The OIE’s role in global harmonisation of veterinary training and qualifications in laboratory animal medicine

The use of animals is essential to some fields of medical research. The diverse guidance offered around the world on the appropriate qualifications of the laboratory animal veterinarian, and thus the potential variability in the quality of the veterinary medical programme at each institution, can result in tangible consequences for the animal’s welfare and for the research (3). These differences may have an impact on how the animals are obtained, the provision of adequate veterinary care, the provision of a suitable environment for the animals (during transport and at the institution), the assurance of an ethical review of the proposed work and appropriate ongoing oversight of the animal care and use programme.

Potential OIE involvement in the area of laboratory animal welfare was first proposed at the 2004 OIE Global Conference on Animal Welfare, and followed by detailed discussions with international organisations, such as the International Council for Laboratory Animal Science (ICLAS) and the International Association of Colleges of Laboratory Animal Medicine (IACLAM). These discussions identified a unique, added-value role for the OIE, as a global and well-established intergovernmental organisation with a commitment to science-based international standards, and led to the development of a chapter on the ‘Use of Animals in Research and Education’ in the Terrestrial Animal Health Code (web.oie.int/eng/normes/mcode/en_chapitre_1.7.8.htm). The OIE also has key strategic interests in the use of animals in research to advance and improve animal health and welfare and to support disease diagnosis and regulatory testing.

The OIE has assumed an international leadership role in providing guidance on the quality of veterinary education, with international conferences held in Paris in 2009 and Lyons in 2011. Work undertaken by an OIE expert group, the members of which include high-level representatives of academic and veterinary professional associations, resulted in the production of recommendations on the competencies that veterinarians should have at the time of graduation (‘Day 1 graduates’), to support Veterinary Services (both private and public) in meeting the OIE mandate.
Consideration of training requirements for veterinarians working in laboratory animal medicine and global harmonisation of relevant veterinary qualifications are thus very timely and fully compatible with the OIE global mandate: ‘to improve animal health, veterinary public health, and animal welfare worldwide’.

– to articulate methods for delivering appropriate training to veterinarians who wish to practise laboratory animal medicine
– to determine the breadth and detail of information to be provided to trainees
– to identify potential methods for assessing competency after training
– to evaluate means of ensuring accessibility to and translation of relevant information in laboratory animal medicine and science

It is most timely, therefore, that steps be taken to address the global harmonisation of veterinary training and qualifications in laboratory animal medicine, by organisations such as the OIE, IACLAM, ILAR and ICLAS

Shared concern about the need to harmonise veterinary qualifications in laboratory animal medicine prompted a collaborative effort by the OIE, IACLAM, and US National Research Council’s Institute for Laboratory Animal Research (ILAR) to address this issue, with the following goals:
– to identify the core knowledge and practical skills necessary for the laboratory animal veterinarian

To assess the veterinary community's perspective on global harmonisation of veterinary qualifications and training in laboratory animal medicine, focus group discussions were convened in association with three pivotal laboratory animal science meetings held during 2010 in separate geographic regions: the June meeting of the Federation of European Laboratory Animal Science Associations (FELASA) in Helsinki; the October meeting of the American Association for Laboratory Animal Science (AALAS) in Atlanta; and the November meeting of the Asian Federation of Laboratory Animal Science Associations (AFLAS) in Taipei. A total of 106 individuals, representing 27 countries, participated in the three focus groups. There was strong consensus among the participants that this topic was both timely and important.
Five key questions were posed to each focus group (based on 2), as follows:

1. What roles do laboratory animal veterinarians serve?
2. What are the core knowledge and practical work-related skills required for proficiency in each laboratory animal veterinary role?
3. What are acceptable educational approaches for imparting core knowledge in laboratory animal medicine?
4. What experiences are most suitable for instilling practical work-related skills in laboratory animal medicine?
5. How much training is required to attain proficiency in laboratory animal medicine?

Core competencies and skills

The participants of the three focus groups generally agreed that the laboratory animal veterinarian should, at a minimum:

- have a sound understanding of the anatomy, physiology, pathology, and behaviour of animals used in research and teaching
- be able to make, understand and respond appropriately to clinical observations and collect samples to aid in the diagnosis of problems observed
- be able to recognise and mitigate animal pain and distress
- be skilled in the diagnostic method and able to interpret diagnostic information, including evaluation of the available health history of the animal
- be able to safely and humanely restrain animals
- be able to administer anaesthesia and analgesia, understanding the most safe and efficacious agents to use for various laboratory animal species
- understand and implement aseptic technique for procedures, including surgery; and have basic surgical skills for common laboratory animals
- be knowledgeable in:
  a) moral and ethical issues surrounding the use of animals in research, testing and education
  b) tenets of the Three Rs (replacement, reduction and refinement)
  c) the regulatory framework for animal use of the country in which they are working.
The ladder approach to skills and knowledge development

Given the lack of consistency in the degree to which the veterinarian is recognised as having a necessary role in the use of animals in research and, thus, in the training made available to these professionals, it was determined that a ‘ladder’ approach to defining and implementing the appropriate training and experience was a practical and logical method for ensuring the provision of adequate veterinary care and oversight in an animal research programme.

Four levels of support were identified by the focus groups to ensure suitable veterinary qualification and experience:
- an experienced mentor (either on- or off-site) to provide advice and guidance
- on-the-job experience, supplemented with relevant continuing education
- a certificate, residency, diploma or degree programme in laboratory animal medicine; and
- specialty board certification.

An intrinsic part of selecting the training path best suited to the context of animal use is an understanding of the scope and scale of the programme to be supported. Considerations should include the range of species in use at an institution; the types of research, production, testing, or educational programs that use animals; the programme infrastructure (e.g. facility and equipment age, type and condition; the budget for equipment); regulatory requirements for oversight of the animals, research programme and facility; and availability of other specialists at the institution (e.g. occupational health professionals, radiation and biosafety officers, risk management personnel) who can contribute professional expertise.
Availability and accessibility of information

Global harmonisation of laboratory animal veterinary qualifications depends, in large part, on the availability and accessibility of information (e.g., on-line or print versions of journal articles, books, sample animal care and use programme documents, such as protocol review forms; videos or CDs, webinars, and conferences). Information that is available is not always accessible – for example, it may not be available in the veterinarian’s language of choice. Variability in access to relevant information and instructional tools impedes progress in raising the knowledge and skills of laboratory animal veterinarians in developing countries and undermines progress in harmonising standards of competency. A strategy should be developed to seek input from qualified veterinarians around the world to identify core references. This should be followed by efforts to ensure the accessibility (e.g., through translation) and availability of this information. For example, in collaboration with relevant partner organisations, the OIE could assist in providing direct access for its Delegates to a database of references, including legal and scientific documents, written in English and in other languages.

Looking forward

Global communication and networking among laboratory animal veterinarians are essential. With the increase in international research collaborations and international transportation of research animals (e.g., genetically modified mice), the standard of veterinary care – and thus the health and welfare of research animals – is especially crucial to the quality of the work and to ensuring an ethical approach to animal use. Global communication among veterinarians contributes to the harmonisation of skills, knowledge and understanding of veterinary training and qualifications in laboratory animal medicine, by organisations such as the OIE, IACLAM, ILAR and ICLAS.

References


More on this subject may be found in the full article published in the ILAR Journal (1).