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de Sanidad  
Animal

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

Paris, 2–4 August 2011

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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 2 to 4 of August 2011. A list of participants to the meeting may be found at [Annex I](#) and the adopted agenda at [Annex II](#).

Dr Ron DeHaven asked all members to briefly present themselves and to make a short update on their activities relevant to the work of the *ad hoc* Group for the benefit of all members.

Several members had attended the Second Global Conference on Veterinary Education at Lyon (France) from 13 to 15 May 2011. Drs DeHaven and Timothy Ogilvie both commended the organisation of this conference, which was an excellent event within the overall framework of Vet2011, celebrating 250 years of the veterinary profession.

Dr Tjeerd Jorna presented an overview of the work of the World Veterinary Association (WVA), in the context of Vet2011, including the final event – the WVA Conference, which will be held in Cape Town (South Africa) in October 2011, at which time Dr Jorna will conclude his term as President of the WVA. He commented that the WVA has produced a Policy Paper on Veterinary Education and noted that several other organisations are working on similar statements. Dr Jorna advised that some planning was underway by the WVA for a global conference of veterinary statutory bodies, which would be done in collaboration with the OIE in 2012. He also commented on the WVA planning for a 3<sup>rd</sup> global conference on veterinary education to be held in 2013 in Asia. This will also be done in collaboration with the OIE.

Dr Alejandro Thiermann, President of the OIE Terrestrial Animal Health Standards Commission (Code Commission), was invited to the opening discussions in order to provide comments and advice on how strengthen the reference to the importance of veterinary education in the OIE *Terrestrial Animal Health Code* (*Terrestrial Code*), taking into account comments received from Members and Academic institutions. He also suggested that the *ad hoc* Group re-examine the list day 1 competencies and consider separating essential day 1 competencies from those that could be addressed post-graduation.

Noting that the OIE had received comments from several Members on the subject of the education of veterinarians in aquatic animal health, Dr DeHaven recommended that the Group's report be provided to both the Code Commission and the Aquatic Animal Health Standards Commission (Aquatic Animals Commission).

## Meeting with Dr Vallat, Director General

Dr Bernard Vallat held a short introductory meeting with the *ad hoc* Group.

Reflecting on the 79th OIE General Session, Dr Vallat stated that there is a strong consensus on the part of OIE Members to work on improving veterinary education globally. This objective is strongly supported by all countries. The celebration of Vet 2011 has given this work a good momentum, enabling the OIE with its partners, notably WVA, to raise awareness of this important work and secure support of Member Countries and international organisations. The work of the *ad hoc* Group is key to the OIE global initiative on improving veterinary education.

Dr Vallat noted that the recommendations of the *ad hoc* Group had been well received by the World Assembly of Delegates in May 2011. He advised that the objective is to have guidelines supported by the World Assembly. It is important to make appropriate reference to this work in the *Terrestrial Code* but not necessary for the guidelines to be incorporated in the *Terrestrial Code*. Some Members have expressed concerns about the proposed role of the OIE but it is clear that the OIE has no plan or intention to enforce standards for veterinary education in countries or regions.

Dr Vallat advised members of the *ad hoc* Group that there are now new and important challenges, such as the topic of aquatic animal health and production. The OIE held a first Global Conference on the contribution of aquatic animal health programmes to global food security in June 2011. Resolutions made at the conference recognised the key role of aquatic animal production to meet the growing global demand for food and that aquatic animal health programmes must be strengthened. Veterinarians are not currently the leading profession in aquatic animal health. This subject should be addressed by the *ad hoc* Group.

Animal welfare is also an important issue, now and in future. Given the links between animal health and animal welfare, the veterinary profession is well placed to take a leadership role and the OIE is taking steps to encourage a proactive approach to animal welfare by Veterinary Services. Dr Vallat asked the *ad hoc* Group to ensure that the “Day 1 competencies” document provide a basis for the profession to take a leading role in improving animal welfare.

Dr Vallat informed the *ad hoc* Group that the OIE, at the request of some Members, is launching an initiative for twinning between veterinary education establishments, based on the successful model established for veterinary laboratory twinning. The Group’s recommendations on day 1 competencies would be a central element in defining the objectives of twinning programmes on veterinary education. Dr Sarah Kahn undertook to provide a progress report on this item at the next meeting of the *ad hoc* Group.

### 1. Discussion on the May 2011 General Session

Dr DeHaven drew to the attention of members the discussion on *Terrestrial Code* Chapters 3.1. and 3.2. at the General Session held in May 2011. He noted that animal welfare has been the subject of discussion, both as to the definitions of ‘animal welfare’ and the appropriate references to include in the *Terrestrial Code*.

Dr Jorna commented that animal welfare is now addressed in veterinary education to a much greater extent than was previously the case.

Dr DeHaven commented that the subjects to be addressed in the Day 1 competencies should include not only basic knowledge of relevant animal welfare but also the capacity to advocate for humane treatment of animals, whether these are livestock, companion animals, or animals used in veterinary or medical research. The veterinary profession should be a leading advocate for animal welfare.

Dr DeHaven drew members' attention to the recommendation made by several OIE Members for the Group to address aquatic animal health in the Day 1 competencies. He noted that aquatic animal production would make an increasingly important contribution in future to the production of high quality protein and to food security in developing countries. While it may be beyond the scope of the Group to make specific recommendations on Aquatic Animal Health competencies, at least the topic of aquatic animal health should be mentioned in the Day 1 competencies document.

Dr DeHaven considered that the need for linkages between veterinary education establishments and regulatory veterinary medicine should be more clearly stated in the competencies document, ideally in the Executive Summary.

Dr Ogilvie identified a possible need for inclusion of a glossary of terms. It was agreed that where terms are defined in the *Terrestrial Code* glossary, the same definitions are used in this document. For terms that are not defined in the *Terrestrial Code*, the Group may need to develop definitions. The *ad hoc* Group decided to repeat some definitions for the sake of clarity, as the document should be clear on a 'stand alone' basis, for the reader who does not have a good knowledge of the *Terrestrial* and *Aquatic Codes*.

Dr DeHaven also noted the comment made by the Delegate for China (People's Republic) at the General Session and agreed that the *ad hoc* Group should address the topic of continuing education at this meeting.

The *ad hoc* Group made several modifications to the text to address the concern expressed by some Members that the OIE had made too many recommendations and/ or had included too much detail in its recommendations.

Dr Etienne Bonbon suggested that the recommendations on Day 1 competencies needed to be revised to highlight the distinction between Day 1 basic competencies and advanced competencies. This view was generally agreed.

Dr Sarah Kahn indicated that the main discussion at the General Session, reflecting Members' concerns, had concerned the proposal to include a reference in the *Terrestrial Code* [Article 3.2.14. sub-point 2 a (vi)] to the Day 1 competencies elaborated by the *ad hoc* Group. The OIE's approach to this work falls within the scope of the OIE PVS Pathway, a global initiative to improve good governance of Veterinary Services. The legal base for the OIE *PVS Tool for the Evaluation of Veterinary Services* (the OIE *PVS Tool*) is the *Terrestrial Code*. Dr Kahn explained that this was the basis for the Code Commission's proposal to add the reference in the *Terrestrial Code* to the Day 1 competencies. Resolution 34, which was finally adopted at the General Session, reflected a compromise to provide for continuation of the work of the OIE on Day 1 competencies, leaving the way open for appropriate references to be included in the *Terrestrial Code*. Dr Sarah Kahn indicated that the OIE would consider the best way to present the Day 1 competencies – perhaps a publication (in the form of a booklet) could be placed on the internet, available for downloading, as a means to help disseminate the information.

Dr DeHaven summarised his view that it is the Group's job to produce the best document possible, and that the Code Commission, in collaboration with the OIE Headquarters, should decide on the manner of presenting recommendations to National Delegates.

Dr Pierre Lekeux outlined the concerns of many academic staff, as follows: the veterinary graduate of today is under pressure to become competent on a tremendous number of topics. New topics are continually being added to the veterinary curriculum, but no topics are being removed. Day 1 veterinary graduates cannot be experts on all topics. Rather, they should have fundamental skills and knowledge and, importantly, an understanding and capacity to access appropriate and up to date sources of information. Group members generally agreed with this perspective.

The *ad hoc* Group noted the valuable contributions to this meeting, including the Draft Report of the American Veterinary Medical Colleges (AAVMC) Board ‘Roadmap for Veterinary Medical Education in the 21st Century: Responsive, Collaborative, Flexible’ (draft 31 October 2010) and the document provided by Prof. A.S. Mweene, on behalf of the Deans of veterinary establishments of southern and eastern Africa.

## **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 submitted by Members. Comments were received from Switzerland, the United States of America and the European Union. The *ad hoc* Group also considered comments from the Code and Aquatic Animals Commissions, the OIE Animal Welfare Working Group and the *ad hoc* Group on the Welfare of Laboratory Animals, as well as comments made by Members at the General Session in May.

### **Distinction between basic and advanced competencies**

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.

The *ad hoc* Group drafted new text on the importance of aquatic animal production to global food security and the need to ensure that Day 1 veterinarians possess relevant competencies, as appropriate to the importance of the aquaculture sector in the country or region.

The *ad hoc* Group considered that the need expressed by a Member for greater clarity regarding the role of veterinarians had already been addressed in paragraph 3, which states that veterinarians in the private sector and in government make a contribution towards achieving the goals of the national veterinary services.

The list containing the competencies (i.e. knowledge, skills, attitude and aptitude) was reordered to reflect a more logical sequence.

In response to Members’ comments, the *ad hoc* Group agreed that the disciplines taught under ‘basic veterinary sciences’ would normally include subjects such as anatomy, physiology, biochemistry and pharmacology. The disciplines taught under clinical veterinary sciences would normally include subjects such as pathology, clinical medicine and surgery. However, the *ad hoc* Group did not wish to list the relevant disciplines because 1) it would not be possible in the time given to make a complete listing; 2) this could be seen as a prescriptive approach that would not be appropriate to all OIE Members, and 3) it is not the mandate of the Group to advise on the general teaching of veterinarians. Instead, the Group added two sentences, as follows ‘Basic veterinary sciences are normally taught early in the curriculum and are prerequisite to clinical studies’ and ‘clinical veterinary sciences provide the competencies necessary to diagnose, treat and prevent animal diseases.’

The *ad hoc* Group decided that, according to the definitions proposed, the competencies relating to 1) animal identification and traceability; 2) animal welfare; and 3) food hygiene and safety should be included under ‘specific competencies’, because these subjects are specifically addressed in the OIE *Terrestrial* and *Aquatic Codes*. Accordingly, the *ad hoc* Group modified the ‘general competencies’ so that it covered only three sub-points – i.e. basic veterinary sciences, clinical veterinary sciences, and animal production.

The *ad hoc* Group also re-ordered the ‘specific competencies’ along more logical lines, as follows:

- epidemiology;
- transboundary animal diseases;
- zoonoses;
- emerging and re-emerging diseases;
- disease prevention and control;
- food hygiene and safety;
- veterinary products;
- animal welfare;
- veterinary legislation and ethics;
- certification procedures;
- communication skills.

The *ad hoc* Group discussed the issue of selection of undergraduates. Although a topic of major importance, the Group considered that it is beyond its scope to make any recommendations.

Throughout the document, phrases such as ‘as defined by the *ad hoc* Group’ were removed, to ensure a presentation consistent with OIE recommendations, rather than a record of the discussion of the *ad hoc* Group. The document was extensively modified, including re-ordering of many points, meaning that it was not feasible to show all modifications in the manner used for *Codes* texts. Noting that this document is not intended for adoption as a *Terrestrial Code* text and in light of the technical challenge, the *ad hoc* Group decided to present the document as a clean text. The Trade Department undertook to keep a record of all text changes, to facilitate any review that may be needed in future.

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

The *ad hoc* Group expanded the list of topics and included some additional detail to the document drafted at the December 2010 meeting.

### **3. Future work**

The *ad hoc* Group had a discussion with Dr A. Thiermann, President of the Code Commission, on the appropriate modifications to be considered to the *Terrestrial Code* relative to the day 1 competencies. Options discussed included the drafting of a new chapter for the *Terrestrial Code* or the addition of text to *Terrestrial Code* Chapter 3.2. Dr Thiermann and the *ad hoc* Group felt that the day 1 competencies document should not be included in total in the *Terrestrial Code* but that it could be valuable to include new text capturing the key points of that document. The Group agreed to develop a short text capturing the key points and to provide that to the Code Commission but considered that the decision on placement of this text, and any appropriate modifications to other parts of Chapters 3.1. and 3.2., would be the purview of the Code Commission.

Next steps will be to consider comments of the Aquatic Animals and Code Commissions (meetings in September and October, respectively), the OIE Animal Production Food Safety Working Group (meeting in November), and OIE Members' comments submitted to the OIE in the second semester of 2011.

#### **4. Dates for next meeting**

It was agreed that the next meeting would take place on 11–13 January 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, 2–4 August 2011**

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

Paris, 2–4 August 2011

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### Adopted agenda

#### Day 1 (2 August 2011) Morning

- Welcome, adoption of the agenda, and introductory remarks
- Discussion with the OIE Director General
- Revise AHG's work product: *Minimum Competencies Expected of Day 1 Veterinary Graduates to Assure Delivery of High-Quality National Veterinary Services*, taking into account comments from the OIE Code Commission, Members, and 79<sup>th</sup> General Session

#### Day 1 (2 August 2011) Afternoon

- Complete revisions to *Minimum Competencies* document
- Begin review and refinement of draft of critical skills needed by senior level veterinarians employed by the Veterinary Authority ("Senior Skills") developed during the December 2010 AHG meeting

#### Day 2 (3 August 2011) Morning

- Complete review and refinement of "Senior Skills" document
- Begin review, refinement, and potential combination of the two continuing education (CE) draft documents ("CE Delivery" and "NVS CE for Private Practitioners") developed during the December 2010 AHG meeting

#### Day 2 (3 August 2011) Afternoon

- Complete review and refinement of the CE documents
- Discuss and potentially develop recommendations to Code Commission regarding adoption of all AHG work products
  - Any changes to Code language needed?
  - Is a specific recommendation to OIE General Session delegates needed for adoption of *Minimum Competencies* document and other work products as guidance documents or as components of the PVS tools?

#### Day 3 (4 August 2011) Morning and Afternoon

- Review work completed during third meeting of the AHG and make any necessary final changes
  - Finalize recommendations to the Code Commission
  - Discussion of next steps
    - Code Commission to review in September 2011; sent thereafter to OIE Members as annex to the Code Commission Report; potential for Member comment to be considered by the Code Commission in January 2012
    - Need for a fourth meeting to review the Code Commission and OIE Member comments?
  - Closing remarks
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## **MINIMUM COMPETENCIES EXPECTED OF DAY 1 VETERINARY GRADUATES TO ASSURE DELIVERY OF HIGH-QUALITY NATIONAL VETERINARY SERVICES**

### ***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 and veterinary public health. Many will frequently act 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 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.

Annex III (contd)

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.

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.

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 pathogens 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 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.

Annex III (contd)

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;
- 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 unrecognized 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 or 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.

Annex III (contd)

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;
- 1.2.5.5. know which diseases of animals (including companion animals) require compulsory notification by the veterinarian to the veterinary 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 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.

Annex III (contd)

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;
- 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).

## 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.



Annex III (contd)

## 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;
- 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.

Annex III (contd)

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 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);
- 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.

Annex III (contd)

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.

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.

Annex III (contd)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 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.

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 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;

Annex III (contd)

- risk management: the process of identifying, selecting, and implementing measures that can be applied to reduce the level of risk;
- 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);
- 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.

Annex III (contd)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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