Code of Practice No. (14)/2011

Guidelines of Good Veterinary Practices

Endorsed by Board of Directors
28 June 2011
Table of Contents

1. Introduction 5
2. Purpose & Scope 5
3. Identification of Veterinary Profession Borders 5
4. Definitions 6
5. Ethical & Professional Fundamentals of GVPs 7
   5.1 Veterinarians and their Animals 7
   5.2 Veterinarians and their Customers 7
   5.3 Veterinarians and the Veterinary Profession 10
   5.4 Veterinarians and Medicinal Products 10
   5.5 Veterinarians and their Personnel 14
6. Safety and Health Precautionary Aspects at Work 15
   6.1 Work-related illnesses 15
   6.2 Personal protective actions and equipments 15
7. Veterinarians and Public Health 17
8. Veterinarians and the Environment 18
9. Environmental infection control 18
   9.1 Isolation of animals with infectious diseases 18
   9.2 Cleaning and disinfection of equipment and environmental surfaces 18
   9.3 Handling of laundry 18
   9.4 Decontamination and spill response 19
   9.5 Veterinary medical waste 19
   9.6 Rodent and vector control 19
   9.7 Other Environmental Controls 20
10. Veterinarians and the Competent Authorities 20
11. Management requirements within a veterinary organization 20
   11.1 General requirements: 20
       The veterinary organization shall: 20
   11.2 Documentation requirements 20
   11.3 Management responsibilty 21
   11.4 Premises and their surroundings 22
   11.5 Equipment (movable and immovable) 22
   11.6 Training and awareness 22
12. E - Service realization 22
   12.1 Processes 22
   12.2 Communication with customers 22
   12.3 Documentation of processes 23
   12.4 Horizontal Processes 23
   12.5 The customer record 23
   12.6 The case handling procedure 23
   12.7 Medicinal products and consumables 23
   12.8 Prescriptions 23
   12.9 Certificates 24
   12.10 Equipment 24
   12.11 Periodical Evaluation of Processes and Data 24
13. Measurement, Analyses and Improvement 24
   13.1 Evaluation of Relevance and Effectiveness of services 24
   13.2 Continuous Improvement of Services 24
References 25
1. Introduction

Animals need good veterinary services. Veterinarians make animal health and welfare their first concern. Competent veterinarians keep their knowledge and skills up to date, establish and maintain good relationships with owners and colleagues, are honest and trustworthy, and act with integrity. The veterinary profession deals with several vital issues pertaining to animal health and cure of ailments, public health as well as biosecurity and sound environmental practices. The Abu Dhabi Food Control Authority mandate has expanded so that it now covers the entire domestic food chain from production to consumption. This farm to fork approach includes a wide range of activities of services and control that will be carried out by ADFCA’s Animal Wealth Sector. (e.g. farmer awareness, animal health and production, animal welfare, animal identification & registration and live animal transport) that is going to enhance animal health and disease control and generally to assist in improving animal productivity and well being. ADFCA realizes the vital necessity of the implementation of clear policies and an effective regulatory and enforcement system to ensure product integrity and community confidence in consuming animal products. Accordingly, this compendium is intended to promote good veterinary practices to ensure healthy animals as well as safe food products.

2. Purpose & Scope

The guidelines discussed in the following chapters is an attempt to present veterinary ethics and principles of conduct as well as the requirements relating to the basic quality aspects that must be adopted and complied with, by both private and public veterinary services providers in Abu Dhabi emirate. It targets the improvement of professional capabilities and performance within the veterinary service.

3. Identification of Veterinary Profession Borders

Any person within the Emirate of Abu Dhabi is considered practicing veterinary medicine, surgery and dentistry within the meaning of these guidelines if, (1) by advertisement, or by any notice, sign, or other indication, or by a statement written, printed or oral, in public or private, made, done, or procured by himself or herself, or any other, at his or her request, for him or her, represent, claim, announce, make known or pretend his or her ability or willingness to diagnose or prognoses or treat diseases, deformities, defects, wounds, or injuries of animals; (2) or who shall so advertise, make known, represent or claim his or her ability and willingness to prescribe or administer any drug, medicine, treatment, method or practice, or to perform any operation, manipulation, or apply any apparatus or appliance for cure, amelioration, correction or reduction or modification of any animal disease, deformity, defect, wound or injury, for hire, fee, compensation, or reward, promised, offered, expected, received, or accepted directly or indirectly; (3) or who shall within this emirate diagnose or prognose any animal diseases, deformities, defects, wounds or injuries, for hire, fee, reward, or compensation promised, offered, expected, received, or accepted directly or indirectly; (4) or who shall within this emirate prescribe or administer any drug, medicine, treatment, method or practice, or perform any operation, or manipulation, or apply any apparatus or appliance for the cure, amelioration, alleviation, correction, or modification of any animal disease, deformity, defect, wound, or injury, for hire, fee, compensation, or reward promised, offered, expected, received or accepted directly or indirectly; (5) or who performs any manual procedure for the diagnosis of pregnancy, sterility, or infertility upon livestock; (6) or who implants any electronic device for the purpose of establishing or maintaining positive identification of animals. The opening of an office or place of business for the practice of veterinary medicine, the use of a sign, card, device or advertisement as a practitioner of veterinary medicine or as a person skilled in such practice shall be prima facie evidence of engaging in the practice of veterinary medicine, surgery and dentistry which require fulfillment of professional licensing by the concerned authority. Veterinarians play an important role in protecting animal welfare, animal health, public health as well as the environment and provide a wide range of services.
4. Definitions

Competent Authority: the ADFCA's veterinary sector central authority, competent to carry out veterinary checks or any authority to which it has delegated that competence.

Conformity/compliance: fulfillment of a requirement.

Continual improvement: recurring activity to increase the ability to fulfill requirements.

Corrective action: action to eliminate the cause of a detected nonconformity or other undesirable situation in order to prevent recurrence.

Customer: recipient of a product or service.

Customer satisfaction: customer's perception of the degree to which the customer's requirements have been fulfilled.

Documentation: all records, in any form (including, but not limited to, written, electronic, magnetic, and optical records, scans, x-rays, and electrocardiograms) that describe or record the methods, conduct, and/or results of an activity, the factors affecting an activity, and the actions taken.

Documented system: a system, which allows the user to add data, via documents (in hard form or electronically), in a legible and detailed manner and to order data in an effective way and which makes data easy to retrieve and to control. The system should have a built in mechanism to protect the data from being lost or inadvertently changed.

Good Veterinary Practice (GVP): a standard which ensures that services provided by the veterinary profession are consistently produced and controlled to the defined quality standards of ADFCA.

Interested party: person or group having an interest in the performance or success of an organization (i.e. stakeholders such as customers, owners, personnel, suppliers, unions, partners or society).

Internal audit: the regular or periodic assessment of the implementation and the efficiency of the quality system, inclusive of the implementation of and controls on effectiveness of corrective action by an independent member of the veterinary organization concerned.

Management: coordinated activities to direct and control an organization or person in charge of an organization.

Management system: system to establish policy and achievement of that its objectives.

Nonconformity: non-fulfillment of a requirement.

Organization: group of people and facilities with an arrangement of responsibilities, authorities and relationships.

Organizational chart: Schematic description of the tasks, responsibilities and hierarchic organization within the organization.

Personnel: anyone employed by or working for an organization.

Pharmacovigilance: the post-authorization surveillance of medicinal products. The scope of veterinary pharmacovigilance covers:

(a) Suspected adverse reactions in animals, including those that occur when products are used off-label
(b) Lack of expected efficacy
(c) Human reactions to veterinary medicines
(d) Potential environmental problems
(e) Reported violations of approved residue limits

Preventive action: action to eliminate the cause of a potential nonconformity or other undesirable potential situation in order to prevent occurrence.

Procedure: specified way to carry out an activity or a process.

5. Ethical & Professional Fundamentals of GVPs

The implementation of the following ethical and professional requirements will ensure the public or private veterinary service provider adherence to essential standards needed to operate according to best practices, and assists their preparedness to comply with the current legislation or those expected to come into force in the future.

5.1 Veterinarians and their Animals

5.1.1 Animal Care Aspects

Veterinarians shall endeavor to ensure the welfare and health of the animals under their care in whichever section of the veterinary profession they work.

(a) Veterinarians shall treat all animals in their care with respect.
5.1.2 Important protective actions during veterinary procedures:

(c) Injections, venipuncture, and aspiration procedures: (Needle sticks injury prevention)

(b) Examination of animals: All veterinary personnel whether in field or clinics, should wash their hands or replace

(a) Patient intake: Waiting place in veterinary clinics should be a sage environment for clients, animals and

Veterinarians shall always take into account the five freedoms for assessing animal welfare, which are:

1. Freedom from thirst, hunger and malnutrition with ready access to fresh water and diet to

2. Freedom from discomfort by providing suitable shelter and comfortable resting area.

3. Freedom from pain, injury and diseases by prevention or rapid diagnosis or treatment.

4. Freedom to express normal behavior by providing sufficient space, proper facilities and

company of animals of the same kind.

5. Freedom from fear and distress by assuring conditions which avoid mental sufferings.

(d) It is unethical for veterinarians to promote, sell, prescribe, dispense, or use secret remedies or any other products for which they don't know the ingredient formula.

(e) It is unethical for veterinarian to prescribe or dispense prescription products in the absence of att

(f) It is unethical for the veterinarian to permit the use of their name or professional status in connec

with the resale of ethical products in a manner which violates those directions or conditions specified by the manufacturer to ensure the safe and efficacious use of the products.

5.1.2 Important protective actions during veterinary procedures:

(a) Patient intake: Waiting place in veterinary clinics should be a sage environment for clients, animals and

employees. Aggressive animals and those that have a potentially communicable disease should be placed
directly into an examination room. Animals with respiratory or gastrointestinal signs or that have a history or exposure to a known infectious agent should be brought through an entrance other than the main entrance.

If possible, separate examination place should be designated for animals with potentially infectious disease.

(b) Examination of animals: All veterinary personnel whether in field or clinics, should wash their hands or replace

gloves between examinations of individual animals of animal group (e.g. pets, groups of cattle, sheep or camels.). Routine hand hygiene is the most effective way to prevent transmission of zoonotic disease. Every

examination room should have a source of running water, a soap dispenser, and paper towels. Alcohol-based

hand rubs may be provided for use in conjunction with hand washing. Veterinary personnel should wear

gloves between examinations of individual animals of animal group (e.g. pets, groups of cattle, sheep or camels.). Routine hand hygiene is the most effective way to prevent transmission of zoonotic disease. Every

examination room should have a source of running water, a soap dispenser, and paper towels. Alcohol-based

hand rubs may be provided for use in conjunction with hand washing. Veterinary personnel should wear

barrier protection: Gloves should be worn during venipuncture of animals suspected of having an infectious disease and when performing soft tissue aspiration procedures. Currently, there are no data indicating that venipuncture of healthy animals constitutes an important risk of exposure to pathogens.

(d) Barrier protection: Gloves should be worn during venipuncture of animals suspected of having an infectious disease and when performing soft tissue aspiration procedures. Currently, there are no data indicating that venipuncture of healthy animals constitutes an important risk of exposure to pathogens.

(e) Dental procedures: Dental procedures create splash or spray of saliva and blood that are potentially infectious. There is also the potential for cuts and abrasions from dental equipment and teeth. Veterinary personnel performing the dental procedure and anyone in range of direct splashed or spray should wear protective overwear, gloves, and facial protection. In a study in human, irrigation of the oral cavity with a 0.12% Chlorhexidine solution significantly decreased bacterial aerosolization.

(f) Resuscitation: The urgent nature of resuscitation increase the likelihood that breaches in infection control will occur. Barrier precautions, such as use of gloves and facial protection, should be applied to prevent exposure to zoonotic infectious agent that may be present. Never blow into the nose or mouth of an animal or into an endo-tracheal tube for purposes of resuscitation; instead, intubate the animal and use a manual resuscitator or an anesthesia machine or ventilator for the purpose.

(g) Obstetrics: Common zoonotic agents Including Brucella spp, Coccidiosis savitinii, and Listeria monocytogenes, may be found in high concentrations in the infected birth fluids of aborted or delivered animals in and stillborn fetuses and neonates. Gloves, sleeves, facial protection masks, and impermeable protective overwear should be used as needed to prevent exposures to potentially infective materials. Never attempt to resuscitate a non respirating neonate by blowing directly into its nose or mouth.

(h) Necropsy: Necropsy is a high-risk procedure because of potential contact with infectious agents in body fluid, aerosols and on contaminated sharps. Nonessential persons should not be present during necropsy procedures. Veterinary personnel should wear gloves, facial protection and impermeable protective overwear as needed. In addition, cut proof gloves should be used to prevent sharps-associated injuries. Respiratory tract protection and environmental control should be employed when band saws or other power equipment are used.

(i) Diagnostic specimen or clinical sample handling: Feed, urine, aspirates and swabs should be handled as though they contained infectious organisms. Protective overwear and disposable gloves should be worn when handling these specimens. Discard gloves and wash hands before touching clean items (e.g. medical records telephones). Eating and drinking must not be allowed in the laboratory.

5.2 Veterinarians and their Customers

(a) Veterinarians shall earn the trust of their customers through full communication – by providing appropriate information.

(b) Veterinarians shall respect their customers’ views and protect their customers’ confidentiality.

(c) Veterinarians shall respond promptly, fully and courteously to complaints and criticism.

(d) Veterinarians shall be aware of the different needs of their customers.

(e) Veterinarians shall foster and maintain a good relationship with their customers.
5.3 Veterinarians and the Veterinary Profession

(a) Veterinarians shall familiarize themselves with and observe the relevant legislation and Codes of conduct. Conduct in relation to veterinarians as individual members of the veterinary profession.

(b) Veterinarians shall not bring the veterinary profession into disrepute.

(c) Veterinarians shall foster and endeavor to maintain good relationships with their professional colleagues.

(d) Veterinarians shall ensure the integrity of veterinary certification.

(e) Veterinarians shall maintain and continue to develop their professional knowledge and skills.

(f) Veterinarians, when performing tasks on behalf of a third party or another veterinarian, shall ensure that there is no conflict of interest and shall not use their position to extend their clientele to gain a personal advantage.

(g) When asked by the customer to perform any task other than these, veterinarians shall not accept without agreement from the competent authority.

5.4 Veterinarians and Medicinal Products

5.4.1 General Rules:

(a) Veterinarians must understand and comply with their legal obligations in relation to the prescription, safekeeping, use, supply and disposal of medicinal products.

(b) Any problem relating to the handling or administration of medicinal products shall be recorded and dealt with according to the general pharmacovigilance principles and requirements. These include:

1. Reporting to the Marketing Authorization holder and/or the Competent Authority at the earliest possible and in any case not later than 15 days following the event.
2. The telephone numbers/addresses of Marketing Authorization holders and the relevant Competent Authority shall be available in the organization.
3. The relevant forms for the recording of adverse reactions, as supplied by the relevant Competent Authority, shall be available in the organization. If the Competent Authority does not supply those forms, the veterinary organization shall report the event on self-created forms detailing all relevant information.

(c) Attending veterinarians are responsible for choosing the treatment regimens for their patients. It is the attending veterinarian’s responsibilities to inform the client of the expected results and costs and the related risks of each treatment regimen.

5.4.2 Prudent use of antimicrobials

Prudent use of antimicrobials is an integral part of good veterinary practices. It is an attitude to maximize therapeutic efficacy and minimize selection of resistant micro-organisms. Prudent use principles are a guide for optimal use of antibiotics. In all cases, animals should receive prompt and effective treatment as deemed necessary by the prescribing or supervising veterinarian.

a) Choice of the right antibiotic

The choice of the right antibiotic should be based on:

1. Accurate diagnosis
   The use of antibiotics should be based on the clinical evaluation of the animals under the care of the prescribing veterinary surgeon and on the judgment that antibiotic therapy will have a beneficial effect.
   When it is not possible to make a direct clinical evaluation, the diagnosis should be based on past experience, on knowledge of the farm epidemiological status and on ongoing sensitivity testing. Antibiotic therapy should help to contain and limit further extension of the infection, shorten duration of the infection and disease, or reduce risks of systemic complications.

2. Known products approved for the species and the indication
   No medicinal product can be placed on the market unless its quality, safety and efficacy have been demonstrated. Therefore, the first line of choice should be based on the products approved for the species and the indication concerned.

3. Known efficacy established in well performed field trials
   When no suitable product is licensed for a specific condition or species, the choice of an alternative product should be based, whenever possible, on the results of well performed field trials and a proven efficacy for the condition or species concerned. Indiscriminate off-label use should be avoided.

4. Known or predictable sensitivities of possible microorganism involved
   Antibiotics should only be used when it is known or suspected that an infectious agent, that will be susceptible to the therapy, is present.
   When treating a disease, the sensitivity of the causal organism should ideally be ascertained before therapy is started. In certain situations, such as in the case of disease outbreaks involving high mortality or where there are signs of rapid spread of disease among contact animals, treatment may be started on the basis of clinical diagnosis. Even so, the sensitivity of the suspected causal organism should, where possible, be determined so that if treatment fails, it can be changed in the light of the results of sensitivity testing. Antibiotic sensitivity trends should be monitored over time, and such monitoring used to guide clinical judgment on antibiotic usage.

5. Known pharmacokinetics /tissue distribution
   The choice of the right antibiotic also need to take into account pharmacokinetics parameters, such as bioavailability, tissue distribution, half-life, tissue kinetics to ensure the selected therapeutic agent reaches the site of infection. Duration of withdrawal periods may be a factor in choosing suitable products.
   Considerations must also be given to the available pharmaceutical forms and to the route of administration. Prolonged oral use should be avoided as much as possible in cases of rapid spread of disease among contact animals, treatment may be started on the basis of clinical diagnosis. Even so, the sensitivity of the suspected causal organism should, where possible, be determined so that if treatment fails, it can be changed in the light of the results of sensitivity testing. Antibiotic sensitivity trends should be monitored over time, and such monitoring used to guide clinical judgment on antibiotic usage.

6. Known status of immune-competence
   When treating animals with immunosuppression or life-threatening infections then bactericidal substances should be preferred, as successful use of bacteriostatic antibiotics rely on an active immune system to control the infection.

7. Appropriate spectrum of activity
   The choice of antibiotic should take the susceptibility of the demonstrated or suspected microorganism into account, while aiming for a minimal effect on other microorganisms.
   The risk for development of resistance in micro-organisms of the individual animal, the population of animals and the risk for transfer to other populations should be considered. Generally, antibiotics...
with a broad spectrum of activity lead to development of resistance in non-target microorganisms more rapidly that those with narrow spectrum, because they exert a selection pressure on a greater number of microorganisms. Therefore, in order to minimize the likelihood of broad antibiotic resistance developing, where an appropriate narrow spectrum agent is available, it should be selected in preference to a broad spectrum agent.

Consideration should also be given to potential consequences of resistance to the specific substance in question. Selection of antibiotics that are used for animals or man in special, critical, situations where few or no other antibiotics are available should be carefully justified.

**8. Known antibiotic combinations**

The indiscriminate use of antibiotic combinations should be avoided because of the potential for increased toxicity, pharmacological antagonism, and the selection of resistant organisms. However, the use of multiple antibiotics to provide broader coverage may be justified when failure to initiate effective antibiotic therapy will significantly increase mortality or morbidity or in seriously ill patients when the identity of an infecting organism is not apparent.

**3. Dosage regimen:**

Effective antibiotic therapy will significantly increase mortality or morbidity or in seriously ill patients the use of multiple antibiotics to provide broader coverage may be justified when failure to initiate effective antibiotic therapy will significantly increase mortality or morbidity or in seriously ill patients the use of multiple antibiotics to provide broader coverage may be justified when failure to initiate effective antibiotic therapy will significantly increase mortality or morbidity or in seriously ill patients when the identity of an infecting organism is not apparent.

- **Use of the right antibiotic**
- **Dosage regimen:** It is essential to administer the selected antimicrobial agent in accordance with the recommended dosage regimen and recommended route to avoid administration of sub-therapeutic doses, which can lead to a lack of efficacy and, in some cases, may increase the risk of resistance. Correct administration will minimize therapy failures and exploit fully the efficacy potential of the product.
- Each antibiotic has its own unique pharmacodynamic properties, which are expressed fully when the recommended dosage regimen is applied.
- **Duration of treatment:** Generally the duration of the treatment should be as indicated on the label.
- Insufficient duration of administration can lead to recrudescence of the infection. This may also increase the likelihood of selecting organisms with reduced sensitivity. On the other hand, antibiotic use should be stopped as soon as the animal’s own host defense system can control the infection itself. Limiting the duration of use to only that required for therapeutic effect will minimize the exposure of the bacterial population to the antibiotic. Thus, the adverse effects on the surviving microorganisms are minimized.
- **Group medication:** In some classes of livestock, like fish or poultry, if a number of animals in a group have overt signs of disease; both sick and healthy animals will usually need to be treated with therapeutic levels of an antibiotic. This is intended to cure the clinically affected animals, reduce the spread of the disease and prevent clinical signs appearing in the remainder.
- **Strategic medication:** It is recognized that strategic medication may be appropriate in certain precisely defined circumstances. However, this should be part of an integrated disease control program and the need for such medication should be regularly re-assessed.
- The use of antibiotics in the absence of clinical disease or pathogenic infections should be restricted to situations where past experience indicates that the group of animals may develop the disease if not treated is high. In addition, long-term administration to prevent disease should not be practiced without a clear medical justification.
- Each practice should develop a written policy or protocol covering the circumstances in which this is considered appropriate.

5. **Prescribing, delivering and record keeping:** All prescriptions of antibiotics for animals should be under the supervision of a veterinarian.

- **All therapeutic antibiotics should be supplied by, or with a prescription from a veterinary surgeon.**
- **Records of all antibiotics supplied and administered should be kept by the prescriber, the supplier and the end-user:**

Part of the treatment regimen is to be undertaken by the animal caretaker, he/she should be given written instructions on dosage, duration of treatment and if appropriate, withdrawal period. The veterinarian should ensure that the animal caretaker has understood fully the instructions. Quantities of antibiotic left with the animal caretaker should correctly reflect the needs, to avoid an oversupply. Veterinarians should advise the animal caretaker about the disposal of unused antibiotics and containers, in accordance with local requirements.

5.4.3 **Good Practice of Antimicrobials use in food animals (poultry model)**

Good veterinary practice of antimicrobial products can be defined as a rational antibacterial therapy which is based on a combination of clinical judgment, laboratory diagnosis, medical knowledge, epidemiological background, and husbandry information about the flock to be treated. Due to its significant public health implications, the usage of antimicrobials should not replace fundamental shortcomings in husbandry, biosecurity measures and prophylactic hygiene. The administration of antimicrobial products in disease situations is supportive to good farm management and properly-designed immunization programs. The usage of antimicrobials should meet the requirements of a valid veterinarian-client-patient relationship. Veterinarian assume the responsibility for initiation of antimicrobial therapy and the client agrees to follow his instructions. The veterinarian is acquainted to the client, the farm and the flock(s) by regular visits. The veterinarian is available for follow-up evaluation and emergency coverage.

Unless the clinical picture (signs, gross lesions) is pathognomonic, a flock diagnosis should be confirmed by laboratory testing. In urgent situations a lab confirmation cannot be awaited before an antibacterial therapy is put in place. The veterinarian will be guided by his professional knowledge and previous experience in similar situations. Sensitivity testing of the causative microorganisms in a representative bird sample (typically ill subjects, recent deaths), prior to or concurrently with the onset of medication, is state of the art in poultry medicine. In avian medicine antimicrobials is needed in most instances for total flock medication of young growing birds, mainly in the incubatory stage of disease. Although a diseased flock consists partially of sick or lethargic birds with varying degrees of reduced water (and feed) intake, it is important to treat the flock as a whole to lower the infection pressure for in-contact pen mates. The use of antimicrobials as soon as premonitory disease signs appear and in case of imminent disease hazard (birds likely to be infected), is appropriate to control the appearance and further spread of the disease. By placing the antimicrobial therapy at a carefully chosen time, the veterinarian aims to sustain animal welfare, to avoid major disease damage and to minimize the spread of disease to adjacent flocks and neighboring farms. Medication in anticipation of rising mortality and major disease damage is justifiable under conditions of good farm management, timely availability of flock health information, adequate diagnostic support and professional veterinary supervision. In addition to group medication, treatment of individual birds with oral or parenteral can be lifesaving and is to be encouraged, particularly in breeder, turkey or ostrich stock. The careful use of antimicrobials to anticipate developing disease in a flock should not be confused with, or serve as a pretext for, the injudicious use in clinically healthy flocks. Antimicrobial products should be administered according to the label directions established by the manufacturer and approved by the competent authority. Label directions encompass indications (claims) and dosage (dose, duration). If the appropriate antimicrobial has not been chosen (spectrum, kinetics), therapy failures are to be expected. If the duration of medication is not long enough, relapses may occur. Severe treatment failures will occur if the duration of treatment as well as the dose was too low.

Any additional measure to enhance the general immune response of the birds will enhance a favorable clinical outcome of an antimicrobial medication. For water treatment the antimicrobial product is commonly administered via bulk water tanks under low pressure or via water proportioners that meter the active ingredient into the water system at the appropriate dosage. Fresh solutions should be prepared every day. Proper antimicrobial therapy in the drinking water requires an adequate dosage, encompassing the dose and the duration of treatment. The dose of an antimicrobial can be expressed either as concentration of the active ingredient (ppm) or, more accurately, as active units (usually mg) per kg of body weight (BW). Administering antimicrobial compounds based on a straightforward...
concentration of active ingredient in the drinking water whilst ignoring physiological, pathological and husbandry factors can lead to highly inaccurate dosing. Water consumption, regardless of health status, varies widely according to bird species, age and ambient temperature. Relative water consumption and subsequent intake of the drug decrease with age, being about half of the quantity in adults compared to young birds. Within the temperature comfort zone (15-25 °C) water consumption per body weight mass and the ratio water/feed intake remain fairly stable but increase abruptly once the heat stress threshold (27 °C) is exceeded. Under tropical climates the drug dose (mg/kg BW) can be two to three fold higher than under moderate conditions, at a given ppm dosage in water. The total daily amount of the antimicrobial product required to medicate is calculated by multiplying the average BW with the number of birds in the flock (= total live mass). In well-managed farms that have water flow measuring devices the total daily water consumption can be assessed precisely. The total daily amount of drinking water needed by a flock can also be derived from the daily total feed intake and the ratio water/feed intake. For chickens and turkeys the ratio water to feed consumption is 1.8 to 2 in the temperature comfort zone. An appropriate antimicrobial should be chosen in a given situation. It is comforting for the veterinary profession that the availability of a variety of antimicrobial compound classes allows to select efficacious products for specific microbial diseases.

The first consideration is to select an appropriate antimicrobial class, e.g. beta-lactams, tetracyclines, aminoglycosides, macrolides, quinolones, etc. The next step is to apply a specific compound thought to be the most appropriate for the disease condition to be medicated. Treating a bacterial infection routinely with the same drug of first choice will inevitably impose too much antimicrobial resistance selection pressure on the causative microorganism. All in all, drug selection is based on the severity and nature (etiologic agent[s]) of the disease, the value of the poultry stock (e.g. broilers vs. turkeys) the pharmacodynamic/pharmacokinetic properties of the antimicrobial, the time gap between the end of medication and the expected processing of the flock (drug withdrawal compliance), the antimicrobial susceptibility at the farm/site, and the expected cost-effectiveness. During and after therapeutic intervention, the flock should be carefully monitored as to the clinical outcome of treatment. The main criterion to monitor success of medication is the reduction of mortality. However, other important conspicuous parameters should be enrolled in the evaluation, e.g. the return to regular feed intake. Particularly with bacteriostatic compounds, the lag time between commencement of treatment and visible flock health improvement may expand to 1 or 2 days. Even when the mortality returns to normal very rapidly, medication must maintained sufficiently long, not exceeding the maximum recommended duration, in order to avoid disease relapse. For historical and future reference accurate records should be maintained on antimicrobial drug use (including veterinary prescriptions) and on treatment outcomes. Records should also be kept on the batch numbers of the antimicrobial drugs administered. Unless preliminary testing in-vitro has shown satisfactory susceptibility of the microorganisms’ involved, consecutive use of the same compound category for the same indication (e.g. respiratory, intestinal, and systemic) within the same production cycle is to be avoided. Antimicrobial use should not conflict with FSm& HACCP systems.

As a rule of thumbs, flocks should not be medicated simultaneously with 2 or more antimicrobials belonging to a different compound category in order to avoid emergence of multiple drug resistance and to avoid drug antagonism. In general terms and under in-vitro conditions combinations of bacteriostatic and bactericidal compounds are antagonistic whereas associations of either bactericidal or bacteriostatic substances are not. Bactericidal agents of different compound categories can act synergistically.

It is important to monitor the sensitivity profile of bacterial pathogens in the field. From an epidemiological point of view it is mandatory to relate in vitro susceptibility figures in direct relationship with the individual farm. Resistance figures measured on a national or regional basis are informative but have little predictive value for the veterinarian prescribing a particular antimicrobial product on a specific farm. Meat and eggs must be withheld from human consumption until residues are depleted below the stated tolerance limits. Compliance with the approved withdrawal times is essential. Remind that increasing the dose may prolong the tissue depletion kinetics in animals.

5.5 Veterinarians and their Personnel

(f) Veterinarians shall implement the relevant legislation applicable to employers, employees and business owners.

(g) Veterinarians and their personnel shall be insured for legal and professional liability.

6. Safety and Health Precautionary Aspects at Work

Veterinarians shall ensure the safety, health and welfare of their personnel, patients and customers, in particular concerning:

(a) Manual Handling (Lifting of weights and restraint)
(b) Slips, trips and falls (Protection against wet floors, uneven surfaces, steps ... etc)
(c) Fire Safety (Dealing with combustible substances, fire and electric hazard)
(d) Work equipments (Proper use of equipment, awareness of electrical and fire hazards)
(e) Hazardous substances (X-ray radiation, anesthetic gases, pharmaceutical and hazardous product)
(f) Veterinarian should examine the animal in secure position with handler restraining the head. Particular caution should be taken with male animals during breeding seasons.

6.1 Work-related illnesses

It is therefore the responsibility of the veterinarian to take all reasonable precautions to protect their personnel, patients and customers from these issues by ensuring that:

(a) Premises are secure
(b) Personnel is trained in Safety and Health at work
(c) Basic first aid is available and all personnel know where to find the First Aid Box
(d) Personnel know how to evacuate the premises in the event of fire
(e) Protective clothing is provided to personnel where there is a requirement for personal safety and be aware of any potential risk to them.

6.2 Personal protective actions and equipments

6.2.1 Hand hygiene

Consistent, thorough hand hygiene is the single most important measure that veterinary personnel can take to reduce the risk of disease transmission. Hand washing is preferred over the use of hand rubs because hands are routinely contaminated with organic material. Using plain (non-antimicrobial) soap and running water mechanically removes organic material and reduces the number of transient organism on the skin, whereas antimicrobial soap kills or inhibits growth of transient and resident flora and reduces the opportunity of cross-contamination. Liquid or foam soap products should be selected rather than bars soaps. Refillable dispensers should be completely emptied, cleaned, and then refilled to prevent creation of a bacterial reservoir. Moisturizing soaps can preserve skin integrity and encourage compliance with hand hygiene protocols among veterinary staff. Dry, cracked skin is painful and indicates skin barrier disruption. Hand should be washed between animal contact and after contact with feces, blood, body fluids and exudates. Staff member who have animal contact should not wear artificial nails and should keep finger nails short. Wearing rings may reduce the effectiveness of hand hygiene. Hand washing should focus on thorough cleaning of all hand surfaces. The correct technique for hand washing is as follows:

(a) Wet hand with running water
(b) place soap in palms
(c) Scrub hands vigorously for 20 seconds.
(d) Rinse soap off hands.
(e) Dry hands with a disposable towel.
turn off faucet using the disposable towel as a barrier. Alcohol-based hand rubs are highly effective against bacteria and enveloped viruses and may be used if hands are not visibly soiled. However, hand rub is less effective against some non-enveloped viruses (e.g. Norovirus, Rotavirus, and Parvovirus), bacterial spores (e.g., Bacillus anthracis and Clostridium difficile), or protozoal parasites (e.g. Cryptosporidia). The correct technique for use of hand rubs is as following:
(a) Apply alcohol-based hand rub to palm of 1 hand.
(b) Cover all surfaces of hands and fingers.
(c) Continue to rub hands together until dry.

When running water is not available, the mechanical action of a moist wipe may enhance the effectiveness of an alcohol-based hand rub, especially when hands are visibly soiled. In sole use, moist wipes are not as effective as alcohol-based hand rubs or washing hands with soap and running water.

6.2.2 Use of Gloves and Sleeves
Gloves reduce the risk of pathogen transmission by providing barrier protection. Nevertheless, wearing gloves (including sleeves) is not a substitute for hand washing. Wearing gloves is not necessary when examining or handling healthy animals. Gloves should be worn when an animal has evidence of disease or its medical history is unknown and worn routinely when contact with feces, blood, body fluids, secretions, excretions, exudates and non-intact skin is likely. Gloves should also be worn when cleaning cages, litter boxes and environmental surfaces. Gloves should be changed between examinations of individual animals or animal groups (e.g., litters of puppies or kittens, groups of cattle), between dirty and clean procedures performed on a single patient, and whenever torn. Gloves should be removed promptly after use, and contact between skin and the outer glove surface should be avoided. Disposable gloves should not be washed and reused. Immediately after glove removal, hands should be washed because gloves can have undetected perforations or hands may be contaminated unknowingly during glove removal. Gloves are available in variety of materials depending on their intended use. If allergic reactions to latex are a concern, acceptable alternatives should be provided.

6.2.3 Facial protection
Facial protection prevents exposure of mucous membranes of the eyes, nose and mouth to infectious materials. Facial protection should be used whenever exposures to splashes or sprays are likely to occur, such as those generated during lancing of abscesses, flushing wounds, dentistry, nebulization, suctioning, lavage and necropsy. Facial protection includes a surgical mask worn with goggles or a face shield. Surgical masks provide adequate protection during most veterinary procedures that generate potentially infectious large droplets.

6.2.4 Respiratory tract protection
Respiratory tract protection is designed to protect the airways of the wearer from infectious agents that are transmitted via inhalation of small particles. Although the need for this type of protection is limited in veterinary medicine, it may be appropriate in certain situations, such as during investigations of abortion storms in small ruminants (Q fever), abnormally high mortality rates among poultry (avian influenza), respiratory disease in an Mycobacterium bovis positive herd (bovine tuberculosis), and ill psittacines (avian chlamydiosis). Disposable particulate respirators often resemble surgical or dust masks but closely to the wearer’s face and are designed to filter smaller particles (surgical masks are not designed to prevent inhalation of small particles.) are readily available. Testing is necessary to ensure an effective seal between a respirator and the wearer’s face.

6.2.5 Protective outwear
Laboratory coats, smocks and coveralls: These must be designed to protect street clothes or scrubs from contamination. They are generally not fluid resistant; so they should not be used in situations where splashing or soaking with potentially infectious liquids is anticipated. Garments should be changed promptly whenever they become visibly soiled or contaminated with feces or body fluids. For most personnel, outwear should be changed and laundered daily. These garments should not be worn outside of the work environment.

6.2.6 Non-sterile gowns
Gowns provide better barrier protection than laboratory coats. Permeable gowns can be used for general care of animal in isolation. Impermeable gowns should be used when splashes or large quantities of body fluids are present or anticipated. Disposable gown should not be reused. Reusable fabric gowns may be repeatedly used to care for the same animal in isolation, but should be laundered between contact with different patient or whenever soiled. Use of gloves is indicated whenever gowns are worn and the outer (contaminated) surface of a gown should only touched with gloved hands. Gowns and gloved should be removed and placed in the laundry or refuse bin before leaving the animal’s environment. Hands should be washed immediately afterwards. To avoid cross contamination, gowns should be removed as follows:
(a) After unfastening ties, peel the gown from the shoulders with gloved hands.
(b) Remove the gown, avoiding contact between its outer surface and clean surface.
(c) Wrap the gown into a ball for disposal while keeping the contaminated surface inside.
(d) Remove gloves and wash hands.
(e) If body fluids have soaked through the gown, promptly remove the contaminated clothing and wash the skin.

6.2.7 Footwear
Footwear should be suitable for the specific working, conditions (e.g. rubber boots for farm work) and should protect personnel from exposure to infectious material as well as from trauma. Recommendations include shoes or boots with thick soles and closed-toe construction that are impermeable to liquid and easy to clean. Footwear should be cleaned to prevent transfer of infectious material from on environment to another, such as between farm visits and before returning from a field visit to a veterinary facility or home. Disposable shoe covers or booties add an extra level of protection when heavy quantities of infectious material are present or expected. Foot wears with hard metallic toes are recommended while handling large animals to ensure protection from stepping and sole should be of adequate grip for farm work.

6.2.8 Head covers
Disposable head covers provide a barrier when gross contamination of the head and scalp is expected. Disposable head cover should not be reused.

6.2.9 Bite and other animal related injury prevention
Veterinary personnel should take all necessary precautions to prevent animal related injuries. Preventive measures include use of physical restraints, bite-resistant gloves, muzzles, sedation or anesthesia and reliance on information provided by owners before approaching the aggressive animals. Aggressive tendencies and bite history should be recorded and communicated to personnel. Practitioners should remain alert for changes in their patient’s behavior. Veterinary personnel working with large animals should have an escape route in mind at all times.

7. Veterinarians and Public Health
a) Veterinarians shall seek to ensure the best protection of public health.
b) Veterinarians shall, whenever appropriate, advise their customers about measures to minimize the risk of exposure to zoonotic agents, food borne pathogens, residues, contaminants (biological and chemical
agents) and antimicrobial resistance.

c. Veterinarians shall make animal owners aware of their responsibilities to the public.

8. Veterinarians and the Environment

Veterinarians do the utmost efforts to:

(a) Attempt to reduce pollution of the environment by waste avoidance, recycling, using re-usable articles when appropriate, and correct disposal of waste.

(b) Endeavour to reduce environmental pollution by careful and appropriate use of disinfectants, medicinal products and other chemicals.

(c) Aim to be environmentally responsible by the economical use of energy and water.

(d) Organize facilities for separate collection of different types of waste so that they can be sent to the appropriate recycling points.

(e) Encourage customers to dispose of veterinary waste in a safe manner.

9. Environmental infection control

9.1 Isolation of animals with infectious diseases

A single-purpose isolation room is recommended for the care and housing of animals with potentially communicable disease in veterinary clinic. In case of shortage of isolation rooms the veterinarian can manage to find a temporary alternative for instance a designated examination room that can be easily emptied of nonessential equipment cleaned, disinfected and used for isolation purposes. A cage may be brought in for the animal. If an isolation room has a negative pressure air-handling system, the air should be exhausted outside of the building away from the animal and public access areas, employee break area, and air-intake vents. Air pressures should be monitored daily in use. The isolation room should have signage indication that the animal may have an infectious disease and detailing what precautions should be taken. Access to the room should be limited and a sign-in sheet should be used to monitor all people entering the isolation area. Only the equipment and materials needed for the care and treatment of the patient should be kept in the isolation room. Items intended for use in the isolation room should remain there; if necessary, replacement items should be procured for use elsewhere in the hospital or clinic. Item in the isolation should be disassembled, cleaned and disinfected prior to removal. Use of disposable articles minimizes exposure of personnel to potentially infective pathogens. Potentially contaminated materials should be bagged before transport and disinfected or disposed of according to their level or hazard. When shoe or boot covering are used, personnel should be trained to use, remove and dispose of them properly because improper use or disposal may increase the risk of exposure to pathogens. When a disinfectant footbath is in use, it should be placed just inside the door of the isolation area so that personnel step through it before departing the room. Footbath disinfectant should be changed daily or when becomes visibly dirty.

9.2 Cleaning and disinfection of equipment and environmental surfaces

Environmental surfaces and equipment should be cleaned and disinfected between uses or whenever visibly soiled. Surfaces in areas where animals are housed, examined or treated should be made of nonporous, easily cleaned materials. During cleaning, adequate ventilation should be provided; generation of dust that may contain pathogens can be minimized by use of central vacuum units, wet mopping, dust mopping, or electrostatic sweeping. Surfaces may be lightly sprayed with water prior to mopping or sweeping. Facial protection and control of splatter can minimize exposure to aerosols generated by brushing during cleaning activities. High pressure sprayers may aerosolize and disseminate infectious small particles, and their use should be limited. Gross contamination must be removed before disinfection because organic material decreases the effectiveness of the most disinfectants. To maximize effectiveness, disinfectants should be used according to manufacturer’s instructions; check label for proper dilution and contact time. Personnel engaged in cleaning and disinfection should be trained in safe practices and provided necessary safety equipment according to the product material safety data sheet. Routine dish washing of food and water bowls is adequate for hospitalized patient with infectious diseases, although use of disposable dishes should be considered for animals in isolation. Toys, litter boxes, and other miscellaneous items should be discarded or cleaned and disinfected between patient uses. Litter boxes should be cleansed or disposed of at least daily and clean items should be kept separate from dirty items.

9.3 Handling of laundry

Although soiled laundry may be contaminated with pathogens, the risk of disease transmission is negligible if handled correctly. Personnel should check for sharps before items are laundered. Gloves and protective outwear should be worn when handling soiled laundry. Bedding and other laundry should be made washed with standard laundry detergent and machine dried. To prevent cross-contamination, separate storage and transport bins should be used for clean and dirty laundry. If soiled clothing is laundered at home, it should be transported in a sealed plastic bag and put directly into a washing machine.

9.4 Decontamination and spill response

Spills and splashes of blood, body fluids or potentially infective substances should be immediately sprayed with disinfectant and contained with absorbent material (e.g. paper towels, sawdust or car litter). Personnel should wear gloves and other appropriate protective equipment before beginning the cleanup. The spilled fluids and absorbent material should be picked up and sealed in a leak-proof plastic bag, and the area should be cleaned and disinfected. Animals and people who are not involved in the cleanup should be kept away from the area until disinfection is completed.

9.5 Veterinary medical waste

Medical waste may include sharps, tissues, contaminated materials and dead animals. Management guidance should be coordinated with health departments and municipal governments.

9.6 Rodent and vector control

Many important zoonotic pathogens are transmitted by insect vector or rodents. Integrated pest management is comprehensive approach used to prevent and control pests. Measures include in integrated pest management are as follows:

(a) Seal potential entry and exit points into buildings. Common methods include the use of caulk, steel wool or metal lath under doors and around pipes.

(b) Store food and garbage in metal or thick plastic containers with tight lids.

(c) Dispose of food waste promptly.

(d) Eliminate potential rodent nesting sites (e.g. clutter or hay and food storage).

(e) Maintain rodent traps in the facility and check daily.

(f) Remove sources of standing water (e.g. empty buckets, tires and clogged gutters) from around the building to reduce potential mosquito breeding sites.

(g) Install and maintain window screens to prevent entry of insects and rodents into building.

Additional measures may be warranted for control for specific pests. For example, bats should be excluded from hospital barns and veterinary facilities. Veterinary facility managers may wish to contact a pest control company for additional guidance.
9.7 Other Environmental Controls
It is important to designate staff areas for eating, drinking or smoking that are separate from patient care areas. Separate and appropriately labeled refrigerators should be used for humans’ food, animal feed and biologics. Dishware for human use should be cleaned and stored away from animal-care areas.

10. Veterinarians and the Competent Authorities
(a) Veterinarians shall foster and endeavor to maintain good relationships with the Competent Authorities.
(b) Veterinarians shall fulfill, whenever required, promptly and in accordance with the instructions given, the obligations of public service which they undertake on behalf of the Competent Authorities.
(c) Veterinarians, when performing tasks on behalf of the Competent Authorities, shall ensure that there is no conflict of interest and shall not use their position to try to extend their clientele or to gain a personal advantage.
(d) When veterinarians are required by the Competent Authorities to perform tasks for the customer of another veterinarian, and when asked by the customer to perform any task other than these, veterinarians shall not accept without agreement from the other veterinarian.
(e) The choice of treatments or animal cares should not be influenced by considerations other than the needs of the patients, the welfare of the animals, and the safety of the public. Veterinarian should not allow their medical judgments to be influenced by agreements by which they stand to profit through referring clients to other provider of services or products. The medical judgment also should be influenced by contracts or agreements made by their associations or societies.

11. Management requirements within a veterinary organization
This part offers a quality management system, which can help a veterinary organization that wishes to have such a system, to improve customer satisfaction, encouraging the organization to analyze the requirements of its customers and to define and control the activities, which contribute to delivering services that are acceptable to its customers.

11.1 General requirements:
The veterinary organization shall:
(a) Identify its processes and their application throughout the organization.
(b) Determine the sequences and interactions of these processes.
(c) Determine the criteria and methods needed to ensure that both operation and control of these processes are effective.
(d) Ensure the availability of resources and information necessary to support the operation and monitoring of these processes.
(e) Monitor, measure, and analyze these processes.
(f) Implement the continual improvement of these processes.
The quality management system will be defined, documented, implemented, re-examined, controlled and continually improved.

11.2 Documentation requirements
Quality system documentation shall include:
(a) A signed declaration by the management expressing its quality policy and its commitment.
(b) A quality manual or handbook (written, documented and updated) including the documented procedures of the quality management system as well as the description of the processes and their interactions.
(c) Procedures (written, documented and updated) relating to all the processes affecting service quality.
(d) All documents necessary to ensure the planning, the operation and the effective control of the processes.

The level of documentation depends on the size and the types of activities of the veterinary organization. Documentation can be in any form and on any type of support. All documents affecting the quality of the service shall be:
  e) Dated, approved before their publication signed and recorded.
  f) Distributed to relevant personnel in accordance with pre-established lists.
  g) Re-examined, analyzed, updated according to a written approved procedure.
  h) Available, legible and readily identifiable at points of use.
The documentation will be defined, implemented, reexamined, controlled and continually improved. All documents of external origin (applicable regulatory requirements, codes of ethics, etc.) shall be identified, available and their control shall be assured. Any non-intentional use of obsolete documents shall be avoided. If these documents are preserved, they shall be identified in a formal way. Records shall be retained securely for a period of five years or more if required by legislation, according to a documented procedure. They shall remain legible, readily identifiable and retrievable.

11.3 Management responsibility
Management shall develop a quality policy and involve the personnel of the organization in so doing. The quality policy shall include strategic directions for the organization and shall be devised to meet customer requirements as well as applicable regulatory requirements. Management shall be committed to ensuring the success of this step.

11.3.1 Document of the Management Plan
Management shall lay down, plan and document a quality policy in a consistent way. The quality policy defines the objectives and the quality aims to be achieved for the benefit of customers (improvement of satisfaction, latent needs, and competitiveness) but also for the benefit of the organization itself (effectiveness, profitability). Hierarchical and achievable quality objectives shall be defined in a consistent way. Activities relating to the quality objectives shall be defined and planned. The necessary resources (financial, material, human) shall be taken into account.

11.3.2 Customer-focus
Customer-focus shall be implemented. Actions shall be taken to identify external customers and interested parties, to ascertain their needs and to evaluate their satisfaction. This information shall be communicated and understood within the organization.

11.3.3 Policy of internal communication
Management shall communicate within the organization the quality policy and information relating to the quality of services. Management shall set an example. Management shall recognize the efforts and the achievements of the personnel. A policy of internal communication shall be implemented.

11.3.4 The Responsibility and authority of individuals
The responsibilities and authority of individual shall be clearly defined. An organizational chart shall be established. Any personnel shall have an understanding of what his/her responsibilities are. A person with responsibility for quality and with authority to take the necessary actions should be appointed by management.

11.3.5 Evaluation of Achievement & Objectives
The achievement and the relevance of the objectives of the organization shall be evaluated and re-examined at planned intervals. The achievement of objectives shall be evaluated and the results of internal audits, of customer feedbacks, of process performance analysis and nonconformity declarations be taken into account for that purpose. The strategy of the organization shall be improved (process reviews, management reviews).

11.3.6 Human Resources Management Strategy
The organization shall implement an effective human resources management strategy, taking into account the applicable regulatory requirements, the estimated workload, the need for replacement and the competence of the
personnel. Job descriptions shall be available for each position within the organization. Personnel shall be recruited with consideration of their job role and with appropriate selection criteria. When recruiting new personnel, the organization shall ensure that personnel have obtained the formal qualification required to take up and pursue the activities for which they are recruited and that they comply with the professional rules applicable to them. In-house training shall be provided to personnel joining the organization. Improvement of the knowledge and skills of the personnel shall be encouraged and ensured by a program of continually and periodically evaluated development activity. Documents relating to personnel, such as contracts of employment or equivalent, job descriptions, proofs of completion of formal qualifications, of continual development activities, and of appraisals should be established and recorded.

11.3.7 Management of Material resources
The organization shall implement effective management of its material resources.

11.4 Premises and their surroundings
The premises and their surroundings shall be suited to the needs and activities of the organization as well as in compliance with applicable regulatory requirements. A plan of the premises and of their surroundings as well as of their use shall be recorded. The safety and the maintenance of the premises and of their surroundings shall be ensured and recorded. The cleaning and/or disinfecting of the premises and of their surroundings shall be planned, documented and in conformity with hygiene rules. The premises and their surroundings and their management shall be documented, evaluated and re-examined at planned intervals.

11.5 Equipment (movable and immovable)
Equipment shall be suited to the needs and activities of the organization as well as in compliance with applicable regulatory requirements. A list of equipment and its specifications shall be available. The maintenance and the calibration of the equipment shall be planned and documented. The cleaning of the equipment shall be planned, documented and in conformity with the rules of hygiene. The equipment and its management shall be documented, evaluated and re-examined at planned intervals.

11.6 Training and awareness
In house training shall be provided to personnel joining the organization. Improvement of the knowledge and skills of the personnel shall be encouraged and ensured by a program of continually and periodically evaluated development activity. Documents relating to personnel, such as contracts of employment or equivalent, job descriptions, proofs of completion of formal qualifications, of continual development activities, and of appraisals should be established and recorded.

12. E - Service realization
Veterinary services include many linked activities (processes). Their identification as well as an appreciation of their interactions allows improved coherence and effectiveness of these services.

12.1 Processes
The organization shall define its processes. The various processes of the organization shall be identified. Their interactions shall be defined.

12.2 Communication with customers
The organization shall communicate with the customer and identify his/her requirements. The organization shall take account of the relevant applicable regulatory requirements. The organization shall inform the customer (explanatory booklets, system of recalls...). The organization shall record customer complaints.

12.3 Documentation of processes
The organization shall document its processes. The necessary resources (material, equipment, consumables, medicinal products...) shall be allocated for each process. Responsibilities shall be allocated for each process. Standard operating procedures or work instructions shall be available. Quality indicators shall be defined for each process.

12.4 Horizontal Processes
The organization shall manage its horizontal processes (customer records, case handling procedure, medicinal products, consumables, prescriptions and certificates) in a consistent way.

12.5 The customer record
Records shall be written in a detailed, legible and understandable way and in accordance with applicable regulatory requirements for every customer. Customer confidentiality shall be ensured. Records shall be organized, filed and constantly available. The reasons for consultation and the conclusions of the initial evaluation shall be recorded in the customer record. Records shall comprise all procedures performed in chronological order. Specialized information (e.g. laboratory analyses) shall be associated with or referred to in the customer records. Administrative information (unpaid bills, deferred payments, complaints...etc.) shall be associated with or referred to in the customer records.

12.6 The case handling procedure
The veterinary organization shall organize and ensure a system for the continual reception of cases. If this is not possible, there must be an established procedure for referring customers to another veterinary organization. Precise and understandable information on access to an alternative organization shall be available by any normal means of communication. All communications shall be answered promptly and courteously. There shall be a priority case handling procedure for any emergency.

If a request for assistance does not come within its competence, the organization shall be willing and able to refer cases to another organization. The initial and regular evaluation of the case shall be communicated in an understandable way to the customer. The customer shall be informed of the benefits, risks and costs of the services proposed and the customer’s informed consent should be obtained before providing any service. The organization shall inform the customer about its tariffs and apply the tariffs in a consistent way. Detailed bills, showing all services and products supplied, shall be issued. The specific needs of the animal (anxiety, pain, well-being, etc.) shall be identified and dealt with. The specific needs of the customer shall be identified and dealt with. The continuity of services shall be assured.

12.7 Medicinal products and consumables
Organizations with a stock of medicinal products/consumables shall have documented systems in place to ensure medicinal products/consumables are ordered, received, stored, administered, dispensed, prescribed and destroyed in a manner that takes account of the relevant legislation and of the manufacturers’ recommendations. A list (standard and quantity) of the medicinal products and the consumables that should be in permanent stock shall be established. Stock control (ordering, reception of orders, delivery and rotation) shall be established, and documented. Documents shall be filed so as to make it possible to establish traceability. The expiry dates, the times of use and the condition of the medicinal products shall be regularly controlled. The products and the suppliers shall be selected on the basis of predefined quality criteria.

12.8 Prescriptions
Prescriptions shall be written in a precise, understandable way and in accordance with applicable regulatory requirements. Medicinal products shall only be administered, dispensed or prescribed, based on a probable diagnosis obtained after an adequate clinical examination of the animal(s) or of a representative sample of the group of animals involved. The above may not be required for some types of medication in the case of farms under contract for routine veterinary supervision (subject to agreed written protocols or equivalent with the person responsible for the animals) and for routine preventative anti-parasite treatments in companion animal practice. Prescriptions shall be filed in such a way that it should be possible to establish the traceability of products and services. Customers shall be informed as
to the risk and possible side effects of the handling and administration of medicinal products. An assessment of the benefits and the costs of the prescription shall be carried out in relation to the customer.

12.9 Certificates
Certificates shall be given for pre-defined purposes and shall be regarded as a statement of fact made with authority. All the necessary steps shall be taken to ensure the integrity of certification. Certificates shall be written in a precise, understandable way and safeguarded in accordance with applicable regulatory requirements. Legal standard documents shall be used where required. Certificates shall be recorded and filed in order to ensure their traceability.

12.10 Equipment
The organization shall control the measurement and investigation equipment relating to its processes. A list of all measurement and investigation equipment shall be drawn up. Equipment shall be regularly inspected, maintained and calibrated.

12.11 Periodical Evaluation of Processes and Data
The organization shall periodically evaluate and re-examine its processes and related data. This evaluation includes the following:

(a) Communications with the customer
(b) The documentation of the processes
(c) The data and information generated by the various processes and their management
(d) Controls of the measurement
(e) Investigation equipment

13. Measurement, Analyses and Improvement
13.1 Evaluation of Relevance and Effectiveness of services
The organization shall determine, collect and analyze the data evaluating the relevance and the effectiveness of its services. Investigations of satisfaction shall be planned, carried out and analyzed. Customer complaints shall be collected and analyzed. Internal audits shall be planned, conducted and analyzed. Data relating to the processes and their indicators shall be collected and analyzed. Data relating to controls of the measurement and investigation equipment shall be collected and analyzed. Data relating to the nonconformity of services and products shall be collected and analyzed.

13.2 Continuous Improvement of Services
The organization shall continually improve its services quality. All the data and analyses shall be documented, recorded and communicated within the organization. All the data and analyses relating to the reviews of the management processes and support processes shall be documented, recorded and communicated within the organization. Quality meetings should be planned and carried out to re-examine and improve operation of the organization by supporting the involvement of all the personnel. Corrective actions relating to non-conformities shall be defined, implemented, recorded and re-examined at planned intervals. Preventive actions relating to potential nonconformities shall be defined, implemented, recorded and re-examined at planned intervals.

References

(a) Federation of Veterinarians of Europe
   Code of Good Veterinary Practice

(b) Federation of Veterinarians of Europe
   Antibiotic Resistance & Prudent use of Antibiotics in Veterinary Medicine

(c) Shilcock, G. and Stutchfield, G. 2008
   Veterinary Practice Management
   1st Edition, Elsevier Health Sciences, USA