

## THE ROLE OF THE VETERINARY SERVICES IN FOOD SAFETY

The purpose of this paper is to provide guidance to OIE Members in regard to the role and responsibilities of *Veterinary Services* in food safety, to assist them in meeting the food safety objectives laid down in national legislation and the requirements of importing countries.

### Definitions

The following definitions, from the *Terrestrial Animal Health Code* (the *Code*) (1), are relevant to this paper. Throughout the paper, terms that are defined in the *Code* appear in italics.

*Veterinarian* means a person registered or licensed by the relevant *veterinary statutory body* to practice veterinary medicine/science in that country.

*Veterinary Services* means the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and guidelines in the OIE Terrestrial Animal Health Code (*Terrestrial Code*) and Aquatic Animal Health Code (*Aquatic Code*) in the country. The *Veterinary Services* are under the overall control and direction of the *Veterinary Authority*. Private veterinary organisations are normally accredited or approved to deliver functions by the *veterinary authority*.

*Veterinary Authority* means the governmental authority of a Member Country, comprising *veterinarians*, other professionals and paraprofessionals, having the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures, international veterinary certification and other standards and guidelines in the *Terrestrial Code* in the whole country.

The *Veterinary Statutory Body* is an autonomous authority regulating *veterinarians* and veterinary paraprofessionals.

*Zoonosis* means any disease or infection that is naturally transmissible from animals to man.

### Background

Historically, the *Veterinary Services* were set up to control livestock diseases at the farm level. There was an emphasis on prevention and control of the major epizootic diseases of livestock and of diseases that could affect man (zoonotic diseases). As countries begin to bring the serious diseases under control, the scope of official animal health services normally increases to address production diseases of livestock, where control leads to more efficient production and/or better quality animal products.

The role of the *Veterinary Services* has traditionally extended from the farm to the slaughterhouse, where *veterinarians* have a dual responsibility – epidemiological surveillance of animal diseases and ensuring the safety and suitability of meat. The education and training of *veterinarians*, which includes both animal health (including zoonoses) and food hygiene components, makes them uniquely equipped to play a central role in ensuring food safety, especially the safety of foods of animal origin. As described below, in addition to *veterinarians*, several other professional groups are involved in supporting integrated food safety approaches throughout the food chain. In many countries the role

of the *Veterinary Services* has been extended to include subsequent stages of the food chain in the “farm to fork” continuum (2, 3).

### **Approaches to food safety**

#### **The concept of the food production continuum**

Food safety and quality are best assured by an integrated, multidisciplinary approach, considering the whole of the food chain. Eliminating or controlling food hazards at source, i.e. a preventive approach, is more effective in reducing or eliminating the risk of unwanted health effects than relying on control of the final product, traditionally applied via a final ‘quality check’ approach. Approaches to food safety have evolved in recent decades, from traditional controls based on good practices (Good Agricultural Practice, Good Hygienic Practice, etc), via more targeted food safety systems based on hazard analysis and critical control points (HACCP) to risk-based approaches using food safety risk analysis (4).

#### **Risk-based management systems**

The development of risk-based systems has been heavily influenced by the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (“SPS Agreement”). This Agreement stipulates that signatories shall ensure that their sanitary and phytosanitary measures are based on an assessment of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by relevant international organizations. Risk assessment, the scientific component of risk analysis, should be functionally separated from risk management to avoid interference from economic, political or other interests. The SPS Agreement specifically recognises as the international benchmarks the standards developed by the OIE for animal health and zoonoses and by the Codex Alimentarius Commission for food safety. In recent decades there has also been a trend towards a redefinition of responsibilities. The traditional approach, whereby food operators were primarily held responsible for food quality while regulatory agencies were charged with assuring food safety, has been replaced by more sophisticated systems that give food operators primary responsibility for both the quality and the safety of the foods they place on the market. The role of the supervisory authorities is to analyse scientific information as a basis to develop appropriate food safety standards (both processing and end product standards) and monitoring to ensure that the control systems used by food operators are appropriate, validated and operated in such a way that the standards are met. In the event of non-compliance, regulatory agencies are responsible to ensure that appropriate sanctions are applied.

The *Veterinary Services* play an essential role in the application of the risk analysis process and the implementation of risk based recommendations for regulatory systems, including the extent and nature of veterinary involvement in food safety activities throughout the food chain, as outlined below. Each country should establish its health protection objectives, for animal health and public health, through consultation with stakeholders (especially livestock producers, processors and consumers) in accordance with the social, economic, cultural, religious and political contexts of the country. These objectives should be put into effect through national legislation and steps taken to raise awareness of them both within the country and to trading partners.

#### **Functions of Veterinary Services**

The *Veterinary Services* contribute to the achievement of these objectives through the direct performance of some veterinary tasks and through the auditing of animal and public health activities conducted by other government agencies, private sector *veterinarians* and other stakeholders. In addition to *veterinarians*, several other professional groups are involved in ensuring food safety throughout the food chain, including analysts, epidemiologists, food technologists, human and environmental health professionals, microbiologists and toxicologists. Irrespective of the roles

assigned to the different professional groups and stakeholders by the administrative system in the country, close cooperation and effective communication between all involved is imperative to achieve the best results from the combined resources. Where veterinary or other professional tasks are delegated to individuals or enterprises outside the *Veterinary Authority*, clear information on regulatory requirements and a system of checks should be established to monitor and verify performance of the delegated activities. The *Veterinary Authority* retains the final responsibility for satisfactory performance of delegated activities.

### **At the farm level**

Through their presence on farms and appropriate collaboration with farmers, the *Veterinary Services* play a key role in ensuring that animals are kept under hygienic conditions and in the early detection, surveillance and treatment of animal diseases, including conditions of public health significance. The *Veterinary Services* may also provide livestock producers with information, advice and training on how to avoid, eliminate or control food safety hazards (e.g. drug and pesticide residues, mycotoxins and environmental contaminants) in primary production, including through animal feed. Producers' organisations, particularly those with veterinary advisors, are in a good position to provide awareness and training as they are regularly in contact with farmers and are well placed to understand their priorities. Technical support from the *Veterinary Services* is important and both private *veterinarians* and employees of the *Veterinary Authority* can assist. The *Veterinary Services* play a central role in ensuring the responsible and prudent use of biological products and veterinary drugs, including antimicrobials, in animal husbandry. This helps to minimise the risk of developing antimicrobial resistance and unsafe levels of veterinary drug residues in foods of animal origin. Section 3.9.3 of the OIE *Terrestrial Code* contains guidelines on the use of antimicrobials.

### **Meat inspection**

Slaughterhouse inspection of live animals (*ante-mortem*) and the carcass (*post-mortem*) plays a key role in both the surveillance network for animal diseases and zoonoses and ensuring the safety and suitability of meat and by-products for their intended uses. Control and/or reduction of biological hazards of animal and public health importance by *ante-* and *post-mortem* meat inspection is a core responsibility of the *Veterinary Services* and they should have primary responsibility for the development of relevant inspection programmes.

Wherever practicable, inspection procedures should be risk-based. Management systems should reflect international norms and address the significant hazards to both human and animal health in the livestock being slaughtered. The Codex Alimentarius Code of Hygienic Practice for Meat (CHPM) (5) constitutes the primary international standard for meat hygiene and incorporates a risk-based approach to application of sanitary measures throughout the meat production chain. Section 3.10 of the *Terrestrial Code* contains guidelines for the control of biological hazards of animal health and public health importance through *ante-* and *post-mortem* meat inspection, which complement the CHPM.

Traditionally, the primary focus of the OIE Codes was on global animal health protection and transparency. Under its current mandate, the OIE also addresses animal production food safety risks. The Code includes several standards and guidelines aimed at protecting public health (such as Appendix 3.10.1 on the Control of Biological Hazards of Animal Health and Public Health Importance through Ante- and Post- Mortem Meat Inspection) and work is underway developing new standards to prevent the contamination of animal products by *Salmonella* spp. and *Campylobacter* spp. The OIE and Codex collaborate closely in the development of standards to ensure seamless coverage of the entire food production continuum. The recommendations of the OIE and the Codex Alimentarius Commission on the production and safety of animal commodities should be read in conjunction.

The *Veterinary Authority* should provide for flexibility in the delivery of meat inspection service. Countries may adopt different administrative models, involving degrees of delegation to officially recognised competent bodies operating under the supervision and control of the *Veterinary Authority*. If personnel from the private sector are used to carry out *ante-* and *post-mortem* inspection activities under the overall supervision and responsibility of the *Veterinary Authority*, the *Veterinary Authority* should specify the competency requirements for all such persons and verify their performance. To ensure the effective implementation of *ante-* and *post-mortem* inspection procedures, the *Veterinary Authority* should have in place systems for the monitoring of these procedures and the exchange of information gained. Animal identification and animal traceability systems should be integrated in order to be able to trace slaughtered animals back to their place of origin, and products derived from them forward in the meat production chain.

### **Certification of animal products for international trade**

Another important role of the *Veterinary Services* is to provide health certification to international trading partners attesting that exported products meet both animal health and food safety standards. Certification in relation to animal diseases, including zoonoses, and meat hygiene should be the responsibility of the *Veterinary Authority*. Certification may be provided by other professions (a sanitary certificate) in connection with food processing and hygiene (e.g. pasteurisation of dairy products) and conformance with product quality standards.

### **Other roles of the *Veterinary Services***

Most reported outbreaks of foodborne disease are due to contamination of foods with zoonotic agents, often during primary production. The *Veterinary Services* play a key role in the investigation of such outbreaks all the way back to the farm and in formulating and implementing remedial measures once the source of the outbreak has been identified. This work should be carried out in close collaboration with human and environmental health professionals, analysts, epidemiologists, food producers, processors and traders and others involved.

In addition to the roles mentioned above, *veterinarians* are well equipped to assume important roles in ensuring food safety in other parts of the food chain, for example through the application of HACCP-based controls and other quality assurance systems during food processing and distribution. The *Veterinary Services* also play an important role in raising the awareness of food producers, processors and other stakeholders of the measures required to assure food safety.

### **Optimising the contribution of the *Veterinary Services* to food safety**

In order for *Veterinary Services* to make the best possible contribution to food safety, it is important that the education and training of *veterinarians* in the roles outlined in this paper meets high standards and that there are national programmes for ongoing professional development. The *Veterinary Services* should comply with the OIE fundamental principles of quality given in Section 1.3.3 of the *Terrestrial Code*. Guidelines for the evaluation of *Veterinary Services* are provided in Section 1.3.4 of the *Terrestrial Code* and in the OIE Tool for the Evaluation of Performance of *Veterinary Services* (the OIE PVS Tool).

There should be a clear and well documented assignment of responsibilities and chain of command within the *Veterinary Services*. The national *Competent Authority* should provide an appropriate institutional environment to allow the *Veterinary Services* to develop and implement the necessary policies and standards and adequate resources for them to carry out their tasks in a sustainable manner. In developing and implementing policies and programmes for food safety the *Veterinary*

*Authority* should collaborate with other responsible agencies to ensure that food safety risks are addressed in a coordinated manner.

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