

Disaster Medicine

Veterinary accreditation and some new imperatives for national preparedness

James G. W. Wenzel, DVM, PhD, DACT, DACVPM, and James C. Wright, DVM, PhD, DACVPM

Ever since 1907, private veterinary practitioners have been recognized by the USDA as having a role in assisting federal veterinarians in the control of animal diseases.¹ Today, the National Veterinary Accreditation Program provides a method for private veterinary practitioners to be accredited as representatives of the federal government for the purpose of assisting in regulatory activities. The responsibilities of accredited veterinarians are wide-ranging and include such regulatory activities as animal identification, inspection, and certification; control of animal movement; disease testing, reporting, and control; and foreign animal disease surveillance. Thus, federally accredited veterinarians serve an important role in national biosecurity and preparedness, especially in the areas of agriculture and public health.

With the recent publication of new imperatives for national preparedness, accredited veterinarians can be expected to play an ever larger role in the coming years. Thus, it is useful for veterinarians to understand the skills, knowledge, and aptitudes expected of accredited veterinarians and to be aware of the additional areas of knowledge likely to be expected in the future.

Skills, Knowledge, and Aptitudes of Accredited Veterinarians

A detailed list of skills, knowledge, and aptitudes useful for accredited veterinarians was published by the USDA in 1984.² This listing was developed by a task analysis working group consisting of veterinarians from the USDA and academia, with representatives from all of the colleges and schools of veterinary medicine in the United States at the time. The working group developed a list of 16 core competencies,³ defined as tasks that applicants for accreditation were expected to be able to perform (**Appendix**).⁴ Verbal commitments from the colleges and schools of veterinary medicine to teach these tasks to their students led, in 1992, to improvements in the accreditation process, with the result that it was transformed from an imperfect examination to a rigorous program requiring mastery of these core competencies.³ In June 2006, the USDA Animal and Plant Health Inspection Service proposed that this orientation be expanded to include information on the importance of enhanced awareness of foreign animal diseases and information on animal health emergency management.⁵

From the Departments of Clinical Sciences (Wenzel) and Pathobiology (Wright), College of Veterinary Medicine, Auburn University, Auburn, AL 36849.

Address correspondence to Dr. Wenzel.

ABBREVIATION

HSPD Homeland Security Presidential Directive

Training of Accredited Veterinarians

Because of the verbal commitments made by the colleges and schools of veterinary medicine in 1992, it has been assumed that training in accreditation-related subjects and skills has been incorporated in the veterinary curriculum. A review of training efforts at the 28 colleges and schools of veterinary medicine in the United States at the time, with an emphasis on training efforts relating to foreign animal disease recognition, was conducted in 2003, with the resultant report delivered to the USDA in 2004.⁶ Information was requested regarding whether topics or activities identified by the 1984 task analysis working group or included in lists of reportable diseases were included in the veterinary curriculum of each college or school. In addition, during visits to each college and school, meetings were held with faculty members to discuss such topics and curriculum content, along with student interests, teaching needs, and their own concerns. Meetings with students were requested if time and schedules allowed, and meetings were arranged with federal and state veterinary officials in most of the states in which colleges and schools of veterinary medicine were located. All such meetings were guided by the use of question outlines for consistency of data collection.

Results of this study⁶ indicated that all colleges and schools of veterinary medicine included information on foreign animal diseases in their curricula, but not always in a course specifically dedicated to exotic, foreign, or international animal diseases. Twelve of the 28 (43%) colleges and schools offered courses dedicated to the topic of foreign animal diseases, but these were core or required courses in only 7 of the colleges and schools and elective courses in the other 5. Fewer than 1 in 5 students selected such courses when they were elective. All 28 colleges and schools included required coursework on various aspects of the most important animal diseases identified by the World Organization for Animal Health (ie, the Office International des Epizooties "list A" diseases). Often, however, such diseases were addressed during a single core course, typically a course in basic taxonomy or organismal biology (eg, virology), and disease recognition and control were less often considered.⁶

The time in the veterinary curriculum devoted to 5 diseases for which regulatory control programs exist (ie, brucellosis, equine infectious anemia, pseudorabies, scrapie, and tuberculosis) was also investigated. In most colleges and schools, all 5 diseases and their causative organisms were addressed in the curriculum. However, the concept and practice of regulatory control programs were less often addressed, and students were provided little acquaintance with the official test forms. Many clinicians indicated that they thought that a smaller proportion of students than in the past had the opportunity to engage in control program procedures, such as properly identifying animals, vaccinating animals (eg, for brucellosis), performing tests, and completing the appropriate forms, because there was an ever decreasing demand for regulatory work involving these control program diseases. In essence, the success in disease control had reduced chances to practice activities related to them or teach students about them. This, combined with a lack of awareness on the part of students and, to some degree, instructors, means that many regulatory practices and issues are not addressed.⁶

As noted in this 2004 report,⁶ the Veterinary Information Network and Iowa State University, in collaboration with the USDA, University of California, Davis, and University of Georgia, have made available an on-line course entitled "Exotic and Emerging Diseases of Animals" through a grant from the USDA Animal and Plant Health Inspection Service. Students at 21 colleges and schools of veterinary medicine now have access to the course material.⁷

Findings contained in the 2004 report⁶ resulted in a number of recommendations to support the idea that the collective knowledge and understanding within the veterinary profession of regulatory matters and foreign animal diseases must be broadened and bolstered. Practitioners should renew and supplement their familiarity with the core competencies expected of accredited veterinarians, and educators should take the initiative in restoring a sense of importance to these skills. Academia remains the greatest source of new knowledge and a primary resource for the type of continuing education that may soon be required for continued accreditation.^{6,8} Critical skills in disease control, such as biosecurity measures and use of personal protective equipment, must become a part of lifelong learning for veterinarians. The USDA Animal and Plant Health Inspection Service has addressed many of these issues in its proposed changes to the National Veterinary Accreditation Program.³

The HSPDs

National preparedness and the ability to respond to all types of disasters, sometimes referred to as all-hazards capability, are the subject of a series of HSPDs released by the White House during 2003 and 2004. Veterinarians are expected to be first responders during some types of disasters, and 5 of the HSPDs are of particular interest to potential veterinarian first responders. In particular, HSPD-5 (Management of domestic incidents) states that "To prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and

other emergencies, the United States Government shall establish a single, comprehensive approach to domestic incident management."⁹ This HSPD calls for the Secretary of Homeland Security to develop and administer a National Incident Management System and National Response Plan that will dictate how responders work together.⁹ Several addenda, or "annexes," to the National Response Plan describe specific plans for various types of incidents, support functions, and emergency support. Emergency support function 8 is the public health and medical services annex, for which the primary agency is the US Department of Health and Human Services. In this annex, the USDA is recognized as the support agency responsible for, among others, animal disease control and food safety. The American Red Cross is also described as a support agency and is directed to refer concerns about animal health, welfare, and safety to AVMA contacts on a local, state, or federal level.¹⁰ It is through emergency support function 8 that the aid of Veterinary Medical Assistance Teams may be requested.

In HSPD-7 (Critical infrastructure identification, prioritization, and protection), specific agencies are directed to protect specific resources.¹¹ The USDA is responsible for protecting agriculture and food (ie, meat, poultry, and egg products). The US Department of Health and Human Services, which includes the CDC and the FDA, is directed to oversee preparedness related to public health, health care, and food other than those areas directed by the USDA. The Environmental Protection Agency is responsible for drinking water and water treatment systems.¹¹ Veterinarians are employed in all of these agencies, but a shortage of veterinarians in these critical areas has been predicted.¹²

Homeland Security Presidential Directive 8 defines first responders as those who, early in an incident, are responsible for protecting and preserving life, property, evidence, and the environment, including public health, clinical care, and other skilled support personnel.¹³ This indicates a primary role for veterinarians.

Responsibilities for, among other things, surveillance, mitigation, response and recovery, and training and research are highlighted in HSPD-9 (Defense of US agriculture and food).¹⁴ One specific item is the establishment of a national veterinary stockpile of drugs available for rapid deployment.¹⁴ Initial efforts have focused on developing outbreak scenario models; evaluating vaccines, supplies, and equipment for countermeasures; and providing economic analyses of factors contributing to the stockpile. Veterinary medicine plays a prominent role in this directive through its representation in and relationship with governmental agencies, especially the USDA. The role of accredited veterinarians in delivery of drugs and vaccines could be critical during emergency operations.

In HSPD-10 (Biodefense for the 21st century), a plethora of initiatives related to biodefense are outlined.¹⁵ Although this directive is primarily geared toward human risks, veterinarians play a prominent role because most organisms that could potentially be used as bioweapons are zoonoses, meaning that veterinarians would likely be among the first responders.

New Skills and Knowledge for Accredited Veterinarians

Traditional emergency response entities, such as firefighters, law enforcement officers, emergency medical services personnel, and hazardous materials personnel, have 4 or 5 levels of training in disaster response, beginning with awareness-level training, which indicates knowledge of the threat or capability. This is followed by operational-level training (able to operate with or in) and technical-level training (most capable and proficient), both of which typically require regular retraining and recertification. In addition to operational- and technical-level training, some organizations have specialist-level training for specific tasks or circumstances. Command and control training is directed at leadership and planning personnel.¹⁶

Because HSPD-5 dictates the use of a National Incident Management System, the foundation of which is the Incident Command System, it would behoove veterinarians potentially involved, even peripherally, in disaster response plans to understand the basic elements of the Incident Command System. In fact, personnel who seek training or credentials as emergency responders are required to have training in the Incident Command System and, recently, the National Incident Management System. Thus, in addition to those skills, knowledge, and aptitudes expected of accredited veterinarians in the past, the HSPDs and the changing global circumstances that prompted them suggest that veterinarians should have at least awareness-level training of some important concepts.

A great deal of information on preparedness for veterinarians is available from the AVMA, including a volume on disaster preparedness and response.¹⁷ Brochures are available for clients and practice owners, as well as those interested in the Veterinary Medical Assistance Teams.¹⁷ The Federal Emergency Management Agency also has online information available for pet and livestock owners¹⁸ and awareness-level information about urban search-and-rescue teams.¹⁹

One of the long-standing responsibilities of accredited veterinarians is to prevent the spread of infectious diseases. Preventing or reducing disease transmission even before the presence of disease is recognized is 1 aspect of biosecurity, a relatively old concept with a new name.²⁰ Risk assessment, especially in relation to biological threats, is a related area in which veterinarians may also lend their expertise in emergency planning.

Closely associated with the need for understanding elements of biosecurity is the need to periodically review updated lists of reportable diseases. Accredited veterinarians should be intimately aware of the appropriate channels through which such diseases should be reported and with what urgency notification should be made, as this differs among the reportable diseases. This affords an occasion to review old diseases and learn new ones; understanding the biology and behavior of emerging and foreign diseases helps to maintain awareness and maintain appropriate indices of suspicion. Some diseases, including some zoonotic

diseases, have been modified to be more effective bioweapons.

Certain diseases require new sampling techniques (eg, chronic wasting disease of deer and elk), unusual testing methods (eg, tuberculosis in cervids) or screening techniques (eg, scrapie), or new methods for interpreting test results (eg, paratuberculosis). Accredited veterinarians will need to be proficient in these areas should any of these diseases move from voluntary control to regulatory programs. On a related note, rules and regulations regarding restriction of movement vary from state to state, and although these rules and regulations are usually developed by various legislative authorities, an understanding of the process would be useful for accredited veterinarians.

Development of a National Animal Identification System that will allow animal location and contact history to be obtained within 48 hours of identification of a foreign or otherwise dangerous disease has become a top priority of the USDA. The primary reason for this is the ability to quickly trace other animals at risk. A first step in establishing this system is the development of a National Premises Identification System containing the location and characterization of any geographic place where animals may be gathered. Registration, number allocation, and information storage will be managed nationally by the USDA, typically in cooperation with the state departments of agriculture.²¹ An appropriate means of individual animal identification has yet to be established, but will probably include an electronically available number that can be read some short distance from the animal. Because it appears that this identification system will supplement or eventually supplant currently accepted means of permanent identification, accredited veterinarians should remain abreast of these changes and developments.

In times of uncertainty or crisis, veterinarians, especially those serving in a regulatory capacity, should err on the side of caution in public and press communications. Consideration should be given to the local, regional, national, and international impact of statements that are made. At the same time, transparency is important, so it is better to defer requests for detailed or potentially sensitive information to another time or another person.²² If a situation has resulted in establishment of an incident command, there should be an information officer assigned to media relations. The efforts of the media to report conflict, controversy, and blame²³ should be redirected to education of the public and mitigation of panic.

Accredited veterinarians should make note of changes in the National Veterinary Accreditation Program. Changes proposed by the Animal and Plant Health Inspection Service, including a 2-tiered system of qualification, a continuing education requirement, and periodic reaccreditation, are expected to strengthen the system.^{5,8} Accredited veterinarians are part of the first line of defense against catastrophic disease events, especially those involving animal populations but also those involving zoonotic diseases with health consequences for humans.

Appendix

Tasks that applicants for veterinary accreditation are expected to be able to perform.

1. Perform physical examinations of individual animals and visually inspect herds or flocks to determine whether the animals are free from any clinical signs suggestive of communicable disease.
2. Recognize the common breeds of livestock so as to be able to record breed information on official documents.
3. Recognize brucellosis tattoos and calfhood vaccination tags and determine the state of origin of eartags to properly identify animals in interstate commerce.
4. Estimate the age of livestock by means of a dental formula.
5. Apply an eartag, tattoo, backtag, and legband.
6. Certify the disease status of a poultry flock with regard to diseases such as salmonellosis, chlamydiosis, and exotic Newcastle disease by evaluating records of the flock's participation in federal and state poultry health programs.
7. Properly complete certificates for domestic and international movement of animals.
8. Apply and remove official seals.
9. Perform a necropsy on livestock.
10. Recognize clinical signs and lesions of exotic animal diseases.
11. Plan a disease control strategy for a livestock unit.
12. Vaccinate for brucellosis and fill out the vaccination certificate.
13. Draw and ship blood for testing.
14. Perform a caudal fold test for tuberculosis.
15. Develop appropriate cleaning and disinfection plans to control the spread of communicable disease in livestock.
16. Explain basic principles for control of diseases, such as brucellosis, pseudorabies, and tuberculosis, for which Animal and Plant Health Inspection Service and state cooperative control programs exist.

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