for the quiz after training (light blue). According to the graph, the quiz evaluation 'after training' generally recorded a significantly better score (closer to seven, a perfect score) than the evaluation before training.

At the end of the workshop, participants were asked to assess the training sessions through a questionnaire. Their answers were scored from 1 to 4 (where 1 equalled 'not satisfied' and 4 was equivalent to 'completely satisfied'). Over all, these assessments gave the WAHIS training workshop an average score of 3.5 out of 4. When it came to meeting their expectations for knowledge of WAHIS, participants rated the workshop at an average 3.7 out of 4. All felt that the training would have a positive impact on

their abilities to report disease information more accurately in the future.

Participants commented that they appreciated the balance between the practical and theoretical aspects, the location of the training (OIE Headquarters in Paris) and the open exchanges and networking among Focal Points and OIE staff.

Attendees found the training and the opportunity to strengthen links with colleagues useful, however, they expressed the wish to extend the time available for such workshops in the future so as to present the information in a less condensed form.

the OIE and its partners

epidemiology and animal disease control programmes



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Course on Bayesian statistical modelling for animal health data using R

During the week of 4–8 September 2017, Drs Matthew Branan and Marta Remmenga, mathematical statisticians from USDA–APHIS–VS–CEAH¹ (OIE Collaborating Centre for Animal Disease Surveillance Systems, Risk Analysis and Epidemiological Modelling), held a course on statistical modelling at the OIE headquarters in Paris. The purpose of the course

was to train OIE staff in the theory and application of Bayesian statistical models applied to animal health data using the R statistical computing language. Staff attending the meeting included members of the World Animal Health Information and Analysis Department, and the Science and New Technologies Department.

The course covered different modelling approaches, including generalised linear models (GLM), generalised linear mixed models (GLMM), generalised additive models (GAM) and generalised additive mixed models. A number of examples relevant to data maintained and analysed by the OIE were utilised during the course.

The instructors were very attentive to participants' needs and ready to engage in discussion to facilitate critical thinking about the data and appropriate data analysis. The course represented an opportunity to gain practical insight into advanced statistical modelling and to improve the epidemiological analysis of WAHIS (World Animal Health Information System) data and future scientific publications. Moreover, the use of R packages (R Markdown) to create automatic reports from analysed data will allow automatised of some routine analyses, improving the efficiency of daily work.

1. USDA–APHIS–VS–CEAH: United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services, Centers for Epidemiology and Animal Health





PPR Regional Roadmap meetings: towards PPR global eradication by 2030

Jean-Jacques Soula

OIE Coordinator in the FAO/OIE Joint PPR Secretariat

A global challenge

Peste des petits ruminants (PPR) is a devastating viral animal disease whose geographic spread has increased steadily to over 70 countries in Africa, the Middle East, and Asia since it was first identified in Côte d'Ivoire in 1942. It impacts heavily on the lives of some 300 million of the world's poorest families whose livelihoods depend on sheep and goats. The control and eventual eradication of the disease by 2030 will contribute greatly to achieving the United Nations Sustainable Development Goals (SDGs), in particular SDG1: 'End poverty in all its forms everywhere' and SDG2: 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture'.

In April 2015, participants in the FAO and OIE International Conference for the Control and Eradication of Peste des Petits Ruminants in Abidjan (Côte d'Ivoire) approved the **PPR Global Control and Eradication Strategy (PPR-GCES)**¹. In 2015 and 2016, FAO and OIE Member countries, through the supreme governing bodies of the two organisations, formalised this international consensus and endorsed the PPR strategy. This resulted in the establishment of an **FAO/OIE joint PPR Secretariat**.

Following an inclusive, peer-reviewed drafting process, FAO and OIE launched the **PPR Global Eradication Programme (PPR-GEP)** for the period 2017–2021: a first step towards eradication. It includes

components on stakeholder involvement, strengthening Veterinary Services, support for diagnostic and surveillance systems, vaccination campaigns and control of other small ruminant diseases. Its estimated cost is USD 996 million, essentially at country level. FAO and OIE will hold a pledging conference in the coming months in order to mobilise additional resources and fill the financial gaps with ongoing projects and programmes.

PPR-GEP is a flagship programme for FAO and OIE, as PPR eradication is linked directly to major global challenges like food and nutrition security, poverty alleviation, resilience, women's empowerment and migration control.

1. www.oie.int/PPRStrategy





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Regional approach

One of the main pillars of PPR-GEP implementation is the involvement of Regional Economic Communities, covering the 76 PPR-infected or at-risk countries, divided into nine regions:

- 1) Arab Maghreb Union (AMU)
- 2) Association of Southeast Asian Nations (ASEAN)
- 3) Gulf Cooperation Council (GCC)
- 4) Economic Community of Central African States (ECCAS)
- 5) Economic Cooperation Organization (ECO), for Central Asia
- 6) Economic Community of West African States (ECOWAS)
- 7) Inter-Governmental Authority on Development (IGAD), for East Africa
- 8) South Asian Association for Regional Cooperation (SAARC)
- 9) Southern African Development Community (SADC).

The African Union–Inter-African Bureau for Animal Resources (AU–IBAR) is also committed at continental level.

Indeed, PPR virus spread knows no borders between countries. The eradication process therefore relies on mass vaccination campaigns coordinated first at regional level and based on regional surveillance of the disease and best knowledge of the

epidemiological situation. The PPR-GCES considers the process towards achieving eradication to include four stages: assessment; control; eradication; post-eradication and free status.

PPR Regional Roadmap meetings

In order to organise this involvement more effectively, the FAO/OIE joint PPR Secretariat held a first cycle of nine PPR Regional Roadmap meetings between August 2015 and April 2017. The objectives were: to present the PPR-GCES and PPR-GEP; to carry out a first

assessment of each country's situation regarding the disease and the capacity of its Veterinary Services to control it²; to identify country and regional visions for PPR eradication; to identify other small ruminant diseases that could be controlled together with PPR; to develop the PPR Regional Roadmap and obtain countries' commitment to implementing it. These meetings have been organised successively in Yaoundé (Cameroon), Kampala (Uganda), Doha (Qatar), Almaty (Kazakhstan), Nagarkot (Nepal), Dakar (Senegal), Tunis (Tunisia), Harare (Zimbabwe), and Qingdao (People's Republic of China). The participants were, for each country, the Chief Veterinary Officer and the diagnostic laboratory and epidemiology National Focal Points. On each occasion, the Regional Economic Community participated in the meeting.

Apart from shared recommendations, some of the main results were the PPR Regional Roadmap itself, indicating each country's precise situation in relation

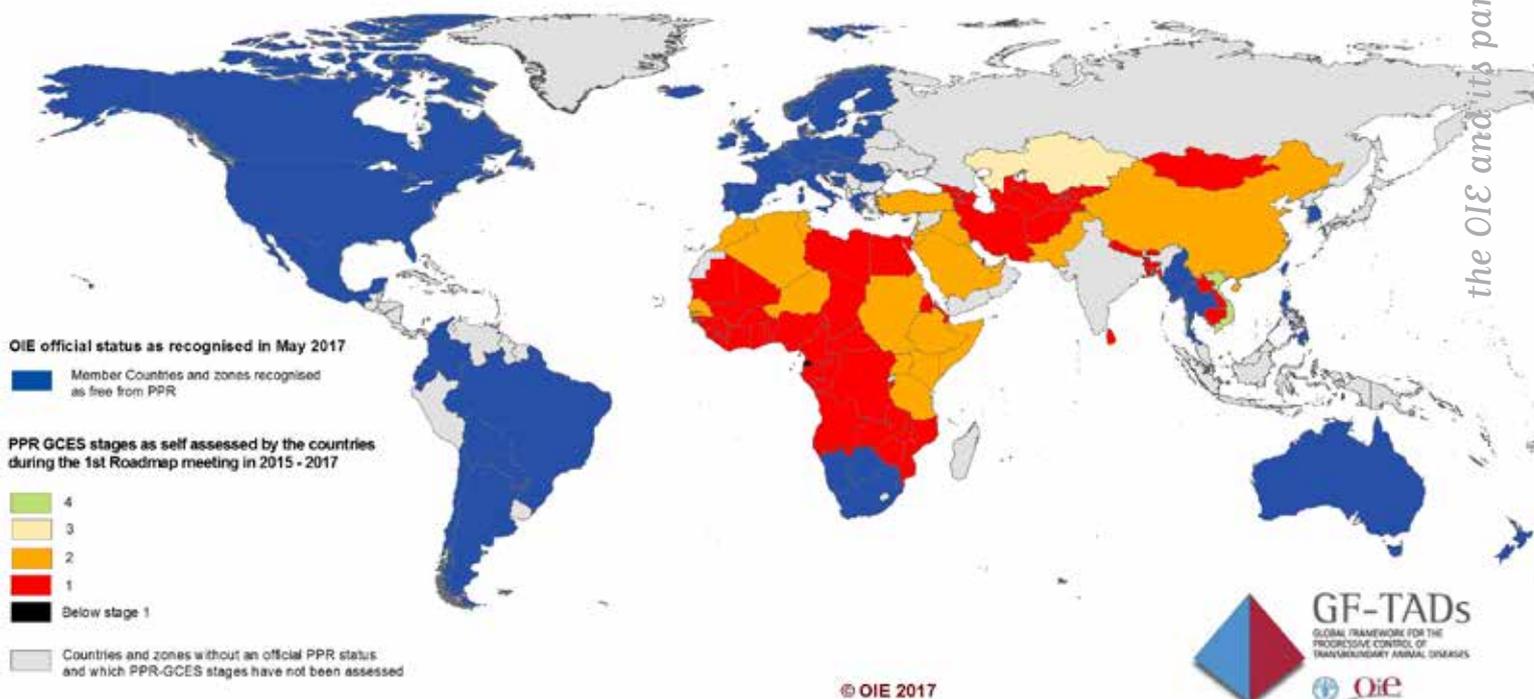
2. Using the PPR Monitoring and Assessment Tool (PMAT)



Peste des petits ruminants global situation 2015 - 2017

OIE official PPR free status and PPR Global Control and Eradication Strategy (GCES)

the OIE and its partners



to the four-stage approach mentioned above, and the indicative multiyear calendar for achieving PPR eradication and PPR-free official status, in accordance with OIE standards. The map shows the stages at which participants self-assessed their countries during the first regional roadmap meetings, as well as the official PPR-free status recognised by the OIE in May 2017.

At each meeting, a PPR Regional Advisory Group was established, comprising three Chief Veterinary Officers (Chair and two Vice-Chairs), the Regional Economic Community Representative, the Coordinator of the Regional Epidemiology Network and the Coordinator of the Regional Laboratory Network. The list of other priority small ruminant diseases in the region was also agreed and the

PPR Regional Strategy was discussed or endorsed. On this occasion, the PPR Secretariat also presented the **PPR National Strategic Plan (NSP)** template, to support countries in formulating this dedicated tool for resource mobilisation at national level.

Way forward

Movements of live animals for trade and breeding techniques (pastoralism), especially when populations flee conflict zones with their most basic possessions, make regional coordination essential to successful implementation of the PPR-GEP. PPR Regional Roadmap meetings provide a forum to launch and continue dialogue between countries. They are a key step for: mapping the presence and circulation

of the virus; establishing networks and sharing knowledge and information; planning coordinated vaccination campaigns. A common regional view will also facilitate advocacy, decision-maker awareness and donor involvement at country level.

Through their joint PPR Secretariat, FAO and OIE are committed to pursuing and strengthening this regional approach, with support from the Regional Economic Communities. PPR Regional Roadmap meetings, with the **PPR Advisory Committee (PPR-AC)** and **PPR Global Research and Expertise Network (PPR-GREN)**, are an integral part of the governance of the PPR-GEP, whose final goal is a world entirely free of the disease by 2030.

<http://dx.doi.org/10.20506/bull.2017.3.2702>

The joint FAO/OIE secretariat oversees the implementation of the PPR Global Control and Eradication Strategy:
www.oie.int/en/animal-health-in-the-world/ppr-portal/implementing/





© Saleh Mahamadou.JPG

OIE Action Plan in support of the PPR Global Eradication Programme: progress achieved

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Background

In April 2015, at the International Conference for the Control and Eradication of Peste des Petits Ruminants (PPR) held jointly by the Food and Agriculture Organization of the United Nations (FAO) and the OIE in Abidjan (Côte d'Ivoire), the PPR Global Control and Eradication Strategy (PPR-GCES) was endorsed by high-level authorities and Chief Veterinary Officers from more than 70 countries. The OIE further supported the PPR-GCES by adopting Resolution

No. 25 on 24 May 2016 at the 84th OIE General Session of the World Assembly of OIE Delegates. In line with the recommendations of the aforementioned conference, an FAO/OIE joint PPR Secretariat was established to oversee implementation of the adopted strategy and to coordinate the development of the PPR Global Eradication Programme (PPR-GEP). In October 2016, the PPR-GEP was officially launched following endorsement by FAO and OIE managements.



Several OIE core activities are linked directly to PPR control and eradication. To ensure coordination and cooperation with the PPR Secretariat, an Action Plan has been developed specifying the activities and role of each department in achieving PPR eradication. Almost all OIE departments and units have activities that contribute directly to the PPR-GEP, including: the OIE PVS¹ Pathway; OIE recognition of PPR official free status; OIE's role in national official disease reporting via the World Animal Health Information System (WAHIS) and OIE's establishment and management of global vaccine banks for priority animal diseases. The Action Plan also includes activities for which the OIE shares responsibility with partners, including FAO, such as general coordination, communications, public-private partnerships, technical capacity-building and response or preparedness missions.

The Action Plan was endorsed by the OIE Management Committee in February 2017. Since then, progress has been achieved against the staged process of the Action Plan, the most notable of which is described below.

OIE laboratory twinning projects on PPR

The OIE's laboratory twinning programme has been a key factor for improving capacity-building and bolstering expertise in national laboratories for various terrestrial and aquatic diseases. Following the successful eradication of rinderpest, attention has now turned to the possibility of eradicating PPR. Such an initiative will require the support of established technical expertise in affected areas. There are currently three OIE Reference Laboratories for PPR in France, the United Kingdom and the People's Republic of China.

As PPR affects a number of African nations, it is important to focus on building detection and surveillance capabilities on the continent and to establish centres of expertise to support the continent's control efforts. To this end, two projects have been launched under the OIE laboratory twinning programme, involving the following laboratories:

1. Centre International de Recherche Agronomique pour le Développement (CIRAD), France, as the parent laboratory, and Biopharma, Morocco, as the candidate laboratory.
2. The Pirbright Institute, United Kingdom, as the parent laboratory, and Centre for Infectious Diseases and Biotechnology, Tanzania, as the candidate laboratory.

The objectives of both twinning projects is to build and strengthen the capacity of candidate laboratories for PPR epidemiological surveillance and to improve diagnostic capabilities based on OIE standards and guidelines related specifically to the disease, as well as standards on biosafety and biosecurity and on quality management.

More specifically, in order to build capacity in these areas, experts from the candidate laboratories receive on-site training both at their own facilities and at the parent laboratories on topics ranging from sample collection to specific diagnostic techniques, virus isolation and molecular characterisation. The candidate laboratories also participate in proficiency testing exercises to evaluate their competency for PPR diagnostic assays.

Given the potential for further spread of PPR, two further laboratory twinning projects involving Jordan Bio-Industries Centre (JOVAC) in Jordan and the Research Institute for Biological Safety Problems in Kazakhstan, as candidate laboratories, are in the pipeline for them to start collaborating with the OIE Reference Laboratory in France (CIRAD) to improve their PPR diagnostic capacity and expertise.



© PRAPS

The OIE's twinning programme supports the PPR-GCES by allowing laboratories to share expertise, including possible joint research opportunities. Ultimately, these projects will benefit the entire international community by strengthening global disease surveillance networks.

Preparedness and/or response missions

Since the Crisis Management Centre – Animal Health (CMC-AH) was established in 2006 as a rapid response mechanism to address disease outbreaks, 88 missions have been deployed in 49 countries. Around 46% of these missions were in response to highly pathogenic avian influenza, 34% to transboundary animal diseases (TADs) and 20% to zoonotic diseases.

Over the past few years, this mechanism has been used for PPR-related preparedness and missions. In 2016 and 2017, three missions were launched in East Asian and Eastern European countries to help respond to a disease outbreak or to assist in preparing for (or preventing) possible incursions of PPR from neighbouring countries.

Such missions enable assessments of the epidemiological situation to be made, as well as recommendations on diagnostic capabilities, surveillance approaches and possible vaccination strategies.

OIE involvement in a promising pilot project to fight PPR in West Africa

Conscious of the need to improve the productivity, sustainability and resilience of pastoral livelihoods, the Nouakchott Declaration on Pastoralism² was adopted on 29 October 2013 by the governments of the six Sahel beneficiary countries (Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal), in collaboration with international and regional institutions. Following the Nouakchott Declaration, a six-year undertaking, supported by the World Bank and countries in the region, was initiated to secure the way of life and means of production of pastoral populations, in order to increase the incomes of pastoralists in the six Sahel countries mentioned above. The **Regional Sahel Pastoralism Support Project** (*Projet Régional d'Appui au Pastoralisme au Sahel – PRAPS*) brings together the expertise and resources of a number of actors, including governments, bilateral and multilateral technical and financial partners, the private sector and pastoral civil society organisations. It promotes national and regional cooperation, particularly for disease control, transboundary herd movements and trade facilitation.

2. Nouakchott Declaration on Pastoralism: OIE *Bulletin*, No. 2014–1, pp. 82–84

Considering the importance of livestock for pastoralist communities and building on the outcomes of the OIE PVS Pathway missions implemented in these six countries, Component 1 of the project has been developed to focus exclusively on animal health. Under this component, to meet mutual objectives of strengthening Veterinary Services in these countries, PPR has been one of the diseases targeted for control because of its impact on sheep and goats, which are the primary source of food and income for pastoral communities and form an essential part of their daily diet, helping to prevent malnutrition. As PPR control and eradication is technically achievable, PRAPS and the national efforts in place will certainly contribute to the PPR-GCES.

Under PRAPS, the OIE is in charge of Component 1, providing regional coordination support and technical assistance to:

- strengthen Veterinary Services through the implementation of training courses;
- upgrade Veterinary Services to meet OIE standards, including on the quality of Veterinary Services (good governance) and legislation;
- improve surveillance and control of TADs via the application of harmonised sub-regional disease control programmes for priority diseases, including PPR;



In the two years since the start of the project, the countries have planned and implemented numerous activities, including: a significant number of capacity-building events addressing a broad range of topics and issues; actions to collect epidemiological data and improve surveillance protocols; and renovation of border inspection posts. Importantly, an enabling environment has been put into place to ensure the efficient and effective planning and implementation of extensive vaccination campaigns to control PPR and bovine contagious pleuropneumonia in the six PRAPS countries. Notwithstanding the significant investment made to date, further concerted political and financial commitments are required to increase vaccination coverage in these countries by 2019/2020 and to reduce PPR prevalence. Achieving this key target will not only contribute to the success of the PPR-GCES but may be a strategic solution for stabilising pastoral and agro-pastoral populations in the Sahel with a generational impact.

Benefits of the OIE PPR Vaccine Bank: a mechanism that has already led to the delivery of nearly 31 million doses of PPR vaccine to West Africa since 2013

In providing regional technical support to the six PRAPS countries, the OIE is playing a key role in supporting the planning of national PPR vaccination campaigns and ensuring access to high quality vaccines. The latter has been made possible by the establishment, in 2013, of an **OIE PPR Vaccine Bank for West Africa**³.

Prior to PRAPS, the OIE established a vaccine bank under the project 'Vaccine Standards and Pilot Approach to PPR Control in Africa (VSPA)'⁴, funded by the Bill & Melinda Gates Foundation, which facilitates the production on demand, purchase and delivery of high quality PPR vaccines to African countries at their request.

Between 2013 and 2015, the OIE delivered 14 million doses of PPR vaccine to four West African countries: Burkina Faso, Ghana and Mali (funded by the VSPA project), and Togo (World Bank funds). Under PRAPS, as of end of July 2017, an additional 16.6 million doses have been purchased directly by Niger and Mauritania (World Bank funds) through the OIE PPR Vaccine Bank.

In 2016, the OIE reopened competition between vaccine suppliers and a new international call for tender was published. Two new vaccine suppliers were selected.

3. *The OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*, Chapter 1.1.10. – Vaccine banks (version adopted in May 2016) provides a definition of vaccine banks

The production of 11 million doses is currently under discussion for delivery to Mauritania (3 million doses) and Chad (8 million doses) by the end of 2017. In addition, Niger has already expressed written interest in the purchase of 15 million doses. For all three countries, purchases will be made directly by the countries (World Bank funds) through the OIE PPR Vaccine Bank.

The OIE PPR Vaccine Bank for Africa mechanism is also open to any international organisation requesting access to support country operations in tackling the disease. For example, in 2016, FAO purchased 110,000 doses of PPR vaccine to support PPR disease control efforts in Liberia.

As with other OIE vaccine banks (foot and mouth disease and rabies), after just four years in operation, the OIE PPR Vaccine Bank has proved to be a concrete and complementary tool to support progress by OIE Member Countries towards the control and progressive eradication of this devastating disease. The mechanism proves yet more useful when stakeholders invest not only in vaccination campaigns but also, as with PRAPS, in broader programmes to control and eradicate PPR.

OIE official recognition of Member Countries' PPR-free status and endorsement of their national control programmes for PPR

The OIE has developed a procedure to enable Member Countries to have their PPR-free status officially recognised by the international community. To date (September 2017), 54 countries have been officially recognised as PPR-free by the World Assembly of OIE Delegates⁵. Under the PPR-GEP, countries that have never reported PPR and/or countries entering at Stage 4 (Post-eradication Stage) of the Global Strategy's step-wise approach will be assisted in applying for OIE official recognition of their PPR-free status, as a final step towards the ultimate goal of PPR eradication.

To guide Member Countries in preparing and submitting their application, the OIE has been holding regional workshops on the relevant procedures. In 2017, two workshops were held in Tunis (Tunisia) and Kigali (Rwanda) on the OIE procedure for the endorsement of national official control programmes for PPR and foot and mouth disease. At these workshops, information was also provided on OIE standards for PPR and

4. Implemented between 2012 and 2014, the objectives of the VSPA project were to establish a PPR vaccine bank for Africa, strengthen continental capabilities in terms of quality control of PPR vaccines and undertake a pilot strategy to determine how to control PPR most effectively. VSPA operations focused on Burkina Faso and Ghana
5. Resolution No. 28 adopted on 23 May 2017 at the 85th General Session of the World Assembly of OIE Delegates





on the link between the PPR-GCES and the OIE procedure for the endorsement of a national control programme and official recognition of free status. This training proves particularly useful for improving Member Countries' capacity to prepare a dossier to effectively demonstrate control of the disease (when applying for an endorsed programme) and, eventually, freedom from it (when seeking free status). These workshops have also helped to raise awareness among Member Countries on the tools they can use to combat PPR (e.g. PVS pathway, PMAT⁶ or laboratory twinning).

In accordance with the Standard Operating Procedures governing the granting of official disease status, the OIE can deploy an expert mission to Member Countries as part of the evaluation of their dossier or as a monitoring mechanism to assess the maintenance of an officially recognised disease status/endorsed national control programme. Specific missions may also be proposed to Member Countries that have applied several times with negative outcomes, in order to support them in identifying and remedying gaps. In 2017, the first expert mission was conducted to monitor the maintenance of a Member Country's officially recognised PPR-free status. In anticipation of a possible increase in the number of countries applying for PPR-free status in the coming years, the deployment of field missions is seen as key to verifying compliance with the provisions of the OIE *Terrestrial Animal Health Code*.

6. PPR Monitoring and Assessment Tool

7. Pilot programme for PPR-specific country assessments during PVS Evaluation or Follow-up missions, by David Sherman. *OIE Bulletin*, No. 2017–2, pp. 67-68

8. www.oie.int/PPR

OIE PVS Pathway

The OIE has developed a methodology for integrating PPR-specific findings within its PVS Evaluation missions, for interested countries, in support of the PPR-GEP. The methodology, which supplements the complete PVS Evaluation, involves a PPR specialist and dedicated time during the mission. A new PPR annex to the PVS report inputs seamlessly with the country-staging process of the PMAT. The methodology is being finalised after being piloted successfully in two countries, as discussed in an article in the last *OIE Bulletin*⁷. Countries interested in this opportunity are encouraged to register their interest with the OIE as part of their standard PVS Evaluation or PVS Evaluation Follow Up mission requests.

OIE communication resources on PPR

In order to raise awareness of the challenges posed by PPR eradication and to communicate and inform the international community more fully of progress made in this field, the OIE renovated its PPR web portal in 2016 and updates it regularly⁸. This portal gives an overview of the OIE/FAO PPR GCES, its context and the different steps for its implementation, and provides a range of communication tools for the use of Member Countries, including videos, infographics, disease cards and press releases.

<http://dx.doi.org/10.20506/bull.2017.3.2703>

CONCLUSION

The OIE has responded to its Members' identification of PPR as a global priority by making a variety of specific adaptations to programmes and activities to ensure that they provide customised support for the global eradication effort. These activities are well coordinated with, and complement, the specific mechanisms within the PPR-GEP overseen by the FAO/OIE Joint PPR Secretariat.



activities of Reference Laboratories & Collaborating Centres

Annual reports for 2016 of reference centres for terrestrial animal diseases

Annual reports have been received from 215 out of 220 Reference Laboratories and from 48 out of 49 Collaborating Centres for terrestrial animal diseases or topics.

The international activities relevant to the work of the OIE are summarised in the following tables:

Table I
2016 OIE Reference Laboratory activities

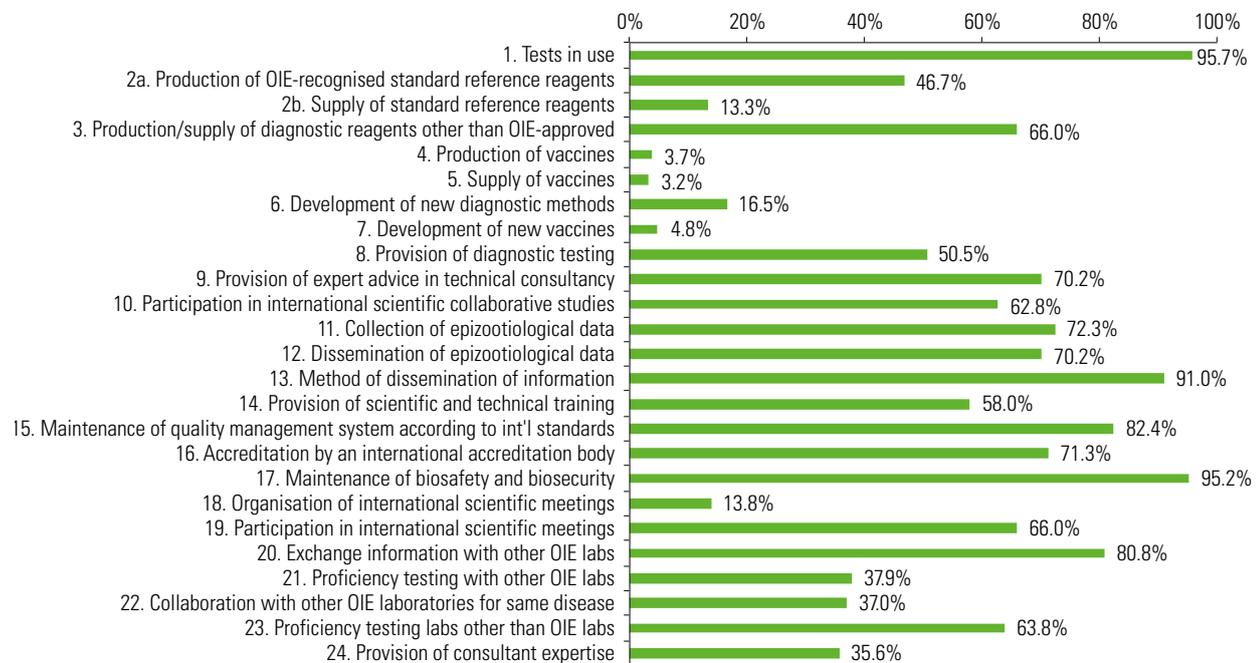
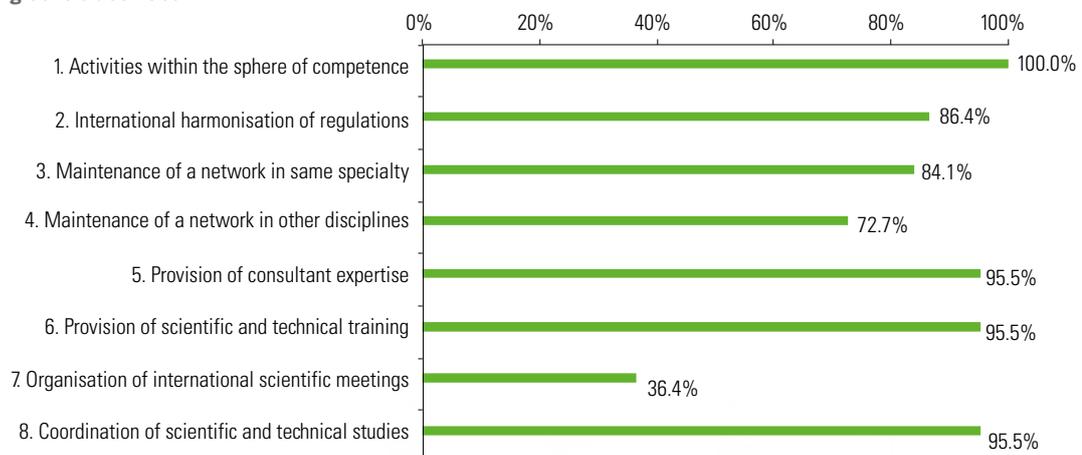


Table II
2016 OIE Collaborating Centre activities



Newly designated OIE Reference Centres and their areas of expertise

New OIE Collaborating Centres

COLLABORATING CENTRE FOR BEE HEALTH IN AFRICA

International Centre of Insect Physiology and Ecology (icipe)

P.O. Box 30772-00100, Nairobi, Kenya

Tel. +254-20 863 20 00

E-mail: sekesi@icipe.org; icipe@icipe.org

Website: www.icipe.org



The International Centre for Insect Physiology and Ecology (*icipe*) has been conducting bee health research for over a decade, primarily through the African Reference Laboratory for Bee Health, headquartered in Nairobi, Kenya, with satellite stations in Burkina Faso, Cameroon, Ethiopia and Liberia, and a training site in Madagascar. As an OIE Collaborating Centre, *icipe* will help OIE Member Countries by advancing the generation, exchange and dissemination of knowledge, as well as capacity building, with regard to bee health in Africa. The Centre's activities will be focused around three core areas:

- a) Filling critical knowledge gaps and supporting systematic procedures and capacity to monitor, analyse and safeguard bees in Africa amidst rising threats from climate change and habitat loss;
- b) Contributing to global knowledge on the colony collapse disorder (CCD), by mapping bee health risk factors and investigating mitigating strategies across the continent;
- c) Examining the apparent resilience and lower vulnerability of African honey bees to parasites such as *Varroa* mites, diseases (particularly viruses vectored by *Varroa*) and other

pests such as the small hive beetle and brood diseases, to find clues to the alleviation of global threats to honey bees.

COLLABORATING CENTRE FOR DIAGNOSTIC TEST VALIDATION SCIENCE IN THE ASIA-PACIFIC REGION

This international scientific consortium combines expertise in diagnostic test development, validation and epidemiology of infectious diseases and consists of three institutions:

CSIRO Australian Animal Health Laboratory (AAHL)

5 Portarlington Road, Newcomb, Victoria 3219, Australia

Tel. +61 3 5227 5000

E-mail: axel.colling@csiro.au

Website: www.csiro.au/en/research/facilities/aahl



The Australia Animal Health Laboratory (AAHL) is a high containment laboratory facility designed to allow scientific research into the most dangerous infectious agents in the world. It holds OIE, World Health Organization (WHO) and Food and Agriculture Organization (FAO) reference centre designations for a range of livestock, aquatic and zoonotic pathogens. The pressing need to develop reliable diagnostic tests using classical and modern test platforms, reagents and protocols has motivated AAHL scientists to develop innovative validation approaches, and AAHL has become a leader in

developing and publishing science-based OIE standards for purpose-orientated validation of diagnostic tests that are applied for declaration of disease freedom and subsequent international trade of livestock and aquatic animals.

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Within the Faculty of Veterinary and Agricultural Sciences (FVAS) of the University of Melbourne the Asia-Pacific Centre for Animal Health (APCAH) and the Gasser Laboratory Parasitology Group are internationally prominent research and teaching centres focused on the optimisation of animal health and product quality through improved control of infectious (bacterial, viral and parasitic) agents. These groups form a major focus of research and research training, as well as research commercialisation. The APCAH has an extensive track record in the development of novel diagnostics and vaccine technologies. A focus of the Gasser Laboratory has been on the use of cutting-edge molecular, genomic and bioinformatics technologies to develop novel diagnostic methods and intervention strategies against destructive parasitic diseases.

**EpiCentre Institute of Veterinary and Biomedical Sciences,
Massey University**

Private Bag 11-222, Palmerston North 4412, New Zealand

Tel. +64 6 350 5270

E-mail: C.Heuer@massey.ac.nz

Website: <http://epicentre.massey.ac.nz>



The EpiCentre at Massey University is the largest veterinary epidemiology training and research centre in Australasia, and is acknowledged as one of the leading groups in the world. The Centre offers expertise in the understanding and control of disease in animal populations, the transmission of disease from animals to humans, and hazards in food of animal origin. It is the OIE Collaborating Centre for Veterinary Epidemiology and Public Health (South Pacific). Since 2007, the EpiCentre has delivered training workshops and numerous research publications on diagnostic test validation science.

COLLABORATING CENTRE FOR RESEARCH AND CONTROL OF EMERGING AND RE-EMERGING SWINE DISEASES IN EUROPE

Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Centre de Recerca en Sanitat Animal (CRESA)

Edifici CRESA, Campus Universitat Autònoma de Barcelona,
08193 Bellaterra, Spain
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E-mail: joaquim.segales@irta.cat
Websites: www.irta.cat; www.cresa.cat



The Centre for Research on Animal Health (*Centre de Recerca en Sanitat Animal* – CRESA) conducts the animal health research programme at the Institute for Research and Agri-Food Technology (*Institut de Recerca i Tecnologia Agroalimentàries* – IRTA). It is located at *Edifici CRESA*, which is a new and technologically advanced building with conventional laboratories as well as biocontainment with biosafety level 3 (BSL-3) laboratories and animal facilities. More than 50% of all research programmes at CRESA are devoted to porcine diseases, with a special focus on pathogenesis, immunity, diagnosis and control. Apart from working with both endemic and exotic diseases, CRESA has expertise in the epidemiology and risk assessment of pig diseases. Being at the forefront for the early detection and research on emerging and re-emerging pig diseases, CRESA will contribute to the development of methodologies, protocols and techniques to achieve their control, as well as to education and training in all aspects of emerging and re-emerging diseases of pigs.

New OIE Reference Laboratories

CLASSICAL SWINE FEVER

China Institute of Veterinary Drug Control (IVDC)/Center for Veterinary Drug Evaluation (CVDE)

Department of Reference Substance Research

No.8 Zhongguancun South Street, Haidian District, Beijing 100081,
People's Rep. of China

Tel. +86-10 62 10 36 70

E-mail:

wq551@vip.sina.com; ncsfrl_ivdc@163.com; wangqin@ivdc.org.cn

Website: www.ivdc.org.cn

Designated reference expert: **Dr Qin Wang**



The Department of Reference Substance Research of IVDC/CVDE is an important national centre for diagnosis and research on classical swine fever (CSF) in the People's Republic of China. The laboratory has made much progress in developing novel diagnostic methods, epidemiological

and molecular epidemiological surveillance, and establishing an epidemiological information system (*CSF info*). It also conducts basic research on pathogenic and immune molecular mechanisms, DIVA (differentiating infected from vaccinated animals) vaccine designation and comprehensive control strategies associated with CSF virus. A well established reference standards library that includes viruses, serum panels and diagnostic reagents, together with technical support and training courses on CSF, can be provided both nationally and internationally. This laboratory is ready to dispatch experts whenever necessary to participate in relevant activities for the OIE.

CLASSICAL SWINE FEVER

Animal Health Research Institute (AHRI), Division of Hog Cholera
376 Chung-Cheng Rd, Tamsui, New Taipei City 25158, Chinese Taipei
Tel. +886-2 2621 2111; Ext. 343
E-mail: cychang@mail.nvri.gov.tw
Designed reference expert: **Dr Chia-Yi Chang**



This OIE Reference Laboratory for CSF also serves as the national reference laboratory for the diagnosis and surveillance of CSF. In addition, it provides scientific and technical support, assistance and advice to OIE Member Countries. The laboratory also undertakes research projects and has collaborated scientifically

with other laboratories at the international level. The laboratory is accredited under ISO/IEC 17025 by the Taiwan Accreditation Foundation (TAF).

CLASSICAL SWINE FEVER

Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Centre de Recerca en Sanitat Animal (CRESA)
Edifici CRESA, Campus Universitat Autònoma de Barcelona, 08193 Bellaterra (Barcelona), Spain
Tel. +34 934 67 40 40; Ext. 1786
E-mail: Llilianne.ganges@irta.cat
Designed reference expert: **Dr Lilianne Ganges**



This OIE Reference Laboratory for CSF in CRESA provides expertise on vaccine efficacy trials and scientific support for CSF control at the international level. In addition, it provides technical and scientific consultancy as well as training in diagnosis and immunopathogenesis of the CSF virus. The laboratory also offers high quality diagnostic

services comprising molecular, serological and virological diagnostic tools. Likewise, it performs research projects focused on improving vaccines and diagnostic tools, as well as the development of CSF virus phylogenetic studies.

CONTAGIOUS AGALACTIA

Mycoplasma Laboratory – Istituto Zooprofilattico Sperimentale della Sicilia ‘A.Mirri’
Via G. Marinuzzi 3, 90129 Palermo, Italy
Tel. +39 011 656 5307
E-mail: guidoruggero.loria@izssicilia.it
Designated reference expert: **Dr Guido Ruggero Loria**



The Reference Laboratory for contagious agalactia provides high quality diagnostic services and other scientific and technical activities related to the diagnosis and control of infections caused by *Mycoplasma agalactiae* and other mycoplasmas

responsible for the disease. It also offers quality assessments, expertise, consultancy and training in the clinical, diagnostic and epidemiological fields. Moreover, the Reference Laboratory provides scientific and technical training to personnel from Italy and other OIE Member Countries, and participates in collaborative scientific and technical studies with other laboratories and organisations. Research and development carried out at the institution includes: vaccine trials, *in vitro* and *in vivo* antibiotic susceptibility testing, understanding pathogenicity mechanisms, comparative pathology, diagnostic test improvement and epidemiological studies.

ECHINOCOCCOSIS

Istituto Zooprofilattico Sperimentale (IZS) of Sardinia, National Reference Laboratory for Cystic Echinococcosis
Via Duca degli Abruzzi 8, 07100 Sassari, Italy
Tel. +39-079 289 200
E-mail: cenre@izs-sardegna.it
Designated reference expert: **Dr Giovanna Masala**



The OIE Reference Laboratory for Echinococcosis specialises in diagnosis, epidemiological studies and research on cystic echinococcosis. The laboratory provides reference materials and diagnostic consultancy. It also works on the standardisation of diagnostic methods and performs confirmatory diagnostic testing.

As the Italian national reference laboratory, the laboratory manages health education programmes for students, farmers, petting farm operators and public health operators. Moreover, it regularly collaborates on various projects with several other institutions. The laboratory's activities are subjected to quality assurance: it was accredited under ISO/IEC 17025 by the Italian Committee for Accreditation.

AMERICAN FOULBROOD OF HONEY BEES (infection of honey bees with *Paenibacillus larvae*), SMALL HIVE BEETLE INFESTATION (*Aethina tumida*), and VARROOSIS OF HONEY BEES (infestation of honey bees with *Varroa* spp.)

National Reference Laboratory for Bee diseases, Friedrich-Loeffler-Institut (FLI), Federal Research Institute for Animal Health, Institute of Infectology
Südufer 10, 17493 Greifswald – Insel Riems, Germany
Tel. +49-38351 71246
E-mail: marc.schaefer@fli.de
Designated reference expert: **Dr Marc Oliver Schäfer**



The OIE Reference Laboratory is located at the Friedrich Loeffler Institute, the Federal Research Institute for Animal Health in Germany, which is an independent higher federal authority operating under the auspices of the Federal

Ministry for Food and Agriculture. The laboratory, which is also the national reference laboratory, is the direct contact for federal and state authorities regarding the diagnosis of honey bee diseases. Furthermore, it develops new test methods for the detection of notifiable diseases of honey bees and conducts national ring trials for quality assurance procedures for animal disease diagnostics. The laboratory has extensive experience in diagnostic testing and is accredited for diagnostic techniques for all important diseases of honey bees, covering a wide range of diagnostic methods.

RABIES

Kimron Veterinary Institute, Veterinary Services and Animal Health
P.O. Box 12, Bet Dagan 50250, Israel
Tel. + 972 3 9681720
E-mail: borisy@moag.gov.il
Designated reference expert: **Dr Boris A. Yakobson**



The Kimron Veterinary Institute (KVI) is a governmental institution under the Veterinary Services and Animal Health of the Ministry of Agriculture, Israel. In addition to its diagnostic duties, this OIE Reference Laboratory for Rabies, which is also the national reference

laboratory, has been the responsible authority for planning, organising and executing oral rabies vaccination campaigns in wildlife for over 15 years. This has included thorough assessment of the rabies situation in Israel, basic research in bait uptake, as well as experimental efficacy trials of oral rabies vaccines in golden jackals and the development of a suitable baiting strategy under Mediterranean environmental conditions. The laboratory also conducts quality control of commercial human immunoglobulins produced in Israel for use in Israel and many other countries. The laboratory's activities are subjected to quality assurance, and it is accredited under ISO/IEC17025 by the Israeli Laboratory Accreditation Agency (ISRAC).

news from Member Countries

Experiences in reforming the Albanian Veterinary Services towards meeting the OIE and European Union standards

Edi Fero

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Introduction

Albania's journey towards joining the European Union (EU) started more than a decade ago. The first serious step towards accession was taken in 2003 when the country was identified as a potential candidate by the Thessaloniki European Council summit. In 2009, Albania submitted its formal application for EU membership. The status of candidate was recommended in 2012 by the Commission, subject to the fulfilment of 12 key priorities; it was finally granted by the EU in 2014.

Agriculture is one of the main sectors of the Albanian economy, generating approximately 17.7% of the country's gross domestic product, and providing employment to around 55% of the total employed. Approximately 40% of the total land is used for agricultural purposes. Agricultural production has been growing steadily over the last decade, at a rate of 3.0–3.5% per year. The sector has faced significant problems arising from the combined effect of a reduced workforce due to migration from rural areas; the almost complete absence of farmer organisations; the generally low level of technology available; and poor marketing of agricultural products [1].

These are some of the reasons why Albanian agriculture has failed to be competitive, although agricultural products were granted favourable customs and quota treatment by the Stabilisation and Association agreement signed in 2006.

The Albanian livestock sector has the potential to be an important contributor to economic development and employment creation. However it presents a complex picture for various reasons, including:

- consumers are becoming more demanding about the quality and safety of products of animal origin;
- consumers have lost confidence in institutional assurance on food safety and hygiene;
- consumer confidence in imported products is growing, encouraged by a favourable quality/price ratio;
- Albanian livestock keepers, at the individual level, cannot plan and implement the changes required to allow them to restore consumer confidence and to be competitive in today's market.

The eventual accession of Albania to the EU affords a new scenario in the agriculture sector. Albania will have to comply with the rules of the EU common agricultural policy and, therefore, livestock keepers, farmers, processors and traders will have to meet the standards imposed by the common market in terms of quality, quantity and food safety. The recent experience with EU trade, in which Albania is still a net importer of agricultural products, indicates the lack of competitiveness of Albanian products, which is attributable to quality and food security issues.

The need for reform of the veterinary system

There is a pressing need to further improve the capacity of the Albanian veterinary system for monitoring, surveying and implementing appropriate measures to prevent and control animal diseases. The increased role of private veterinary practitioners in the animal surveillance system must be



supported by improved disease investigation, sampling and laboratory diagnostics. The lack of adequate funding for field surveillance activities remains a major bottleneck in establishing a sound and consolidated system that should be accompanied by continuous education and training of veterinary personnel, among whom there are about 1,000 private veterinary practitioners. Without increasing their skills in providing reliable data on the occurrence of animal diseases, it will be very difficult to design, plan and adopt cost-efficient strategies for animal disease control. Animal welfare is another important area of the veterinary domain where significant effort is needed.

Status of the veterinary system in 2014

In 2014, when discussions on the transformation of the veterinary system started, the main issues to be addressed were described in the OIE Performance of Veterinary Services (PVS) Assessment [2]. The findings included:

- very fragmented Veterinary Services, with reporting lines through the Ministry of Agriculture, Ministry of the Interior and Ministry of Local Government;
- veterinary legislation is complex and often impracticable to apply on the ground;
- overlapping competencies;
- inappropriate organisation, not adapted to the requirements of the production systems (a completely new system is required);
- Veterinary Services lacked the necessary infrastructure.

Actions taken to reform the State Veterinary Services

After completing a review of the status, based on the recommendations of the OIE PVS evaluation mission (June 2014) [2], it was decided to initiate reforms based on these main themes:

- a) unification of the State Veterinary Services;
- b) establishment of a Veterinary Order (registration and regulation of veterinarians);
- c) reforming and modernising the private veterinary system through the upgrading of veterinary clinics;
- d) revision of the veterinary legislation;
- e) relocation of the Animal Identification and Registration Unit and Epidemiology Sector within the Veterinary Directorate¹;
- f) development of a policy to support the integration of a private laboratory network in the delivery of clinical diagnostic services;
- g) refinements in the strategies for combating zoonotic diseases.

The Veterinary Law requires farmers to identify their cattle, sheep and goats using ear tags (matriculation), and no animal receives services from the State budget unless it is correctly identified. For this purpose, the necessary ear tags were provided by the Ministry and an Ordinance (No. 1, dated 13 February 2017) was approved which obliges the farmer to pay for the ear tags.

Article 116 of the Veterinary Service Law states that official Veterinary Services are to be carried out by a veterinary clinic but, in reality, they were performed by private veterinary operators. Until early 2016, there were about 600 private veterinary operators who practised informally: they were unregistered, lacked health and social insurance and were commissioned by regional agricultural directorates to perform animal identification and deliver vaccination programmes. For the first time, in 2016, the Veterinary Directorate of the Ministry of Agriculture contracted the delivery of some official Veterinary Services to veterinary clinics, after completion of public procurement procedures. In 2017, there has been a significant improvement. The number of veterinary clinics contracted

1. At the end of 2013, the Animal Identification and Registration Unit and Epidemiology Sector were part of the Food Safety and Veterinary Institute, which created a major gap in the Veterinary Service Directorate. For this reason, they were relocated to the Ministry of Agriculture, Rural Development and Water Administration



is 12 and there is a move to increase the number. The minimum number of veterinarians working in one veterinary clinic is three. The Ministry of Agriculture, Rural Development and Water Administration has already provided sufficient ear tags to the veterinary clinics and they are in charge of performing this task. Also, the Ministry of Agriculture, Rural Development and Water Administration (assisted by the PAZA [Protection Against Zoonotic Diseases – Albania] EU Project) has already furnished sufficient vaccine for brucellosis (2,000,000 doses), anthrax (150,000 doses) and lumpy skin disease (450,000 doses). Disease reporting has improved since the last epidemic of lumpy skin disease in the country.

The aim is to achieve a rapid improvement in animal identification and registration, animal movement control, vaccination and disease control. Importantly, the new veterinary structure will reduce conflicts of interest by separating the roles of supervision of service delivery by official veterinarians from its implementation by authorised veterinarians who are employed by contracted veterinary clinics. Currently, after the completion of the reform, clinics must meet or exceed the minimum standards of prequalification, tender for the required services according to the legislation and, on award of contracts, implement official services.

The veterinary health certificate required for the movement of livestock was problematical before the reform of the Veterinary Services. Movement certificates were issued based on animal species by official veterinarians, who are located in towns and cities, which complicated the process and acted as a disincentive for farmers to comply with the requirements. This led to a situation where livestock movement was not effectively controlled within the territory.

The approach to the reform of livestock movement control was as follows:

- a)** A standard, unified veterinary health and movement certificate was developed.
- b)** Private veterinary clinics were contracted to cover 100% of the country: veterinarians employed by these clinics received training from the Veterinary Order, after which they were authorised to issue movement certificates. Certificates are serially numbered and bear the stamp of the Veterinary Directorate of the region in which the veterinary clinic is located. Authorised veterinarians who are attached to the veterinary clinic issue these certificates.
- c)** The removal of slaughtered animals and other animals from the RUDA database (the national database of the Livestock and Veterinary Information System) was problematical. Access to the RUDA database has been provided to the contracted veterinary clinics, which has improved the coverage of animal identification and registration. A similar arrangement is currently being extended to 33 livestock markets and 190 approved slaughterhouses.



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Only through accurate identification and registration of animals can Albania achieve traceability of animals and products of animal origin, achieve effective control of animal diseases and improve animal welfare.

There has been additional recognition of the urgent need to review the State strategies for combating zoonotic diseases. For example, the national anthrax, brucellosis and tuberculosis control strategies were fully revised. A series of capacity building activities (training sessions) were provided to private and official veterinarians and farmers and, for the first time, a budget was dedicated for this purpose. As a result, improvement can already be noted in the surveillance (active and passive), prevention and control of these diseases at national level. Human cases of brucellosis, following mass vaccination campaigns for small ruminants organised from 2012 to 2016, also dropped significantly.

However, during its implementation, the reform created controversy, and it became clear that fees for the delivery of official Veterinary Services are the lowest in the region, which undermined the quality of the services provided. With the introduction of business licensing required by the Government's campaign against the informal economy, veterinary fees attracted value added tax (VAT). The Ministry of Agriculture argued for an increase in the veterinary fees: the first step was to raise the fees to accommodate VAT but further increases will be necessary to ensure the economic viability of authorised veterinary clinics. Progressive increments are anticipated annually over the next four years and provision will be made in the State budget.

Tasks for the future

The Veterinary Directorate will work closely with private veterinary practitioners, livestock keepers, farmers, processors and traders to improve the quality of the livestock sector in Albania. This sector plays a very important role in the development of agriculture and rural business as it provides around 52% of the production value of agriculture and is an important source not only of farm income but also of the market supply of raw and processed products. However, the sector is inefficient, given its low competitive power, the production structure and farm size, and is not optimally performing or profitable.

Diseases such as brucellosis still affect the human population and a large number of people per year are hospitalised as a consequence. These diseases, besides the associated social costs to the community, are one of the causes of the export ban that has hindered the commercialisation of exports of live animals and their processed products to the EU. The food control system in place, from production to processing, including transport chains and the distribution system up to retail shops, is subject to inspection from the Competent Authorities. However, the implementation of controls is difficult because of limited capacity and financial resources.

Animal welfare will also be subject to specific attention from the Veterinary Services of Albania in the coming years. Under the OIE Platform on animal welfare for Europe, the OIE will assist with a





series of workshops in the Balkans to notably improve the welfare conditions of farm animals at the time of slaughter and during transport.

An effective food safety programme requires a comprehensive institutional effort and important investments from the side of private industry. To

accept such a challenge, the private sector requires guarantees that can be provided by the State in the form of transparent enforcement of the available food and veterinary laws, and strategic support to the private sector to allow it to comply with the required reforms.

<http://dx.doi.org/10.20506/bull.2017.3.2704>

References

1. European Commission (2014). – Albania. Bilateral relations in agriculture. Available at: http://ec.europa.eu/agriculture/bilateral-relations/pdf/albania_en.pdf.
2. OIE PVS Evaluation Report of the Veterinary System of Albania, 2–13 June 2014.



Food and Agriculture
Organization of the
United Nations



WORLD ORGANISATION
FOR ANIMAL HEALTH



World Health
Organization

The Tripartite's One Health collaboration



Working on the strategic paper at the 23rd Tripartite Annual Executive Coordination Meeting in February 2017, WHO Headquarters, in Geneva, Switzerland (L to R: Matthew Stone, Deputy Director General, International Standards and Science, OIE; Awa Aidara-Kane, Coordinator, Department of Food Safety and Zoonoses, WHO; Ren Wang, Assistant Director-General, Agriculture and Consumer Protection Department, FAO; Henk Jan Ormel, FAO; JoAnne Freeman, Facilitator, SWIMupstream; J. Lubroth, Chief Veterinary Officer, Animal Health Service, FAO)

The FAO, OIE and WHO (the Tripartite) have recently undertaken a strategic refreshment of priorities within their continuing commitment to provide multi-sectoral collaborative leadership in addressing health challenges.

The Tripartite's One Health collaboration reflects a long-standing and successful partnership that applies an interdisciplinary approach to the complex public, veterinary and ecosystem health challenges facing the world today. But every successful strategy and partnership needs to maintain its fitness for purpose in a risk landscape that is forever changing.

In 2010, the Tripartite formally explained its collaboration to address health risks at the human–animal–ecosystems interface. The Concept Note entitled: 'Sharing responsibilities and coordinating global activities to address health risks at the human–animal–

ecosystems interfaces' [1] was distributed during the International Ministerial Conference on Animal and Pandemic Influenza, held in Hanoi, Vietnam, from 19 to 21 April 2010.

Since that time, this document has served as the basis for

collaboration among the three organisations. In 2011, this cooperation led to the identification of three priority technical topics at a High-Level Technical Meeting to Address Health Risks at the Human–Animal–Ecosystems Interfaces [2] in Mexico, organised





Left to right: François Caya, Head of the Regional Activities Department, OIE; Bernadette Abela-Ridder, Team Leader, Director's Office/Neglected Zoonotic Diseases, WHO; Berhe Tekola, Director, Animal Production and Health Division, FAO; Renata Clarke, Team Leader, Food Safety, FAO

by the Tripartite, along with the United Nations System Influenza Coordination. The three topics identified were zoonotic influenza, rabies, and antimicrobial resistance (AMR), three high-priority representative examples in which cross-sectoral collaboration could offer increased efficiency and effectiveness.

Addressing these priority topics led to the development of a Global Action Plan against AMR; a Global Framework for the Elimination of Dog-Mediated Human Rabies; and the enhancement of zoonotic influenza global surveillance and information-sharing through the OFFLU network and with WHO experts, to improve the adaptation of flu vaccines to the current animal strains in circulation.

Through its collaboration, the Tripartite also developed a set of standard best practices for naming new human infectious diseases, with the aim of minimising unnecessary negative effects on nations,

economies, people, and animals [3]. Other topics also addressed by the Tripartite include zoonotic tuberculosis, Middle East Respiratory Syndrome – Coronavirus (MERS CoV), strengthening cooperation between the human health and animal health systems, and development of the synergistic capacity of health services.

The scope and breadth of the collaboration continue to grow. During the 23rd Tripartite Annual Executive Coordination Meeting in February 2017, the three organisations reconfirmed their commitment to addressing challenges through multi-sectoral collaboration in order to provide leadership in global health and food security. In this vein, the Tripartite has developed another document, complementing the Concept Note, entitled, 'The Tripartite's Commitment – providing multi-sectoral, collaborative leadership in addressing health challenges', which outlines topics for collaboration while maintaining the momentum that the Tripartite

has generated in other areas over the last few years.

As outlined in the document, these include:

- an Interagency Coordination Group for AMR, established by a declaration adopted by the United Nations Assembly
- the design and implementation of national capacity development programmes as a result of assessments
- strengthening and modernising early warning and surveillance/monitoring systems
- improving collaboration in foresight, preparedness and response to emerging, re-emerging and neglected infectious diseases
- using a multi-sector approach to address food safety challenges, and
- encouraging and promoting coordinated research and development to achieve a common understanding of the highest priority zoonotic diseases.

The broadening of the Tripartite's agenda recognises the increasing complexity of issues

that require a multi-sectoral approach and the expectation of the organisations' Members that the Tripartite will continue its

leadership role in setting the example for cross-sector collaboration.

<http://dx.doi.org/10.20506/bull.2017.3.2705>

References

1. Food and Agriculture Organization of the United Nations (FAO), World Organisation for Animal Health (OIE) & World Health Organization (WHO) (2010). – The FAO–OIE–WHO Collaboration: a tripartite concept note. Sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces, April 2010. Available at: www.oie.int/fileadmin/Home/eng/Current_Scientific_Issues/docs/pdf/FINAL_CONCEPT_NOTE_Hanoi.pdf.
2. Food and Agriculture Organization of the United Nations (FAO), World Organisation for Animal Health (OIE) & World Health Organization (WHO) (2011). – Proceedings of a High-Level Technical Meeting to address health risks at the human–animal–ecosystems interfaces, Mexico City, Mexico, 15–17 November 2011. Available at: www.oie.int/fileadmin/Home/eng/Media_Center/docs/pdf/00F9Fd01.pdf.
3. Fukuda K., Wang R. & Vallat B. (2015). – Naming diseases: first do no harm [letter]. *Science*, **348** (6235), 643. doi: 10.1126/science.348.6235.643.

For reference and to access the document please visit:
www.oie.int/2017tripartite

New cooperation agreements

On 26 May 2017, during the 85th General Session, the OIE World Assembly of Delegates approved the terms of the Memoranda of Understanding between: the OIE and HealthforAnimals (Resolution No. 11), and the OIE and the Global Alliance of Pet Food Associations (GAPFA) (Resolution No. 13); and the terms of the Agreement between the OIE and the Pan American Association of Veterinary Science (PANVET) (Resolution No. 12), as well as their signature by the Director General on behalf of the OIE.



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Signature of a Memorandum of Understanding between the OIE and HealthforAnimals, September 2017

Cooperation agreements between the OIE and intergovernmental organisations and other international non-governmental organisations are available at:
www.oie.int/en/about-us/key-texts/cooperation-agreements/



miscellaneous

agenda

2018

January

Prince Mahidol Award Conference (PMAC 2018): 'Making the world safe from the threats of emerging infectious diseases'

29 January – 3 February
Bangkok, Thailand

GF-TADs Global Steering Committee Meeting

27–28 March
(to be confirmed)

10th meeting of the VICH Outreach Forum (VOF)

26–27 June
Belgium

www.oie.int/en/our-scientific-expertise/veterinary-products/vich-outreach-forum/

February

OIE Sub-Regional Conference on avian influenza in southern Africa

20–22 February
Harare, Zimbabwe

FAO/OIE/WHO Tripartite Executive Meeting

21–22 February
OIE Headquarters, Paris, France

April

Seminar of OIE National Focal Points for Veterinary Products

10–13 April
Mexico

July

AVMA Convention 2018

13–17 July
Denver, Colorado, United States of America
www.avma.org

March

Seminar of OIE National Focal Points for Communication

7–9 March
Asunción, Paraguay

Regional (Africa) Seminar on the implementation of OIE terrestrial animal health standards (in English)

20–22 March
Nairobi, Kenya

International Veterinary Vaccinology Network Meeting 2018

26–27 March
Nairobi, Kenya
www.vetvaccnet.ac.uk

May

34th World Veterinary Congress (WVC)

5–8 May
Barcelona, Spain
www.worldvet.org

September

28th Conference of the OIE Regional Commission for Europe

(date to be confirmed)
Tbilisi, Georgia

86th General Session of the OIE World Assembly of Delegates

20–25 May
Paris, France

October

2nd OIE World Conference on Antimicrobial Resistance

29–31 October
Morocco

June

II Zoonosis International Congress and IX Argentinian Zoonosis Congress

5–7 June
Buenos Aires, Argentina
www.congreso-zoonosis.com

November

24th Conference of the OIE Regional Commission for the Americas

19–23 November
Santo Domingo, Dominican Republic



HOUSE, MD... AND DVM?

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Keywords

Disease common to man and animal – House, M.D. – ‘One Health’ – Zoonosis.



The team working with Dr House at Princeton-Plainsboro Teaching Hospital. Picture source : www.wetv.com

I NTRODUCTION TO THE SERIES

House, M.D. is an American television medical drama that originally ran on the Fox network for eight seasons, from 2004 onwards. The lead character of Dr Gregory House (played by British actor Hugh Laurie) is a medical doctor, working at the fictitious Princeton–Plainsboro Teaching Hospital (or PPTH), on Prospect Street, in (the non-fictitious) town of Princeton, New Jersey, the United States of America (US). Generally anti-social, rude and grumpy, he is regarded as an exceptional diagnostician, if not a genius. He heads the Department of Diagnostic Medicine, a rather nonsensical name for a hospital department; rumour has it that the department was created to make him a head of department as he would be incapable of working under anyone else. This fact is well known to Dr Lisa Cuddy (*Lisa Edelstein*), Dean of Medicine and Chief Hospital Administrator, with whom he entertains what can best be described as a mutual love–hate relationship. For much of the series, his team of diagnosticians consists of Dr Allison Cameron (*Jennifer Morrison*), Dr Robert Chase (*Jesse Spencer*) and Dr Eric Foreman (*Omar Epps*). His only friend (and colleague) is Dr James Wilson (Robert Sean Leonard), Head of Oncology at the same hospital. Most episodes are structured around an ‘intro’ during which a person is seen falling victim



to an accident or disease event (usually a collapse or seizure) and is then referred to Dr House's team due to the complexity of their symptomatology.

Through repeated differential diagnosis, listing symptoms and possible causes on a whiteboard, then eliminating most of them, the team ends up arriving at the correct diagnosis. This generally occurs when the patient's condition becomes critical (in some cases the patient dies, but never without being diagnosed, in rare cases

during the post-mortem). Typically, the patient is misdiagnosed at least once and accordingly receives some treatments that are, at best, useless. This usually causes further complications, but – as the nature of the complications often provides valuable new evidence – eventually these complications help the team to diagnose the patient correctly. House often tends to arrive at the correct diagnosis seemingly out of the blue, often inspired by a passing remark made by another character [1].



S STATISTICS ON THE SERIES

Produced by Bryan Singer, best known for his 1995 crime thriller *The Usual Suspects*, this Emmy, Golden Globe and Screen Actors Guild winning medical drama debuted on Fox on 16 November 2004, and – 177 episodes later – aired its last episode on 21 May 2012, more than five years ago. *If you live in the United States and have cable, that is!* In most parts of the world, the series is still being broadcast today.

In the US alone, the series has been viewed by between 8.7 and 19.4 million people. According to Wikipedia, *House, M.D.* was in the top-ten series in the United States from its second to fourth seasons, with no less than 17 million viewers per episode. In 2011, the programme was the most widely discussed television series on Facebook. Distributed to 66 countries, it was the most-watched television programme in the world in 2008, with an audience of over 81.8 million worldwide, far surpassing the viewership figures of the leading TV dramas of the previous two years (*CSI* and *CSI: Miami*). The show was the third most popular programme on Canadian television in 2008 and that same year, it was the top-rated television programme in Germany [1]. The following year, it was the second most watched TV show in the world after *CSI*.

IMDb, the International Movie Database, rates the series at an exceptionally high 8.8 out of 10 [2] and the audience rating system of the movie review site Rotten Tomatoes rates it at a very high 96%, meaning that 96% of audiences gave the series a score of 3.5 stars (out of 5) or higher. Moreover, season 5 was rated by Rotten Tomatoes' critics at 100% on the 'Tomatometer' and season 6 at 86% [3].



Season 2, episode 7, 'Hunting' (Echinococcosis, fox hunting)

Picture source : <http://keywordsuggest.org>

OBJECTIVES, MATERIALS AND METHODS

The objective of this essay is not to verify the scientific or veterinary relevance of what is portrayed in *House, M.D.*, however tempting that may be. Instead it aims to try to understand the impact that the storylines involving human–animal interaction could have had on its viewers and the public in general, worldwide, given the abovementioned viewership and critical acclaim.

The 'materials and methods' consisted of watching all 177 episodes with the assistance of a notebook, and some of the better Wikipedia pages [4] and fan blogs [5, 6], to capture the final diagnosis, as well as some of the differential diagnoses and aggravating or potentially dissimulating conditions, such as HIV–AIDS immune suppression, pregnancy, drug abuse, autism, etc. Also recorded were the type of patient (infant, child, adolescent, adult or elderly person) and the final diagnosis (infectious, and chemical/toxic, genetic/autoimmune or oncological, all of which are non-infectious).

Events pointing to human–animal interaction in the short side-storylines often related to House's aversion to clinic duty, such as the case of *Ecthyma contagiosum* in a young woman, contracted from a donkey whilst rehearsing for a nativity play (season 4, episode 10) are not included in the final dataset. Also excluded are the many differential diagnoses mentioned in the main storyline, for example anthrax in the case of a young boy who turns out to be suffering from leprosy (season 1, episode 13). Also, non-infectious agents of animal origin — toxins, such as those implicated in tick paralysis (season 2, episode 16), toad egg toxicity (season 7, episode 1) or Spanish fly (cantharides) poisoning (season 7, episode 21) — were not considered.

The term 'animal-borne' refers to something carried or transmitted by not only mammals, birds and aquatic species, but also by invertebrates, such as (tsetse) flies, lice and fleas.

For the identification of what constitutes a zoonosis, not solely in relation to domestic animals, but also to wildlife, aquatic life and invertebrates, the author referred to the Pan American Health Organization (PAHO) handbook on zoonoses [9] but did not necessarily include all of the diseases mentioned in the handbook, as its scope includes 'communicable diseases common to man and animals' (i.e. pathological agents that infect both man and animal), but do not necessarily transmit from animal to man. An example in point is amoebiasis (*Entamoeba histolytica*).

BRIEF OVERVIEW OF MEDICAL CASE REPORTS

The series starts (in the pilot episode entitled 'Everybody lies') with a food-borne zoonosis, neurocysticercosis, caused by the consumption of undercooked ham, thus suggesting the ingestion of viable larval cysts in the meat. Unfortunately, this makes no epidemiological sense, as the consumption of infected pork, as per the lifecycle of the parasite, can only lead to the development of a tapeworm, *Taenia solium*. The neurological form of this disease, caused by cysts in the brain, can only be contracted by directly ingesting *T. solium* eggs through faecal contamination, either from other people, polluted water or the swine-related contamination of food. At best (or worst), the ham could have been contaminated during processing or packaging.



Another case of swine-related zoonosis, directly transmitted this time, occurs in season 4, episode 5: a case of eperythrozoonosis in a young man selling agricultural equipment to farmers. Infection by *Eperythrozoon suis* (or *Mycoplasma suis* as it is now classified) is a disease of swine which can be transmitted to humans through the manipulation of animals, animal fur, faeces and raw meat. The first recognised and confirmed human case of eperythrozoonosis worldwide was only reported in 1986 [8] and is not included in the 2003 reprint of the 3rd edition of the PAHO handbook on zoonoses [9]. Since the disease occurs in pigs and other farm animals in the United States [10], it would seem plausible that cases occur in humans, as an occupational hazard of farm-related workers as has been shown in countries like China [11].

In the case of (sexually-transmitted) sleeping sickness or human African trypanosomiasis (HAT), a disease exotic to the United States, it must be assumed that this was a case of *Trypanosoma brucei rhodesiense* if it is to qualify as a zoonosis, West African sleeping sickness, caused by *T. b. gambiense* having little or no relation to animal reservoirs. The vector, of course, in both cases is an animal, the tsetse fly (*Glossina* spp.), but, again, this was allegedly a case of direct human-to-human transmission. Indeed the World Health Organization states that transmission of the parasite through sexual contact has been documented [12].

Then there's the case of the paraplegic young man, with his guide dog. No zoonosis this time, but a case of strongyloidiasis, caused by a strictly human nematode (roundworm) called *Strongyloides stercoralis*. Treatment with ivermectine fails to improve the man's condition and the diagnosis of strongyloidiasis is sidelined to the status of differential diagnosis, until the patient eventually dies and post-mortem examination reveals that it was indeed strongyloidiasis. Minutes later, his dog too dies, the assumption being that the patient, rather

than taking the ivermectine pills himself, fed them to his dog. The dog, infested with the heartworm *Dirofilaria immitis*, suffered a cardiac post-adulticide thromboembolism due to the massive release of dead adult *Dirofilariae* into its bloodstream. There is a lot to say about what is scientifically wrong with this story, but that, again, is not the point. The link between man and animal in this case is correct: some drugs used in the treatment of human disease are the same as in veterinary science.

Other ailments would appear exotic, until one consults the US Centers for Disease Control and Prevention (CDC) statistics [13] that confirm that a few cases of bubonic plague (*Yersinia pestis*) still occur in the United States every year. The reservoir for this disease, as the narrative in season 2, episode 18, nicely demonstrates is a rodent (prairie dogs it is assumed in this case), with onward transmission to fleas, domestic dogs (bought in the southern United States) and a man. A similar case occurs in season 3, episode 4, when an autistic child is suspected of all kinds of neurological problems until the child's sandpit and his appetite for substances that are largely non-nutritive, such as sand in this case (eating disorder, pica), is found to be the cause of an infection with raccoon roundworm (*Baylisascaris procyonis*).

The portrayed case of rabies, usually caused by bat bites in the Americas, and the case of (Ixodes tick-borne) Lyme disease (*Borrelia burgdorferi*), a bacterial zoonosis, for which several wildlife species act as a reservoir [14] are textbook scenarios. So is the case of echinococcosis in a father-son duo of avid fox hunters. The disease is caused by the oral ingestion of *Echinococcus multilocularis* eggs from hunted carnivores, such as foxes, usually through faecal contamination of tissues at slaughter. It is therefore regarded as an occupational hazard (e.g. for trappers, hunters and veterinarians), leading to alveolar hydatidosis with cysts most often located in the liver [9].

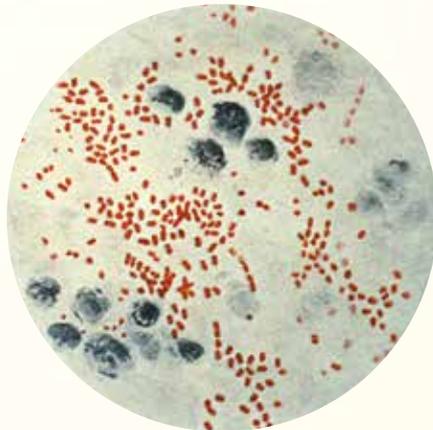


Table I

Diagnostic details of illnesses resulting from human–animal interactions in *House, M.D.* episodes, including the disease name, causal agent and (likely) source of the infection/infestation (in the programme)

Rank	Season	Episode	Episode title	Final diagnosis	Causal agent	Source	Date of broadcast	Viewers in the United States of America (millions)
1	1	1	'Everybody lies' (pilot)	Neurocysticercosis	<i>Taenia solium</i>	Pork ham	16 November 2004	7.05
7	1	7	'Fidelity'	Sleeping sickness	<i>Trypanosoma brucei rhodesiense</i> *	Sexual transmission	28 December 2004	6.91
10	1	10	'Histories'	Rabies	<i>Lyssavirus (Rhabdoviridae)</i>	Bats	8 February 2005	14.97
17	1	17	'Role model'	Toxoplasmosis	<i>Toxoplasma gondii</i>	Unspecified	12 April 2005	15.04
21	1	21	'Three stories'	Repeated dog bites	<i>Streptococcus spp.</i>	Aggressive dog	17 May 2005	17.68
25	2	3	'Humpty Dumpty'	Psittacosis	<i>Chlamydia psittaci</i>	Cock fights	27 September 2005	13.37
29	2	7	'Hunting'	Echinococcosis	<i>Echinococcus multilocularis</i>	Fox (hunting)	22 November 2005	14.72
36	2	14	'Sex kills'	Brucellosis	<i>Brucella melitensis</i>	Sheep's milk cheese	7 March 2006	20.56
40	2	18	'Sleeping dogs lie'	Bubonic plague	<i>Yersinia pestis</i>	Dog (prairie dog)	18 April 2006	22.64
50	3	4	'Lines in the sand'	Raccoon roundworm	<i>Baylisascaris procyonis</i>	Faeces (sandpit)	26 September 2006	14.52
60	3	14	'Insensitive'	Fish tapeworm	<i>Diphyllobothrium spp. (D. latum)</i>	Trout (fishing)	13 February 2007	25.99
73	4	3	'97 seconds'	Strongyloidiasis **	<i>Strongyloides stercoralis</i>	Beach (Thailand)	9 October 2007	18.03
75	4	5	'Mirror mirror'	Eperythrozoonosis	<i>Mycoplasma suis</i>	Pig (farms)	30 October 2007	17.29
77	4	7	'Ugly'	Lyme disease	<i>Borrelia burgdorferi</i>	Unspecified	13 November 2007	16.95
83	4	13	'No more Mr Nice Guy'	Chagas disease	<i>Trypanosoma cruzi</i>	Peace Corps	28 April 2008	14.51
105	5	19	'Locked in'	Leptospirosis	<i>Leptospira interrogans</i>	Rats	30 March 2009	12.51
106	5	20	'Simple explanation'	Visceral leishmaniasis	<i>Leishmania spp. (L. chagasi)</i>	Beach (Brazil)	6 April 2009	13.29
139	7	7	'A pox on our House'	Rickettsial pox	<i>Rickettsia akari</i>	Mice, cat (ship)	15 November 2010	10.77
140	7	8	'Small sacrifices'	Rhodococcosis	<i>Rhodococcus equi</i>	Horses	22 November 2010	9.24
148	7	16	'Out of the chute'	Bartonellosis	<i>Bartonella spp. (B. henselae)</i> *	Cat scratch	14 March 2011	10.41
150	7	18	'The dig'	Q fever	<i>Rickettsia burnetii (Coxiella burnetii)</i>	Raccoon	11 April 2011	8.93
165	8	10	'Runaways'	Ascariasis	<i>Ascaris suum</i> or <i>A. lumbricoides</i> *	Canal (Florida)	30 January 2012	8.73
170	8	15	'Blowing the whistle'	(Flea-borne) typhus	<i>Rickettsia typhi</i>	Rats (military)	2 April 2012	6.67

* Not specified in the series

** With alleged, related ivermectine treatment failure



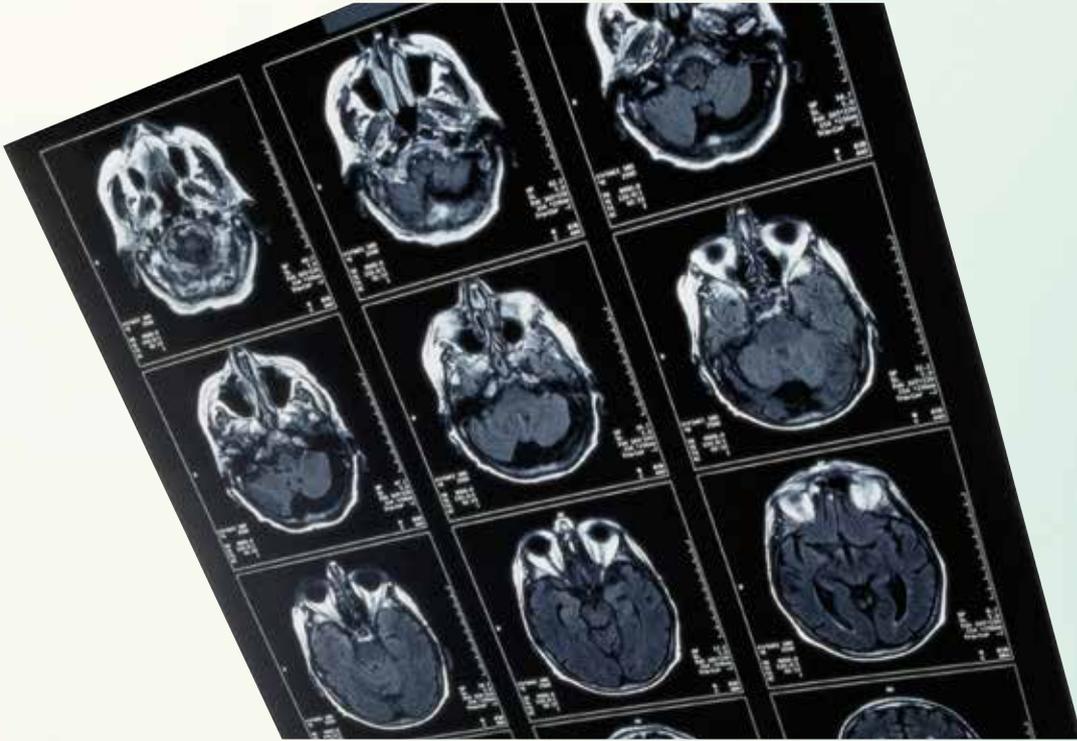


Table I completes the set of animal-related events in the series, most of which are zoonoses, but only a few are transmitted by domestic animals. Pigs (neurocysticercosis and eperythrozoonosis) and dogs (visceral leishmaniasis, bubonic plague) are most often implicated, whether directly or indirectly via vectors and food.

Most of the diseases are vector-borne (invertebrates, i.e. fleas, mosquitoes, sand flies and tsetse flies) with wildlife species (bats, foxes and raccoons) and/or urban rodents (prairie dogs, mice and rats) acting as reservoirs. The case of *Diphyllobothrium* spp. tapeworm completes the palette of species as it alerts the viewer to the

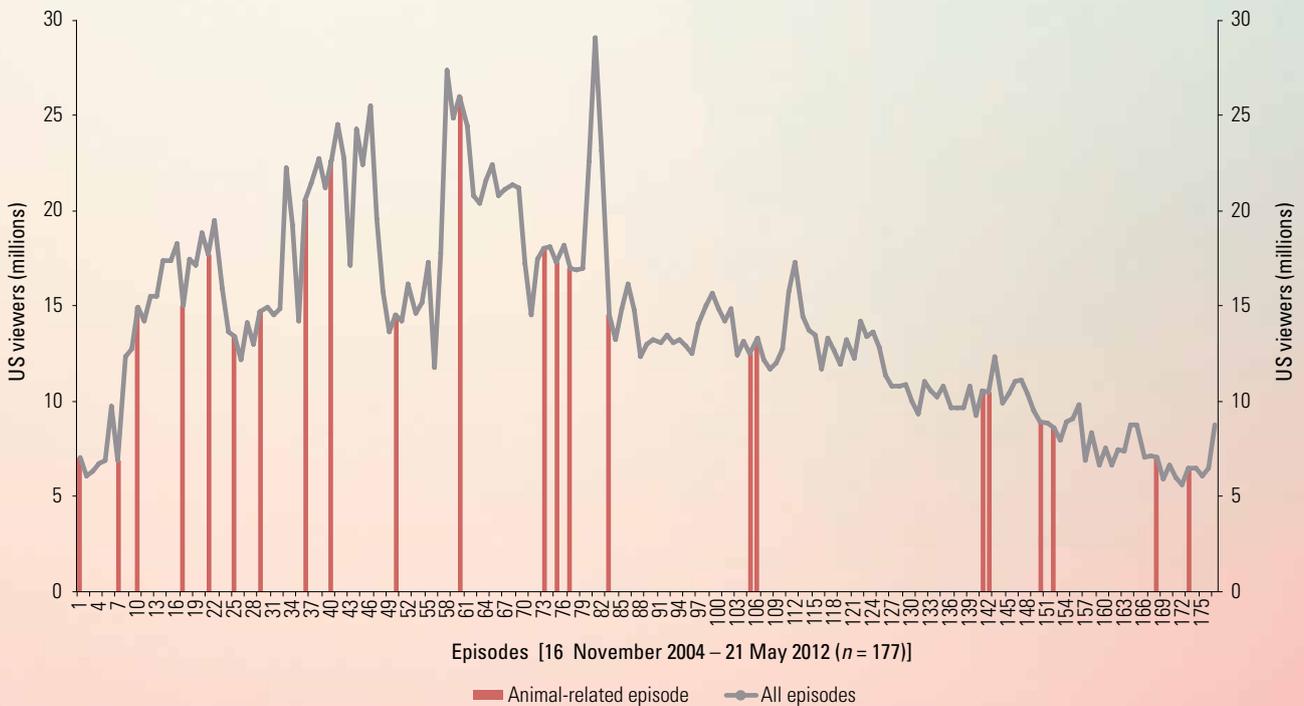


Fig. 1
Chronological overview of *House, M.D.*'s viewership in the United States of America from episode 1 to 177
 with animal-related episodes highlighted ($n = 23$)



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Season 3, episode 14, 'Insensitive' (fish tape worm, *Diphyllobothrium* spp.)

Picture source : <http://www.fanpop.com/clubs/mika-boorem>

fact that, in addition to the Jaws franchise, aquatic species can also cause harm to humans, such as through the consumption of (rainbow) trout. The competition of the parasite with its host for the absorption of vitamin B₁₂ is an excellent illustration of what it means to be a 'parasite' and leads House to arrive at the right diagnosis. This was also the most-watched episode of all 'zoonotic' episodes, with 25.99 million viewers in the United States alone.

RESULTS

Of the 177 episodes, 4 deal with the main characters only and do not lead to a diagnosis of any disease. Of the 173 remaining episodes, the majority deal with non-infectious disease causes, such as trauma, chemical intoxication, mineral deficiencies or imbalances, allergies and auto-immune diseases, hereditary diseases and genetic disorders, as well as cancers, whereas only 62 deal with infectious diseases (36%). Twenty-three (23) of these 62 episodes lead to the diagnosis of an *infectious* animal-borne disease (Fig. 1), either by direct transmission (e.g. Q fever in season 7, episode 18) or food-borne (e.g. brucellosis in season 2, episode 14). In one case, the animal link is the common treatment for a non-zoonotic disease occurring simultaneously in the owner (strongyloidiasis) of a dog (dirofilariasis), leaving 22 of the 62 episodes, or 35% considered deal with genuine zoonoses. This percentage

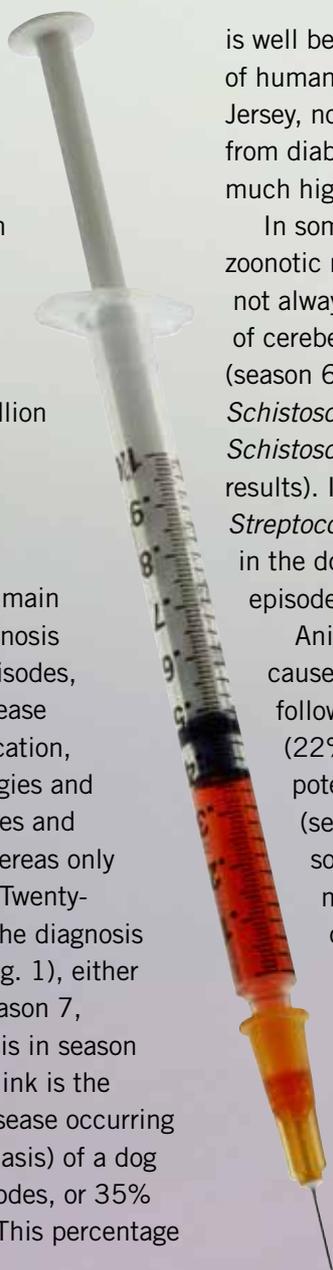
is well below the international consensus [15] that 60% of human diseases originate in animals, but this is New Jersey, not central Africa, and the chances of suffering from diabetes or getting run over by a truck are probably much higher than of suffering from tuberculosis.

In some cases, assumptions had to be made as to the zoonotic nature of the disease as the precise genus could not always be established. For example, in the case of cerebellar schistosomiasis delayed hypersensitivity (season 6, episode 16), usually attributed to *Schistosoma mansoni*, a strictly human, non-zoonotic *Schistosoma* species (which was excluded from the results). In other cases, an opportunistic agent such as *Streptococcus* spp. in dog saliva was clearly implicated in the dog-bite infection of the dog's owner (season 1, episode 21) and was included in the results.

Animal-related parasitic diseases are popular causes of ill health in the programme (43%), followed by bacterial (30%), chlamydial/rickettsial (22%) and viral (4%) diseases. In one case of a potential zoonotic fungal disease, histoplasmosis (season 3, episode 21), no link to an animal source was mentioned and the assumption was made that this was an environmental (soil-borne) case.

Only six of these diseases are listed by the OIE [16], and not always from a public health perspective:

- Infection with (*Brucella abortus*), *B. melitensis* (and *B. suis*) (*Terrestrial Animal Health Code [Terrestrial Code]*, chapter 8.4.)
- Infection with *Echinococcus multilocularis* (*Terrestrial Code*, Chapter 8.6.)



- Infection with rabies virus (*Terrestrial Code*, Chapter 8.14.)
- Infection with *Taenia solium* (porcine cysticercosis) (*Terrestrial Code*, Chapter 15.4.)
- Q fever (listed, but no *Terrestrial Code* chapter yet)
- Trypanosomosis (tsetse-transmitted) (listed, but no *Terrestrial Code* chapter yet).

DISCUSSION AND CONCLUSION

Did the series miss anything?

Many of the diseases portrayed in the series hardly ever occur in the United States today (and certainly do not end up in the same hospital) but have the merit, from a veterinary perspective, of illustrating the variety of ways in which animals can have an impact on a human's health, including through such common avenues as a dog bite or, differential diagnosis, a snake bite (season 1, episode 21).

Anthrax, botulism, listeriosis, avian influenza, tularaemia, severe acute respiratory syndrome (SARS), Ebola and even equine encephalitis (season 5, episode 13) and Lassa fever (season 6, episode 4) are mentioned by House or his team as possible causes of observed symptoms. Creutzfeldt–Jakob disease (CJD) too is mentioned (season 4, episode 4) but it must be assumed that this refers to classical CJD and not the zoonotic vCJD (variant). *Clostridium perfringens*, histoplasmosis and melioidosis (*Burkholderia pseudomallei*) are listed as zoonoses by PAHO [9], but animal involvement in the context of the storylines (season 2, episode 9; season 3, episode 21 and season 5 episode 9, respectively) is unclear.

Hence, little is left to the imagination, except maybe Nipah virus, which emerged somewhere in 1997–1999, or the latest MERS-CoV epidemic, none of which occurred even close to the United States, except as imported cases, for example the two US cases of MERS-CoV in May 2014 [17], long after the series ended in 2012. Likewise, by the time the now famous Hantavirus outbreak in Yosemite National Park



(California) occurred in August 2012, the series had already been completed.

Our imaginations were stretched to their limits though with the discovery of a sunken 17th century era Dutch slave ship in the Caribbean, and the subsequent symptomatology of a young girl who cut herself on a wine bottle from the ship when diving. This led to a federal (CDC) alert for smallpox, eradicated in 1980, which – based on the symptoms of the ship's dead cat described in the logbook of the ship's cook– turns out to be *Rickettsia akari* or rickettsialpox (season 7, episode 7).

Throughout the series, several differential diagnoses are based on the proximity of the patient to animals (cats, dogs, donkeys, horses, laboratory rats, pigeons, pigs, poultry, rabbits and raccoons) but are then routinely dismissed at a later stage. Referring to the list of important animal host categories for human zoonoses and emerging human zoonoses by Cleaveland *et al.* [18], only ungulates (i.e. cattle, sheep, goats and wild even-toed animals [mainly deer, elk and caribou]) seem under-represented in the context of the United States (the other under-represented category in the series are the primates, less relevant in the context of the United States).

So, does all of the above make the series a shining example of the 'One Health' approach?

No, it does not. At no point in the series is there a genuine attempt from any medical team to interact with members of the other relevant professions, environmental professions and least of all veterinarians, none of which appear in the line-up. Attention on the 'environmental' causes of patients' symptoms is what drives the team to go out and routinely break into a patient's house to search for environmental pollutants, toxins, narcotics and, yes, animal droppings...

But despite the fact that the series sometimes cuts scientific corners and uses often preposterous storylines (remember the *The Apprentice*-styled selection of a new team, one of whom was Dr Remy

Hadley known as 'Thirteen' [*Olivia Wilde*]...), the exposure this series has given what PAHO refers to as 'communicable diseases common to man and animals', is unparalleled. Gross global extrapolations based on the rather robust US audience statistics and limited data on international viewing audiences, indicate that between 2004 and 2012, between 38 million (towards the end of the series in 2012) and 102 million (at the height of its success, in season 3 in 2006) people tuned in to watch the programme every week. Many more continue to enjoy the series today, perhaps even adding to the tally as a result of this article. Assuming that not all of these TV viewers are from the medical profession and indeed could use some insight into the relationship between humans, animals, pathogens,

their vectors and the environment, the impact can only be qualified as enormous. The series outstripped any previous attempts to conduct global public awareness campaigns or to deliver extension messages through audiovisual means.

We therefore forgive Dr Gregory House's obnoxious behaviour; borderless arrogance; appalling and sexist treatment of women in general, and his female colleagues in particular; irresponsible drug-abuse (Vicodin); bottomless self-pity; stratospheric egoism; and widely libertarian interpretation of the concepts of loyalty and truth. But then again: 'everybody lies'.

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References

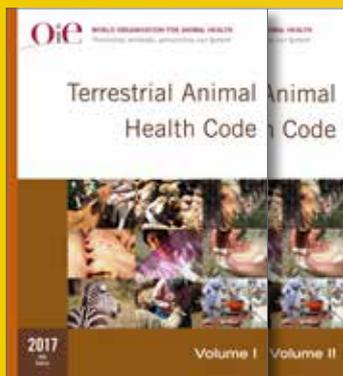
1. Wikipedia (2017). – House (TV series). Available at: [https://en.wikipedia.org/wiki/House_\(TV_series\)](https://en.wikipedia.org/wiki/House_(TV_series)) (accessed on 13 June 2017).
2. International Movie Database (IMDb) (2017). – Dr House (2004). Available at: www.imdb.com/title/tt0412142 (accessed on 7 August 2017).
3. Rotten Tomatoes (2017). – House (2004–2012): series info. Available at: www.rottentomatoes.com/tv/house (accessed on 7 August 2017).
4. Wikipedia (2017). – List of diagnoses from House (TV series). Available at: [https://en.wikipedia.org/wiki/List_of_diagnoses_from_House_\(TV_series\)](https://en.wikipedia.org/wiki/List_of_diagnoses_from_House_(TV_series)) (accessed on 7 August 2017).
5. Polite Dissent (2017). – HOUSE Medical Reviews. Available at: www.politedissent.com/house_pd.html (accessed on 3 May 2017).
6. Wikia (2017). – House Wiki: Diseases. Available at: <http://house.wikia.com/wiki/Category:Diseases> (accessed on 13 June 2017).
8. Puntaric V., Borčić D., Vukelic D., Jeren T., Burek V., Wikerhauser T. & Richter B. (1986). – Eperythrozoonosis in man. *The Lancet*, **328** (8511), 868–869. doi: 10.1016/s0140-6736(86)92910-7.
9. P.N. Acha & B. Szyfres (2003). – Zoonoses and communicable diseases common to man and animal, 3rd Ed., Scientific and Technical Publication No. 580, three volumes, 1186 pp. Pan-American Health Organization (PAHO)/World Health Organization (WHO), Washington D.C.
10. World Organisation for Animal Health (OIE) (2017). – WAHIS Interface. Available at: www.oie.int/wahis_2/public/wahid.php/Wahid/home/Home.
11. Huang D-S., Guan P., Wu W., Shen T-F., Liu H-L., Cao S. & Zhou H. (2012). – Infection rate of Eperythrozoon spp. in Chinese population: a systematic review and meta-analysis since the first Chinese case reported in 1991. *BMC. Infect. Dis.*, **12** (1). doi: 10.1186/1471-2334-12-171.
12. World Health Organization (WHO) (2017). – Trypanosomiasis, human African (sleeping sickness). Available at: www.who.int/mediacentre/factsheets/fs259/en/ (accessed on 7 August 2017).
13. US Centers for Disease Control and Prevention (CDC) (2017a). – Maps and statistics: plague in the United States. Available at: www.cdc.gov/plague/maps/index.html (accessed on 7 August 2017).
14. Quammen D. (2012). – Spillover: animal infections and the next human pandemic. W.W. Norton & C, Inc., New York, 587 pp.
15. Taylor L.H., Latham S.M. & Woolhouse M.E.J. (2001). – Risk factors for human disease emergence. *Philos. Trans. R. Soc. Lond. B. Biol. Sci.*, **356** (1411), 983–989. doi:10.1098/rstb.2001.0888.
16. World Organisation for Animal Health (OIE) (2016). – Terrestrial Animal Health Code. Available at: www.oie.int/terrestrialcode (accessed on 3 May 2017).
17. US Centres for Disease Control and prevention (CDC) (2017b). – Middle East Respiratory Syndrome: MERS in the US. Available at: www.cdc.gov/coronavirus/mers/us.html (accessed on 7 August 2017).
18. Cleaveland S., Laurenson M.K. & Taylor L.H. (2001). – Diseases of humans and their domestic mammals: pathogen characteristics, host range and the risk of emergence. *Philos. Trans. R. Soc. Lond. B. Biol. Sci.*, **356** (1411), 991–999. doi:10.1098/rstb.2001.0889.



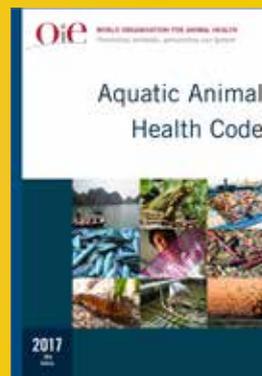
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