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## REPORT OF THE MEETING OF THE OIE *AD HOC* GROUP ON VETERINARY EDUCATION

Paris, 11-13 January 2012

The meeting of the OIE *ad hoc* Group on Veterinary Education (the *ad hoc* Group) was held at the OIE Headquarters in Paris (France) from 11 to 13 of January 2012. A list of participants to the meeting may be found at [Annex I](#) and the adopted agenda at [Annex II](#).

### Meeting with Dr Vallat, Director General of the OIE

Dr Bernard Vallat joined the Group for a discussion of achievements and priorities for future work.

He welcomed all members and observers and thanked the Group for its ongoing work on behalf of the OIE. Dr Vallat noted that the 'public good' component of veterinary services is essential to obtain sustainable financial support for veterinary education. He explained that Members have requested guidance from the OIE on the minimum core curriculum for training veterinarians. The goal is to ensure that the veterinary profession continues to play a critically important role with benefit to society. It is not the objective of the OIE to accredit veterinary education establishments (VEEs). Rather, the OIE aims to identify the topics that should be addressed within the core veterinary curriculum. In addition to the global list, a part of the curriculum, perhaps 50%, will be tailored to specific national priorities.

Dr Vallat outlined his vision on promotion of the basic core curriculum. The first step is to develop recommendations that are supported by all OIE Members. The aim is not necessarily to produce a new *Terrestrial Animal Health Code (Terrestrial Code)* text. Rather, the recommendations could be published on the website in the form of OIE guidance to Members.

Dr Vallat explained that these recommendations will be used by the OIE and Veterinary Services of Member countries in work with governments and donors to promote the funding of twinning projects between VEEs in developed and developing countries, based on the OIE's very successful global Laboratory Twinning Initiative. The concept is to develop a framework for candidate and parent establishments to operate according to the principles of universality and flexibility.

Dr Saeb Nazmi El-Sukhon commented that it would not be sufficient in the longer term to provide a simple list of topics. The important distinction is in the manner of teaching the topics, the time allocated and so forth. He recommended that the OIE consider entering into direct contact with those responsible for curriculum development. Dr Vallat indicated that this level of detail would need to be addressed in twinning agreements, which would be the subject of agreement between parent and candidate VEEs, the OIE and relevant donors.

Dr Vallat also commented on some materials provided by the World Bank (WB) as background information to this meeting. He also noted that the OIE welcomes the support of the WB for strengthening veterinary education globally and supports the proposal for projects with developing countries of Eastern Europe and Asia. Dr Vallat considered that the World Veterinary Association role in assuring the quality of veterinary education should be more clearly recognised and supported. He restated that the OIE objective is to provide support for improving veterinary education globally, not to enter into competition with organisations and associations with a specific role in the accreditation of VEEs.

Dr Ron DeHaven thanked Dr Vallat for sharing this insight with the group. Dr DeHaven suggested that the 'Day 1 competencies' document would provide the basis for development of the core curriculum.

Dr Vallat noted that the OIE definition of veterinary services covers both the government and the private sector veterinarians. The concept of the basic core curriculum applies equally to those working in the private and the public sector. Of course, senior level veterinarians in the public sector will need additional training and recommendations on this point will be made in the document 'Post Professional and Continuing Education for Graduate Veterinarians'. Dr Vallat highlighted the importance of regional specificities in determining needs for veterinary education.

Dr Timothy Ogilvie noted the strong autonomy of universities and cautioned the OIE against developing standards, at least in the short term. He noted that VEEs are increasingly being asked to base their curricula on desired outcomes, i.e. attainment of competencies. Dr Vallat agreed with Dr Ogilvie that an outcome based approach was preferable to the traditional focus on hours studied in listed subjects. Dr Vallat noted that the debate on 'outcomes' versus 'inputs' arises also in connection with animal welfare standards and confirmed that the OIE policy is based on outcomes, not on input criteria.

## 1. Adoption of the Agenda

Dr DeHaven presented the draft agenda for the meeting. He indicated that the priorities for this meeting were to finalise the 'Day 1 competencies' document and to continue to progress the 'continuing education' document. In addition, the new OIE global initiative for Twinning of Veterinary Education Establishments (VEE) would be discussed. Last but not least, Dr DeHaven indicated that the Group would be asked to consider the development of a Core Curriculum.

## 2. Addressing Members comments - Revise document 'Minimum competencies expected of Day 1 Veterinary Graduates to assure the delivery of high quality national veterinary services'

The *ad hoc* Group worked through the Minimum competencies document ([Annex III](#)), modifying it as appropriate to address the written comments received from the OIE Animal Production Food Safety Working Group (APFSWG) and the Aquatic Animal Health Standards Commission (AAHSC).

Dr Sarah Kahn briefly outlined the work of the OIE AAHSC, which is developing a modified approach to the OIE PVS Tool for specific application to Aquatic Animal Health Services (AAHS). Dr Kahn indicated that the AAHSC has proposed for consideration of OIE Members a definition of 'aquatic animal health professional'. While veterinarians may not necessarily have a central role in AAHS in all countries, they should be involved in certain aspects, such as the prescription of veterinary drugs. With this in mind, the Group agreed to consider competence in aquatic animal health as an area of post-graduate specialisation, which could be addressed with the relevant document.

The *ad hoc* Group reviewed the comments provided by the APFSWG.

The Group did not agree to add basic information on global trends in food production, food trade and food security, as it considered that this would add text without adding relevant information.

The suggested replacement of 'clinical veterinary sciences' by 'clinical veterinary medicine' was not accepted. Dr DeHaven noted that this issue had been discussed at a previous meeting and that 'sciences' had been considered as the most appropriate term.

The Group considered that knowledge on zoning and compartmentalisation was more relevant as an advanced competency; appropriate text was added to point 2.3.4.

The Group discussed the APFSWG proposal to develop a new point 1.2.6.2. The risk-based approach to food control is clearly important. However, the Group considered that understanding these principles was more relevant as an advanced competency. The Group did not see a need to modify point 2.5. (Application of Risk Analysis).

The Group agreed to add 'risk based' in point 2.4.1.

The Group did not see a need to include reference to 'specialised monitoring programmes' in point 2.4.2., as the goal is to keep the document clear and simple.

The proposal to modify the text in point 2.5. was not accepted as the Group preferred to maintain the text taken from the *Terrestrial Code*. In the absence of a rationale for deleting the two sentences in the chapeau of point 2.5., the Group did not recognise a need to make modifications.

Following the APFSWG recommendation, the Group clarified point 2.5.1.

In relation to the recommendation to modify point 2.5.2. the Group was concerned that the proposed modification was too limiting – for example, it did not cover radiological or physical hazards. In relation to the recommendation to modify point 2.5.4., the Group did not agree that the proposed modification improved the text. The definitions of hazard identification, risk assessment, risk management and risk communication are those in the *Terrestrial Code* and the Group considered that it was useful for these definitions to appear in the Day 1 competencies document.

The group proposed that the final version of the document be put on the OIE website for guidance of Members. In future, the Code Commission may wish to consider including a reference to this document in Chapter 3.2. once adopted.

### **3. Review of draft document: Graduate and Continuing Education for Graduate Veterinarians**

Definitions were added to clarify the distinction between basic and advanced competencies. Day 1 veterinary graduates should have a mastery of all basic competencies and should have received an introduction to the advanced competencies. Basic competencies comprise general and specific competencies, the latter being directly related to the OIE mandate. For the advanced competencies, veterinary graduates need further education, via on the job training or specific post graduate training courses. The *ad hoc* Group modified the entire document to make this clear.

The *ad hoc* Group also included definitions for key terms used in the document, including 'Day 1 veterinary graduate' and 'competencies', the latter term including 'basic competencies' and 'advanced competencies'. It was agreed that inclusion of a definition of 'veterinary products' in the *Terrestrial Code* Glossary may be valuable.

A sentence was added to the introduction to highlight that, given the expanding scientific knowledge base and demands on the veterinary profession, it is essential that veterinarians be capable of accessing appropriate information sources.

Under 'Scope', the *ad hoc* Group added text to highlight the need for close collaboration between veterinary education establishments, national veterinary services and veterinary statutory bodies to ensure that veterinary education meets the needs of the country and, as appropriate, the region.

#### **Critical skills needed by senior level veterinarians in the Veterinary Authority**

The *ad hoc* Group worked through the document, making modifications based on the consensus views of members.

The examples that had been presented in the draft document were removed. Many such examples could be given but the Group considered that there was little to be gained by trying to list them all.

### **Discussion on the proposal to develop a core ('minimum') veterinary curriculum**

Drs Tjeerd Jorna and Etienne Bonbon outlined the EU approach to professional qualifications, which prescribes the subjects to be taught to health professionals, including veterinarians. While implementation by the VEE of the EU Member States may vary, there is nonetheless a minimum harmonised level of education which facilitates the movement of professionals within the EU.

Dr Aaron S. Mweene commented that there is a clear need for guidelines to African countries on the core veterinary curriculum. Dr Louis Joseph Pangui agreed that this would be a tool to help secure the support of governments and donors for improving the standard of veterinary education.

Dr El-Sukhon commented that it would not be sufficient in the longer term to provide a simple list of topics. The important distinction is in the manner of teaching the topics, the time allocated and so forth. He recommended that the OIE consider entering into direct contact with those responsible for curriculum development.

Dr Ogilvie reminded members of the discussion with the Director General, where it was clear that the competence of the graduate veterinarian is the key consideration rather than the specific subjects to be taught.

#### **4. Twinning project**

Dr Alain Dehove, OIE's World Animal Health and Welfare Fund Coordinator, joined the *ad hoc* Group on Day 2 to discuss matters related to Twinning Projects. He comprehensively explained to the Group Members that, in order to facilitate capacity building and networking, and to bring communities together, the OIE started to apply this concept in 2007 to laboratories to build expertise for the most important topics or animal diseases and zoonoses in priority regions, in direct support of the OIE's strategy to improve global capacity for disease prevention, detection, and control through better veterinary governance. Dr Dehove mentioned that each Twinning project links a parental establishment with a beneficiary establishment and that knowledge and skills are exchanged through this link over a determined project period.

Dr Dehove clarified that to support the OIE Laboratory Twinning programme relatively few documents are necessary: (i) a concept note, (ii) a guide on the preparation of twinning projects, (iii) a template agreement and (iv) a template budget for twinning projects. A very similar approach could be followed (and similar documents could be prepared) for a VEE Twinning Programme.

Dr Dehove mentioned the importance and the role of veterinary officers within the Veterinary Services (VS) for improving animal and public health and enhancing compliance with SPS and OIE standards, at the national, regional and international level. Twinning projects between Veterinary Educational Establishments (VEE) would indeed support these goals within the framework of the OIE PVS Pathway which looks for a sustainable improvement of national VS' compliance with OIE standards on the quality of Veterinary Services.

Dr Stephane Forman stated that the OIE PVS Pathway is recognised by the World Bank (WB) as the reference tool when investing on a project to strengthen VS within a country. He mentioned the document "Assessment tool for basic elements of a veterinary school" that is being developed by the WB and designed to provide the school and the evaluation team with an overview of the capacity and capabilities of veterinary education in the school.

The difference between assessment and evaluation was discussed. In response, Dr Dehove clarified that OIE does not have the intention to use VEE Twinning projects as a tool for evaluation, assessment or accreditation of VEE. An assessment tool is not required for the preparation of twinning projects. Indeed, this would create confusion between two distinct concepts, ie twinning as a means to build capacity; and the evaluation/assessment/accreditation of VEEs.

In accordance with the recommendations adopted by the OIE World Assembly of Delegates at the 79th General Session in May 2011, and based on the principles established under the successful Laboratories Twinning Programme, a draft document ‘OIE Guidelines on Twinning Projects for VEE’ had been prepared. These would be used in negotiation with donors to receive financial support for Twinning projects between VEE. Members of the *ad hoc* group were asked to provide comments on the draft Guidelines.

Dr DeHaven closed the meeting by acknowledging the special attendance of Dr Mweene and Dr Forman and by thanking the work of the Group in support of OIE’s Mandate to improve Veterinary Services, through education.

## **5. Future work**

The Group agreed to provide comments on the draft document ‘OIE Guidelines on Twinning Projects for VEE’ to Dr. Dehove by 1 March 2012. A revised draft will then be prepared and distributed to the Group by 1 April 2012. Utilizing this revised version of the Guidelines, the members will obtain feedback from relevant parties and submit further comments to Dr. Dehove by 1 June 2012. These comments will be considered by the Group at its meeting on 25-26 July 2012.

The Group also agreed to prepare a document to be used as a basis for Core Curriculum within VEE and including a reference to the “Day 1 Competencies” document and introductory comments for each subject identified in the Core Curriculum.

Additionally, each member of the group will submit a proposed list of topics/subjects to be included in a Core Curriculum, using the FVE document as a guide. This list should be submitted to Dr. Kahn by 1 May 2012 to enable consolidation of the lists and the preparation of draft introductory comments for each topic/subject proposed for inclusion in the Core Curriculum.

The *ad hoc* Group will continue to submit its reports to the Terrestrial Animal Health Standards Commission, with a view to obtaining the views of the Commission and the input of OIE Members on this important area of work.

## **6. Dates for next meeting**

It was agreed that the next meeting would take place at OIE Headquarters in Paris on 25-26 July 2012. Members agreed to inform the OIE International Trade Department of their availability.

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.../ Annexes



**MEETING OF THE OIE AD HOC GROUP ON VETERINARY EDUCATION  
Paris, 11-13 January 2012**

**List of participants**

**MEMBERS OF THE AD HOC GROUP**

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**Dr Ron DeHaven (Chair)**

Executive Vice President  
American Veterinary Medical  
Association  
1931 North Meacham Road  
Suite 100  
60173-4360 Schaumburg, IL  
UNITED STATES OF AMERICA  
Tel.: 847 285 67 75  
RDeHaven@avma.org

**Dr Saeb Nazmi El-Sukhon**

Professor of Microbiology  
Fac. Veterinary Medicine  
Jordan University of Science &  
Technology  
P.O. Box 3030  
22110 Irbid  
JORDAN  
Tel.: (962 2 720100 (ext. 22037)  
Mobile : 962 799247555  
Fax : 00962 2 7201081  
sukhon@just.edu.jo

**Dr Louis Joseph Pangui**

Directeur de l'EISMV  
Ecole Inter-Etats des Sciences et  
Médecine Vétérinaires (EISMV)  
BP 5077 Dakar Fann  
Dakar  
SENEGAL  
ljpangui@yahoo.fr

**Dr Brian G. Bedard  
(Apologies)**

Sr. Livestock Specialist, ECSSD,  
The World Bank, 1818 H Street NW  
(Mail: H5-503)  
Washington DC, 20433  
UNITED STATES OF AMERICA  
Office: 1-202-458-5301  
Mobile: 1-301-640-6863  
bbedard@worldbank.org

**Dr Tjeerd Jorna**

President, WVA  
Sydwende 52  
9204 KG Drachten  
THE NETHERLANDS  
t.jorna3@upcmail.nl

**Dr Froilán Enrique Peralta  
(Apologies)**

Decano, Facultad de Ciencias  
Veterinarias  
Universidad Nacional de Asunción  
km 11 Ruta Macal Estigarribia -  
Campus UNA  
San Lorenzo  
PARAGUAY  
Tel.: 595-21-585574/6  
decano@vet.una.py

**Dr Etienne Bonbon**

DG SANCO-D1  
Rue Froissart 101  
1040 Bruxelles  
BELGIUM  
Tel.: 32-2-2985845  
Fax: 32-2-2953144  
E-mail:  
etienne.bonbon@ec.europa.eu

**Prof. Pierre Lekeux**

Faculty of Veterinary Medicine  
bd de Colonster, 20,  
Sart Tilman (Bldg B42)  
4000 Liège  
BELGIUM  
Tel.: +32 4.366 40 37  
Mobile: +32 475 821152  
pierre.lekeux@ulg.ac.be

**Professor Timothy Ogilvie**

Dept of Health Management,  
Dean 1998-2008,  
Atlantic Veterinary College,  
University of Prince Edward Island,  
550 University Ave, Charlottetown,  
PEI C1A 4P3  
Tel.: (902) 620 5080 (phone)  
Fax: (902) 620 5053 (fax)  
Ogilvie@upe.ca

**Dr Dao Bui Tran Anh**

Lecturer of Veterinary Pathology  
Department  
Hanoi University of Agriculture  
Trau Quy – Gialam - Hanoi  
VIETNAM  
Tel.: +84-4- 38276346 Ext: 105  
Fax: +84-4- 38276 /554  
btadao@gmail.com  
btadao@hua.edu.vn

Annex I (contd)**OTHER PARTICIPANTS**

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**Dr Stephane Forman**

Livestock Specialist  
The World Bank,  
Agriculture and Rural Development, Africa Region  
P.O. Box 30577  
Hill Park Building  
Upper Hill  
00100 Nairobi, Kenya  
Mob. +254-7-16-15-46-14  
sforman@worldbank.org

**Professor Aaron S. Mweene**

Dean - School of Veterinary Medicine  
University of Zambia  
P.O. Box 32379, Lusaka 10101  
ZAMBIA  
Tel/Fax/:260-211-293727  
Mobile:260-979-390271  
asmweene04@yahoo.com

**OIE HEADQUARTERS**

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**Dr Bernard Vallat**

Director General  
OIE  
12, rue de Prony  
75017 Paris  
FRANCE  
Tel.: 33-(0)1 44 15 18 88  
Fax: 33-(0)1 42 67 09 87  
oie@oie.int

**Dr Sarah Kahn**

Head  
International Trade Department  
OIE  
s.kahn@oie.int

**Dr Mariela Varas**

Chargée de mission  
OIE  
m.varas@oie.int

**Dr Alain Dehove**

Coordinator of the World Animal Health and Welfare Fund  
OIE  
12, rue de Prony  
75017 Paris  
FRANCE  
Tel.: 33-(0)1 44 15 18 88  
Fax: 33-(0)1 42 67 09 87  
a.dehove@oie.int



**MEETING OF THE OIE AD HOC GROUP ON VETERINARY EDUCATION**  
**Paris, 11-13 January 2012**

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**Adopted agenda**

Day 1 (11 January 2012) Morning

- Welcome, adoption of the agenda, and introductory remarks
- Review Terms of Reference for *ad hoc* Group (to ensure final meeting addresses all charges)
- Discussion with the OIE Director General
- Review *Minimum Competencies* document developed in August 2011
  - Comments from the September 2011 meeting of the Code Commission
  - Comments from the October 2011 meeting of the Aquatic Animals Commission
  - Comments from the November 2011 meeting of the OIE Animal Production Food Safety Working Group
  - Comments from OIE Members submitted in the second semester of 2011
- Finalize *Minimum Competencies* document based on comments received

Day 1 (11 January 2012) Afternoon

- Begin review of draft document (working title: *Postgraduate Skills and Education Needed for Delivery of National Veterinary Services*) developed after August 2011 meeting that combines earlier documents developed by the *ad hoc* Group:
  - Critical skills needed by senior level veterinarians in the veterinary authority
  - Continuing education topics for private veterinarians who are conducting work for the Veterinary Authority
- Delivery methods and sources of continuing education

Day 2 (12 January 2012) Morning 9h30

- Refine and finalize draft document: *Postgraduate Skills and Education Needed for Delivery of National Veterinary Services*
- Review and finalize draft text that will be provided to Code Commission to capture key points of *Minimum Competencies* (and potentially *Postgraduate Skills*) document for insertion into the *Terrestrial Code* as deemed appropriate by the Code Commission (as per the report of the August 2011 meeting of the *ad hoc* Group; see section titled Future Work).

Annex II (contd)

Day 2 (12 January 2012) Afternoon

- Discussion items
  - Veterinary Education Twinning Project between the US Veterinary Education consortium (faculty from University of Nebraska/Lincoln, North Carolina State University, Pennsylvania State University, and University of Connecticut) and the Veterinary College of the Agrarian State University of Armenia (ASUA)
  - Development of a Day 1 curriculum and its application in developing countries
  - Funding to promote veterinary education in developing countries as a means to address gaps in Public Health

Day 3 (13 January 2012) Morning and Afternoon

- Conclude discussion items from 12 January 2012 and develop any recommendations to move forward through the Code Commission
  - Discussion of next/final steps
  - Summary of actions of *ad hoc* Group over its four meetings
  - Closing remarks and conclusion of the OIE *ad hoc* Group on Veterinary Education
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## MINIMUM COMPETENCIES EXPECTED OF DAY 1 VETERINARY GRADUATES TO ASSURE DELIVERY OF HIGH-QUALITY NATIONAL VETERINARY SERVICES

### Final Version

#### **Background**

Veterinarians in every nation are responsible for the delivery of national veterinary services- that is, services provided under the legislative framework and the auspices of the governmental authority of a given country to implement animal health to assure the health and wellbeing of animals, people and ecosystems. The term “Veterinary Services” refers to the OIE *Terrestrial Animal Health Code (Terrestrial Code)* definition, which includes both public and private components of the veterinary profession involved in the promotion of animal and public health as well as animal welfare.

National Veterinary Services should be able to meet standards adopted by each country, but should also be able to comply with appropriate international standards and recommendations, particularly those in the OIE’s *Terrestrial Code*. In delivering National Veterinary Services, veterinarians serve as an integral partner in the **One Health** effort—a collaboration of multiple disciplines working locally, nationally, and globally, to address critical challenges and attain optimal health for people, animals and the environment ([www.onehealthcommission.org](http://www.onehealthcommission.org)).

Although only some veterinarians will focus their careers on the delivery of national veterinary services, all veterinarians, regardless of their professional area of practice after graduation, are responsible for promoting animal health, animal welfare, veterinary public health, and food hygiene and food safety, act frequently as sub-contractors for National Veterinary Services and in many instances opt for career changes into National Veterinary Services. As such, veterinary education is a cornerstone to assure that the Day 1 veterinary graduate not only has received a level of education and training that ensures sound overall competencies, but also has the required knowledge, skills, attitudes and aptitudes to understand and be able to perform entry-level national veterinary service tasks that relate to the security and promotion of animal and public health. In addition, basic education that includes instruction in the minimum competencies will establish a basis on which those veterinarians seeking national veterinary service careers can build expertise through on-the-job training and quality postgraduate continuing education.

#### **Scope**

Taking into account the vast societal, economic, and political differences among OIE Member Countries, including the different existing veterinary education establishments accreditation schemes, this document sets ~~forth~~ out the competencies necessary for the Day 1 veterinary graduate to be adequately prepared to participate in National Veterinary Services at the entry-level.

While the minimum competencies outlined in this document are those relevant to the delivery of national veterinary services, no attempt is made to dictate in which specific course or during which educational year each competency should be taught. Indeed, it may be that many of the following competencies cross course boundaries and can be integrated across the curriculum in multiple courses. The document does not suggest how many credit hours of educational contact are required to teach each competency, as this might vary depending on the needs and resources of each country. Close collaboration between veterinary education establishments, national veterinary services and veterinary statutory bodies is encouraged in order to ensure the provision of veterinary education appropriate to the needs of each country. Education in the following minimum competencies during the course of each veterinary school’s curriculum will prepare the Day 1 veterinary graduate to promote global veterinary public health and provide an excellent base for advanced training and education for those veterinarians wishing to pursue a career in both public and private components of National Veterinary Services. Given the expanding scientific knowledge base and increasing demands on the veterinary profession, it is essential that graduates be competent in locating, accessing and using appropriate information sources. It is important to note that veterinary education includes not only undergraduate education but also postgraduate continuing education and on-the-job training. The authorities should bear in mind the importance of life-long learning to ensure the various competencies of veterinary graduates such as protecting animal and public health.

Annex III (contd)

Animal production, in particular the growing sector of aquaculture, is key to satisfy the growing global demand for food. Aquatic animal health programmes need to be strengthened and, to this end, the involvement of veterinarians with competence in aquatic animal health should be ~~promoted and~~ assured. Competencies in this document cover both terrestrial and aquatic animals. However, the aquaculture sector is not of equal importance to all countries. Therefore, veterinary education establishments should address competence in aquatic animal health as appropriate to the importance of the aquaculture sector in the country or region.

**Definitions**

- Competencies means:
  - knowledge: cognitive abilities, meaning mental skills
  - skills: ability to perform specific tasks
  - attitude: affective abilities, meaning feelings and emotions, and
  - aptitude: a student's natural ability, talent, or capacity for learning.
- Basic competencies means:
 

the minimum knowledge, skills, attitudes and aptitudes required for a veterinarian to be licenced by a Veterinary Statutory Body. This comprises general competencies, as well as specific competencies that directly relate to the OIE mandate.
- Advanced competencies means:
 

the minimum knowledge, skills, attitudes and aptitudes required for a veterinarian to work within the Veterinary Authority.
- Day 1 veterinary graduate means:
 

a veterinarian who has just graduated from a veterinary education establishment.

**Competencies**

The Day 1 veterinary graduate should have basic competencies and should have received an introduction to advanced competencies.

**1. Basic competencies****1.1. General competencies**

- 1.1.1. Basic veterinary sciences, which are normally taught early in the curriculum and are prerequisite to clinical studies.
- 1.1.2. Clinical veterinary sciences, which provide the competencies necessary to diagnose, treat and prevent animal diseases.
- 1.1.3. Animal production, which includes health management and economics of animal production.

**1.2. Specific competencies****1.2.1. Epidemiology**

Epidemiology is the study of factors affecting the health and illness of populations, and serves as the foundation and logic of interventions made in the interest of veterinary public health and preventive medicine.

Annex III (contd)

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.1.1. know and understand the general principles of descriptive epidemiology, its application to disease control and the ability to access and use appropriate information sources;
- 1.2.1.2. understand and participate appropriately in an epidemiological inquiry in case of occurrence of a reportable disease, including collection, handling, and transport of appropriate specimens or samples.

### 1.2.2. Transboundary animal diseases

Transboundary animal diseases (TADs) are epizootic diseases that are highly contagious or transmissible and have the potential to spread very rapidly irrespective of national borders. TADs agents may or may not be zoonotic, but regardless of zoonotic potential, the highly contagious nature of these diseases invariably impacts global economy, global trade and global public health. Examples of TADs include highly pathogenic avian influenza, rinderpest, classical swine fever and foot and mouth disease.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.2.1 identify the clinical signs, clinical course, transmission potential (including vectors), and pathogen associated with TADs;
- 1.2.2.2 describe the current global distribution of TADs or know where to find up-to-date distribution information;
- 1.2.2.3 use or explain the collection and handling of samples and the rationale for the use of appropriate diagnostic and therapeutic tools to prevent and combat TADs and pathogens;
- 1.2.2.4 understand regulatory implications of TADs and ~~their~~ pathogens (eg, the Official Veterinarian who should be contacted if an ~~TAD~~ epizootic pathogen is identified or suspected) and know where to find relevant up-to-date information.

### 1.2.3. Zoonoses (including food borne diseases)

Zoonoses are diseases or infections that are naturally transmissible from animals or their products to humans. Many food borne pathogens are zoonotic and most emerging human pathogens have an animal (livestock or wildlife) origin. As such, zoonoses have major implications for human health and trade in animals and animal products.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.3.1 identify the clinical signs, clinical course, transmission potential, and pathogen associated with common zoonotic and food borne diseases;
- 1.2.3.2 use or explain the use of current diagnostic and therapeutic tools for common zoonotic and food borne diseases;

Annex III (contd)

1.2.3.3 understand the implications of common zoonotic and food borne diseases for human health (e.g., how does the disease spread from animals to humans) and know where to find up-to-date information;

1.2.3.4 understand regulatory implications (e.g., the Official Veterinarian who should be contacted if a zoonotic pathogen is identified or suspected) of common zoonotic and food borne diseases and pathogens and know where to find up-to-date and reliable information.

#### 1.2.4. Emerging and re-emerging diseases

An emerging disease is a new infection resulting from the evolution or change of an existing pathogenic agent, a known infection spreading to a new geographic area or population, or a previously unrecognised pathogenic agent or disease diagnosed for the first time. A 're-emerging disease' is a resurgence in a defined time period and location, of a disease considered to have been eradicated or controlled in the past. Both emerging and re-emerging diseases have significant impacts on animal (naïve populations) and/or public health.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

1.2.4.1. define "emerging disease" and "re-emerging disease" and provide contemporary examples;

1.2.4.2. detect suspicious signs and report them to the relevant veterinary authority;

1.2.4.3. understand the reasons/hypotheses to explain the emergence and /re-emergence of diseases;

1.2.4.4. know where to find up-to-date and reliable information regarding emerging and re-emerging diseases.

#### 1.2.5. Disease prevention and control programmes

Disease prevention and control programmes, whether or not approved, managed or supervised by the veterinary authority, include movement controls, vaccination and treatment. Disease prevention and control programmes will be specific to each country or region and should comply with applicable OIE standards, as appropriate.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

1.2.5.1 describe established programs for the prevention and/or control of common zoonotic or contagious diseases or emerging/re-emerging diseases, to include animal identification and traceability and oversight by the relevant veterinary authority;

1.2.5.2 understand and participate in the implementation of contingency plans to control transboundary diseases, including humanely killing animals;

1.2.5.3 understand and participate in regular or emergency vaccination campaigns, as well as in regular test-and-cull/treat programmes;

1.2.5.4 explain the concept of "early detection system," which is defined as a system, under the control of the veterinary services, for the timely detection and identification of an incursion or emergence of diseases/infections in a country, zone or compartment;

Annex III (contd)

1.2.5.5 know which diseases of animals (including companion animals) require compulsory notification by the veterinarian to the ~~veterinary~~ prescribed national authority in order to mitigate disease transmission;

1.2.5.6 know where to find up-to-date and reliable information regarding specific disease; prevention and control measures, including rapid response mechanisms.

## 1.2.6. Food hygiene

Food hygiene means all conditions and measures necessary to ensure the safety and suitability of food of animal origin.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

1.2.6.1 understand and explain on-farm food safety practices;

1.2.6.2 participate in slaughter inspection: this includes ante-mortem, post-mortem and humane slaughter;

1.2.6.3 understand and explain the integration between animal health controls and veterinary public health: the role of veterinarians in conjunction with physicians, public health practitioners, and risk analysts to ensure safety safe food.

## 1.2.7. Veterinary products

Veterinary products means drugs, insecticides/acaricides, vaccines, and biological products used or presented as suitable for use to prevent, treat, control, or eradicate animal pests or diseases; or to be given to animals to establish a veterinary diagnosis; or to restore, correct or modify organic functions in an animal or group of animals.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

1.2.7.1 use common veterinary products in the appropriate manner, including appropriate record keeping;

1.2.7.2 explain and utilize the concept of drug withdrawal time as a means to prevent drug residues in products of animal origin meant for human consumption, and know how to find up-to-date and reliable information regarding specific withdrawal times;

1.2.7.3 understand common mechanisms leading to development of antimicrobial resistance in common pathogens;

1.2.7.4 know where to find and how to interpret up-to-date and reliable information regarding the link between use of antimicrobials in food animals and development of antimicrobial resistance in pathogens of human importance;

1.2.7.5 know the appropriate use of drugs and biologicals to ensure the safety of the food chain and the environment (e.g., proper disposal of biological waste).

Annex III (contd)

## 1.2.8. Animal welfare

Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter (when relevant), management, nutrition, humane handling, and humane slaughter/killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment. Veterinarians should be the leading advocates for the welfare of all animals, recognizing the key contribution that animals make to human society through food production, companionship, biomedical research and education.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.8.1 explain animal welfare and the related responsibilities of owners, handlers, veterinarians and others responsible for the care of animals;
- 1.2.8.2 identify animal welfare problems and participate in corrective actions;
- 1.2.8.3 know where to find up-to-date and reliable information regarding local, national and international animal welfare regulations/standards in order to describe humane methods for:
  - animal production;
  - transport;
  - slaughter for human consumption and killing for disease control purposes.

## 1.2.9. Veterinary legislation and ethics

Veterinary legislation is an essential element of the national infrastructure that enables veterinary authorities to carry out their key functions, including surveillance, early detection and control of animal diseases and zoonoses, animal production food safety and certification of animals and animal products for export. Furthermore, Veterinary Education Establishments' should teach ethics and value issues to promote high standards of conduct and maintain the integrity of the profession.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.9.1 have a general knowledge of the fundamentals of national veterinary legislation-and of specific rules and regulations governing the veterinary profession at the local, provincial, national, and regional level (in some countries this information may be delivered to the graduates by the Veterinary Statutory Body after graduation);
- 1.2.9.2 know where to find up-to-date and reliable information regarding veterinary legislation and the rules and regulations governing the veterinary profession in his/her own state, province, region and/or country;
- 1.2.9.3 understand and apply high standards of veterinary medical ethics in carrying out day-to-day duties;



Annex III (contd)

- 1.2.9.4 provide leadership to society on ethical considerations involved in the use and care of animals by humans.

## 1.2.10. General certification procedures

Certification means an official document, completed by an authorised veterinarian, for purposes of verifying the health or sanitary status of animals and animal products, respectively, most often prior to transport.

Veterinarians are responsible to certify the health status of an animal or herd in private practice or as an element of official certification.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.10.1. examine and monitor an animal or a group of animals with a view to certifying freedom from specified diseases or conditions according to established procedures;

- 1.2.10.2. fill out, sign and provide health certificates according to the national rules.

## 1.2.11. Communication skills

Effective communication skills are as important to success in veterinary medicine as are technical skills. In general, communication entails the exchange of information between various individual, institutional and public audiences for purposes of informing, guiding and motivating action. The application of the science and technique of communication involves modulating messages according to situations, objectives and target audiences.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.11.1 communicate technical information in a way that the general public can understand;

- 1.2.11.2 communicate effectively with fellow health professionals to exchange scientific and technical information and practical experience.

**2. Introduction to advanced competencies**

Mastery of these advanced competencies is not expected of Day 1 veterinary graduates. However, they should have a general awareness and appreciation of the following topics.

## 2.1. Organisation of Veterinary Services

Veterinary Services means the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and recommendations in the OIE *Terrestrial Code* and the *Aquatic Animal Health Code* in the territory. The Veterinary Services are under the overall control and direction of the Veterinary Authority. An objective in the delivery of national veterinary services is to bring a country, territory, or region in line with international standards in terms of legislation, structure, organisation, resources, capacities, and the role of the private sector and veterinary paraprofessionals.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.1.1. the delivery of National Veterinary Services as a global public good;

- 2.1.2. how Veterinary Services are organized within his/her own country/region (e.g., central and local levels, epidemiological networks);

Annex III (contd)

- 2.1.3. the function and authority of the National Veterinary Service within his/her own country/region;
- 2.1.4. how his/her country's National Veterinary Service agencies interact with veterinary services in other countries and international partners;
- 2.1.5. the relationship between private and public sector veterinarians in delivery of national veterinary services within his/her own country;
- 2.1.6. the essential need to evaluate the quality of Veterinary Services as provided for in the OIE PVS Pathway;
- 2.1.7. where to find up-to-date and reliable information should deeper knowledge be needed or desired.

Other learning objectives include understanding the following definitions:

- 2.1.8. **Veterinary Authority:** The governmental authority of a country, territory, or region that comprises veterinarians, other professionals, and paraprofessionals and with the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures, international veterinary certification, international standards and recommendations such as those in the OIE *Terrestrial Code*, and other relevant legislation related to animal and public health and animal welfare. The Veterinary Authority typically accredits or approves private-sector organisations, veterinarians, and veterinary paraprofessionals to deliver veterinary service functions.
- 2.1.9. **Veterinary Statutory Body** means an autonomous authority (typically at the national level) that regulates veterinarians and veterinary para-professionals.

## 2.2. Inspection and certification procedures

Inspection means examination and evaluation of animals and animal products by an authorized veterinarian prior to completing a certificate to document the health or sanitary status, respectively. Certification means an official document, completed by an authorised veterinarian, for purposes of verifying the health status of animals and safety of animal products.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.2.1. the processes used to assess the health status of animals and safety of animal products for the purpose of transport / export;
- 2.2.2. the process of ante and post-mortem risk-based inspection of animals, and of the inspection of animal products;
- 2.2.3. the drafting of health certificates.

## 2.3. Management of contagious disease

Prevention and control of contagious diseases, whether or not approved, managed or supervised by the veterinary authority, include movement controls, vaccination and treatment. Disease prevention and control programmes will be specific to each country or region and should comply with applicable OIE standards, as appropriate.

Annex III (contd)

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.3.1. the management of samples and the use of appropriate diagnostic and therapeutic tools;
- 2.3.2. tracing the source and spread of a disease;
- 2.3.3. monitoring and conducting initial surveillance of diseases, to include communication of epidemiological information to other public health practitioners;
- 2.3.4. the methods to:
  - identify and trace animals;
  - control movement of animals, animal products, equipment, and people;
  - quarantine infected and at-risk premises/areas;
  - humanely kill infected or exposed animals;
  - dispose of infected carcasses in an appropriate manner;
  - disinfect or destroy contaminated materials
  - zoning and compartmentalisation

#### 2.4. Food hygiene

Food hygiene means all conditions and measures necessary to ensure the safety and suitability of food of animal origin.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.4.1. the risk-based performance of slaughter inspection including ante-mortem, post-mortem, humane slaughter and hygienic dressing;
- 2.4.2. residue testing programmes;
- 2.4.3. the traceability of animal products;
- 2.4.4. sanitation at food processing plants, proper storage of processed animal products, in-home food storage and preparation safety, and health and cleanliness of all humans involved in the food chain from farm to fork.

#### 2.5. Application of risk analysis

Risk means the likelihood of the occurrence and likely magnitude of the biological and economic consequences of an adverse event or effect to animal or human health. The process of risk analysis involves hazard identification, risk assessment, risk management, and risk communication. The importation of animals and animal products involves a degree of risk to the importing country. Risk analysis as applied to importation provides the importing country with an objective and defensible method of assessing the disease risks associated with the importation of animals, animal products, animal genetic material, feedstuffs, biological products and pathological material using, particularly as a basis, relevant existing OIE standards.

Annex III (contd)

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.5.1. how risk analysis can be applied to assessment of risk of animal disease ~~related risks~~ and residues of veterinary drugs, including importation of animals and animal products and other related veterinary services activities;
- 2.5.2. how risk analysis can be used to ensure veterinary services adequately protect animal and human health;
- 2.5.3. where to find up-to-date and reliable information should deeper knowledge be needed or desired (e.g. the OIE *Handbook on Import Risk Analysis*);
- 2.5.4. the following risk analysis concepts:
  - hazard identification: the process of identifying pathogenic agents which could potentially be introduced in the commodity (e.g., food of animal origin);
  - risk assessment: evaluation of the likelihood and the biological and economic consequences of entry, establishment, and spread of a hazard within a territory;
  - risk management: the process of identifying, selecting, and implementing measures that can be applied to reduce the level of risk;

Annex III (contd)

- risk communication: the interactive transmission and exchange of information and opinions throughout the risk analysis process concerning risk; risk-related factors; and risk perceptions among risk assessors, risk managers, risk communicators, the general public, and other interested parties (e.g., stakeholders).

## 2.6. Research

Research means testing a hypothesis by appropriately designing and implementing a protocol, analysing the data, drawing conclusions and publishing the results.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for how translational and interdisciplinary research is essential to advance veterinary knowledge in the areas relevant to delivery of National Veterinary Services (e.g., zoonoses, transboundary diseases, (re-)emerging diseases, epidemiology, animal welfare, veterinary drugs and biologicals) so that future generations are better equipped to assure the health of animals, the public, and the ecosystem.

## 2.7. International trade framework

The framework on which regulations governing safe international trade in animals and animal products relies on the interaction and cooperation among several organisations as well as on the latest scientific advances so as to improve animal health world-wide and to promote and preserve the safety of the international trade in animals and animal products.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.7.1. the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (i.e. SPS Agreement);

Annex III (contd)

- 2.7.2. the role and responsibilities of the WTO standard setting organisations such as the OIE and the Codex Alimentarius Commission (CAC) in developing science-based current regulations governing international trade in animals and animal products;
- 2.7.3. current international regulations, that govern the safe trade of animals and animal products;.
- 2.7.4. the potential implications of transboundary diseases, including zoonoses, on international trade, e.g., does presence of a disease in one country potentially impede international trade of the affected animal species and its products, and knowing where to find up-to-date and reliable information regarding these implications. the process leading to certification of commodity quality and wholesomeness as it relates to sanitary matters for export;
- 2.7.5. the import control mechanisms and certification processes related to protection of the health of animals, the public, and the ecosystem in the importing country.

## 2.8. Administration and management

Administration can be defined as the universal process of organising people and resources efficiently so as to direct activities toward common goals and objectives, with management comprising planning, organising, staffing, leading or directing, and controlling an organisation or effort for the purpose of accomplishing a goal. In the broadest sense, administration consists of the performance or management of business or organisational operations and, thus, the making or implementing of major decisions, whereas management is the act of getting people together to accomplish desired goals and objectives.

Learning objectives for this competency include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.8.1. best practices in administration and management;
  - 2.8.2. the importance of excellent interpersonal communication skills, to include self-knowledge and knowledge of others;
  - 2.8.3. the importance of effective communication (public awareness and advocacy);
  - 2.8.4. where to find up-to-date and reliable information should detailed knowledge be needed or desired;
  - 2.8.5. the need to have proficiency in at least one of the official languages of the OIE.
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## POST-GRADUATE AND CONTINUING EDUCATION FOR GRADUATE VETERINARIANS TO ASSURE ONGOING DELIVERY OF HIGH-QUALITY NATIONAL VETERINARY SERVICES

DRAFT at January 2012

### *Background*

Only some veterinarians will focus their careers on the delivery of National Veterinary Services that is, services provided under the legislative framework and the auspices of the governmental authority of a given country to implement animal health programmes to assure the health and wellbeing of animals, people and ecosystems. For those veterinarians that do choose National Veterinary Services as a career direction, considerably greater expertise will be needed than that described in the *Minimum Competencies Expected of Day 1 Veterinary Graduates to Assure Delivery of High-Quality National Veterinary Services* document developed by the OIE *ad hoc* Group on Veterinary Education. In addition, private practice veterinarians who may act as sub-contractors for National Veterinary Services will need ongoing continuing education to ensure their knowledge and skills are up-to-date.

This guidance document provides a broad overview of methods of delivering higher-level educational modules or continuing education and training programmes focused on delivery of national veterinary services for both veterinarians in the veterinary authority as well as private practice veterinarians working under the auspices of the veterinary authority. In addition, essential knowledge and skills for veterinarians in the veterinary authority are outlined, as are topics for continuing education relevant to ensuring currency of knowledge and skills of private practice veterinarians delivering national veterinary services.

After Day 1 competencies have been assured through a rigorous educational program leading to the awarding of the first veterinary professional degree, those veterinarians who wish to focus their careers on the delivery of National Veterinary Services through a path leading to a senior veterinarian position in the Veterinary Authority will need to gain additional expertise in topics specific to the National Veterinary Services. This may be best done either through additional degree programmes or/and continuing education including on-the-job training. Assuring currency of knowledge of both private veterinarians and those working for the veterinary authority is best done through continuing education, which may be required for ongoing employment, promotion, or, in the case of private veterinarians, certification to allow ongoing subcontracting with the veterinary authority.

### *Definitions*

- The term “Veterinary Services” refers to the OIE *Terrestrial Animal Health Code (Terrestrial Code)* definition, which includes both public and private components of the veterinary profession involved in the promotion of animal and public health as well as animal welfare.
- Also from the *Terrestrial Code*, Veterinary Authority means the Governmental Authority of an OIE Member, comprising veterinarians, other professionals and para-professionals, having the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures, international veterinary certification and other standards and recommendations in the *Terrestrial Code* in the whole territory.
- For the purpose of this document “Senior-Level Veterinarian in the Veterinary Authority” means a veterinarian who has responsibility for staff and resources and has regulatory authority to implement regulatory programmes.

### *Post-Graduate Education Programmes*

- Research oriented
  - Masters of Sciences (MSc) or equivalent programmes
  - Combination of the first professional veterinary degree with either a MSc or a PhD

Annexe IV (contd)

- Specialisation oriented
  - Masters in Preventive Veterinary Medicine
  - Masters in Veterinary Public Health
  - Other specialised degree programmes or certification programmes, in addition to the first professional veterinary degree and supporting the National Veterinary Services in:
    - technical areas such as aquatic animals, wildlife, human and animal epidemiology and ecological systems
    - non-technical areas such as communication and economics.

***Continuing Education***

Education that is relevant to the National Veterinary Services activities comes from an approved source and includes certification for attendance or completion.

- Employer directed training

Employer directed training is of particular relevance to those veterinarians who focus their careers on National Veterinary Service; in other words, those veterinarians on track to become a “senior-level veterinarian” in the veterinary authority. The veterinary authority should have in place plans for training employees so that they are fully competent in the regulations and programmes overseen by that authority.

- Conferences

Examples include the conventions offered by international, national, or regional veterinary professional organisation, which often provide various continuing education tracks; specialty organisations, such as the American College of Veterinary Preventive Medicine or the International Aquatic Veterinary Medical Association which provide continuing education sessions focused on the organisations specific area of expertise; meetings sponsored by one or more organisations focusing on a specific topic; such as the June 2011 OIE Global Conference on Aquatic Animal Health Programmes.

- Distance learning

Distance learning encompasses any type of learning done via electronic means, to include webinars; online, self-directed courses; virtual meetings (either via teleconference or video conference); collaborative spaces

- Other sources

Notwithstanding the above, there are other valuable sources of continuing education including peer reviewed scientific journals, peer to peer professional interactions, both in person and virtual, and On-the-Job experience.

***Continuing Education Topics for Private Veterinarians Delivering National Veterinary Services for terrestrial and aquatic animals:***

- Emerging and re-emerging animal diseases
- Regulatory programmes for animal diseases, such as brucellosis, tuberculosis, bluetongue, infectious salmon anaemia and other diseases important to the region, to include detection, control, and eradication programmes.
- Food safety programmes at the primary production (farm) level



Annexe IV (contd)

- Slaughter inspection procedures
- Certification requirements and procedures
- Surveillance methods and programmes for transboundary diseases, including contingency plans
- Notifiable diseases: reporting procedures
- Animal welfare
- One Health issues including the collaboration between veterinarians and physicians, wildlife disease surveillance and control programmes and zoonotic disease prevention.
- Legislative regulatory and ethical framework of the functions delegated to private veterinarians
- Familiarisation with new diagnostic tools and laboratory methodologies, including sample collection, handling and submission
- Prudent use of veterinary products, both medicines (eg, antibiotics) and biologics (eg, vaccines).
- On-premise (eg, farms) biosecurity programmes
- Preparedness and response to emergencies (both natural [eg, earthquakes] and man-made [eg, nuclear plant accidents] events)
- Where to find up-to-date and reliable information
- Other topics relevant to the country or region

***Continuing education topics for Veterinarians working within the Veterinary Authority***

Additional details for these topics can be found in the “Day 1 competencies” document, Section 2, Introduction to advanced competencies (insert link to Day 1 Document).

- Organisation of veterinary services
- Inspection and certification procedures
- Management of contagious diseases including quarantine and movement restriction, compensation, vaccination and surveillance plans, etc.
- International trade framework
- Public law and regulation including administrative law, regulatory enforcement of health policy and justice
- Effective written and verbal communication in the primary language of Member Country to a variety of audiences (ie, public, legislative, professional audiences)
- Promoting the welfare and protection of animals requires a working knowledge of the relevant national legislation and means to implement these. This implies knowledge of the activities of relevant national organisations including NGOs.
- Animal food production systems and economics
- Knowledge of when risk assessment is indicated

Annexe IV (contd)

- Audit, checks and certification
- Food safety and hygiene including HACCP, antimicrobial resistance, residues and food processing techniques

***Additional continuing education topics for Senior Level Veterinarians working within the Veterinary Authority***

- Language training appropriate to the needs of the National Veterinary Services and taking into account the three official languages of the OIE (English, French, Spanish)
- Best practices in administration and management.
- Human resources management including being able to effectively and efficiently utilise employees and others to accomplish the mission and goals of the organisation.
- Obtaining and management of financial resources, including effectively securing financial resources and efficiently utilising these resources.
- Effective written and verbal communication in the primary language of Member Country to the media.
- Project management including project design, evaluation of feasibility, obtaining of funding, implementation including measuring progress against established milestones, evaluation and reporting of results.
- Welfare and protection of animals including working knowledge of the relevant international standards, the means to implement these, and the activities of relevant regional and international organisations including NGOs.
- Advocating for science-based policies in a given political and sociological context.
- Application of risk analysis: drafting of appropriate questions for risk assessment and proposing risk management measures.
- Risk communication to the public and other relevant audiences.
- International trade regulations and procedures.
- Role and activities of International organisations, and their relevant standards and applications i.e. WTO, OIE, FAO, Codex Alimentarius Commission (CAC) and WHO.
- Audit the efficiency and effectiveness of veterinary services, their organisation, programmes and activities.
- Knowledge and management of databases and other sources of information relevant to the veterinary services.
- Broad knowledge of ongoing research in the areas relevant to delivery of National Veterinary Services.

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