

A Legal Review of Missouri House Bill No. 877 (2013)

“AN ACT To repeal section 340.200, RSMo [*Revised Statutes of Missouri*], and to enact in lieu thereof one new section relating to veterinary medicine.”¹

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I. Revised Statute of Missouri § 340.200(28) — Current “Veterinary Medicine”

Currently **Rev. Stat. Mo. § 340.200(28)**² defines “veterinary medicine” as “the science of diagnosing, treating, changing, alleviating, rectifying, curing or preventing any animal disease, deformity, defect, injury or other physical or mental condition, including, but not limited to, the prescription or administration of any drug, medicine, biologic,^[3] apparatus, application, anesthesia or other therapeutic or diagnostic substance or technique on any animal, including, but not limited to, acupuncture, dentistry, animal psychology, animal chiropractic, theriogenology,^[4] surgery, both general and cosmetic surgery, any manual, mechanical, biological or chemical procedure for testing for pregnancy or for correcting sterility or infertility or to render service or recommendations with regard to any of the procedures in this paragraph.”⁵ See also, **Rev. Stat. Mo. § 340.200(15)** defining the “**practice of veterinary medicine**” as “to represent directly, indirectly, publicly or privately an ability and willingness to do any act described in subdivision (28) of this section.”

II. Missouri House Bill No. 877’s New “Veterinary Medicine”

Missouri House Bill No. 877 (2013), p. 4, line 118 – p. 5, line 129 proposes to re-define “**veterinary medicine**” as “the science of diagnosing, treating, changing, alleviating, rectifying, curing or preventing any animal disease, deformity, defect, injury or other physical or mental condition, including, but not limited to, the prescription or administration of any drug, medicine, biologic, apparatus, application, anesthesia or other therapeutic or diagnostic substance or technique on any animal, including, but not limited to, acupuncture, ~~dentistry~~⁶ animal psychology, animal chiropractic, theriogenology, surgery, both general and cosmetic surgery, any manual, mechanical, biological or chemical procedure for testing for pregnancy ~~or for correcting sterility or infertility~~ or to render service or recommendations with regard to any of the procedures in this paragraph **subdivision. Veterinary medicine does not include vaccination, animal dentistry, including tooth floating; dehorning; estrus synchronization, heat detection, artificial insemination, embryo transfer; castration, or spaying or neutering; emergency services; herd work; or massage.** (Strike-outs, deletions; **Bold** new language)

**III. Bill Language Lifted from Missouri Court of Appeals,
Western District Decision in *Missouri Veterinary Medical Board v.
Brooke Rene Gray d/b/a “B & B Equine Dentistry”***

The last sentence of the proposed amendment to **Rev. Stat. Mo. § 340.200(28)** is lifted straight from the Court of Appeals, Western District, decision in ***Missouri Veterinary Medical Board v. Gray***, ____ S.W.3d ____, 2013 WL 600201 (Mo. App. W.D. February 19, 2013), *to-wit*:

“Ms. Gray’s evidence at trial shows that the Missouri Veterinary Medical Board has not solely targeted equine tooth floaters. Ms. Gray asked the Board in an interrogatory to identify any persons to whom, since 2003, a cease and desist letter had been sent related to certain activities, all of which Ms. Gray apparently believed to fall within section 340.200(28). Along with those practicing equine dentistry, the [Missouri veterinary medical] board acknowledged sending letters to individuals engaged in estrus synchronization, heat detection, dehorning, castration, artificial insemination, vaccination, spaying/neutering, emergency services, embryo transfer, herd work, and massage. Although we need not reach factual or legal conclusions as to whether the aforementioned actions are included in the statute, like animal dentistry, it could be argued that section 340.200(28) expressly includes most if not all of the aforementioned within the definition of veterinary medicine. The fact that farriery and horseshoeing is an age-old practice, and yet the legislature did not expressly include the practice in section 340.200(28), suggests that the legislature intended the exclusion.

Therefore, while Ms. Gray contests what she deems to be the State’s disparate application of the statute, Ms. Gray has not proven that the statute is applicable to farriers. If Ms. Gray’s claim is that the State cannot statutorily pursue non-licensed animal dentists and exempt non-licensed farriers, Ms. Gray has also not proven that equine tooth floating and horseshoeing are similar to the extent that they encompass the same risks or require the same level of skill, expertise, and education such that differentiation between the two by the State would be unreasonable, illogical, or irrational. [Ms Gray’s] Point three [of her appeal] is denied.

We, therefore, conclude that the [Clinton County, Missouri] circuit court did not err in ruling that the State may constitutionally prohibit Ms. Gray from the gains of her industry for her animal husbandry services. The State’s prohibition is not arbitrary as the State has a legitimate interest in establishing a high level of competence for individuals who practice veterinary medicine, and Ms. Gray has not met the proper statutory requirements for such practice and does not fall within statutory exceptions.” (**Bold & underlining added.**) ____ S.W.3d at ____, 2013 WL 600201, *6.

IV. The *Missouri Veterinary Practice Act* does Not Prohibit an Animal Owner or its Employees from Performing Artificial insemination, Castration, Correcting infertility, Correcting sterility, Dehorning, Dentistry, Embryo transfers, Emergencies, Estrus synchronization, “Heat detection”, “Herd work”, Neutering Spaying, Tooth-Floating and/or Many Vaccinations⁷ for its Own or an Employer’s Animals

Rev. Stat. Mo. § 340.216.1 declares that nothing in the *Missouri Veterinary Practice Act* shall be construed as prohibiting:

“(5) The owner of any animal or animals and the owner's full-time employees from caring for and treating any animals belonging to such owner, with or without the advice and consultation of a licensed veterinarian, provided that the ownership of the animal or animals is not transferred, or employment changed, to avoid the provisions of sections 340.200 to 340.330 [*Missouri Veterinary Practice Act*]; however, only a licensed veterinarian may immunize or treat an animal for diseases which are communicable to humans and which are of public health significance, except as otherwise provided for by board rule;” (Underlining added.)

See also, Rev. Stat. Mo. § 340.216.1(1):

“Any person from gratuitously providing emergency treatment, aid or assistance to animals where a licensed veterinarian is not available within a reasonable length of time if the person does not represent himself or herself to be a veterinarian or use any title or degree appertaining to the practice thereof;” (Underlining added.)

V. Missouri House Bill No. 877 Has No Statutory Definition of Terms

Missouri House No. Bill 877 (2013) does not define “animal dentistry” “tooth floating”, “estrus synchronization”,⁸ “heat detection”, “emergency services”,⁹ “herd work”, “massage”. Consequently, it is vague and ambiguous about what might or might not mean by these terms and phrases.

Vagueness and ambiguity of terms in statutes and regulations gives rise to the potential for litigation with resulting expenses and costs which must be borne by the State of Missouri and its taxpayers.

Last, the phrase “herd work” has potential implications with resulting confusion given various United States Department of Agriculture’s *Uniform Methods and Rules* governing accredited herd work by licensed veterinarians.

VI. The Veterinary Medical Profession is Not Just About Treating Animals

The veterinary medical profession is *not just about treating animals* but also

protecting against the spread of food-borne, avian-borne,¹⁰ vector-borne,¹¹ contagious, zoonotic and other diseases from animals to the human population, research pertaining to the same, being the first detectors and determiners of disease-causing pathogens¹² as well as from animals, to when American and foreign-imported food-animals, meat, meat-byproducts were or might have been deliberately infected or contaminated by enemies (foreign or domestic) of the United States of America.

Enactment of **Missouri House Bill No. 877** (2013) runs the real risk of not only placing Missouri's animal and human population potential jeopardy (not to mention the adverse affect upon Missouri's economy) but also the United States. As recently stated:

"As the human population continues to increase and expand across our world, the interconnection of people, animals, and our environment becomes more significant and impactful. The importance of One Health^[13] is highlighted by many factors in our world today:

- The world's total population exceeded 7 billion people in 2011, and it continues to climb.
- As our population expands geographically, the contact between human and wild animal habitats increases, introducing the risk of exposure to new viruses, bacteria and other disease-causing pathogens.
- Advancing technologies and science-based evidence is increasing the awareness, knowledge, and understanding of the interdependency of the health of humans, animals, and the environment.
- The **human-animal bond** continues to grow throughout societies.
- It is estimated that at least 75% of emerging and re-emerging diseases are either **zoonotic** (spread between humans and animals) or **vector-borne** (carried from infected animals to others through insects).
- Vigilant protection of our food and feed supplies from food-borne diseases, contamination, and acts of terrorism is critical for human and animal health.
- Contamination by personal care products and pharmaceuticals has been detected in our waters." **One Health – What is One Health?**¹⁴ (Bold original; Underlining added.)

VII. Impact on Other Professional Licensing Laws

In these days of both the human medical and veterinary medical professions acknowledging, appreciating and recognizing the importance of "**One Health**"¹⁵ to the well-being of all life (animal, human and environment) upon each profession, should **Missouri House Bill No. 877** (2013) be enacted, then what happens when the next non-licensing individual asks the General Assembly to amend yet another professional licensing law to allow such individuals to perform, for compensation, artificial inseminations, correct infertility, transfer an embryo from one woman to another (after all, just an embryo transfer), emergencies services, estrus synchronization, heat detection, "human population work" / "human work" (after all, just "herd work"), hysterectomies (after all, just a spaying), vasectomies (after all, just a neutering) and vaccinations?

A quick answer might be “Oh, well, that is different; that is about humans.” However, the scientific reality of medicine is that there is one medicine (“One-Health”) with two sub-categories (veterinary and human) with each profession knowing and appreciating the interdependency of each on the other.

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Footnotes

¹ Introduced by Representative Marshall (Sponsor) and Parkinson (Co-sponsor).

² See also, **Missouri Veterinary Medical Board v. Gray**, ____ S.W.3d ____, 2013 WL 600201, *2, fn. 2 (Mo. App. W.D. February 19, 2013) affirming **Missouri Veterinary Medical Board v. Gray**, 2011 WL 6965232 (Clinton County, Missouri, 10CV-CV00842, December 21, 2011).

³ “A medicinal preparation made from living organisms and their products; these products include serums, vaccines, etc.” **Saunders Comprehensive Veterinary Dictionary**, p. 125, col. 1 (Edinburgh, London, New York, Oxford, Philadelphia, St. Louis, Sydney, Toronto: Elsevier Ltd. 4th ed. 2012).

⁴ “[T]he discipline of animal reproduction; the branch of veterinary science which comprises the study of physiology and anatomy and the pathology and diseases of male and female reproductive tracts of animals. It includes the subjects of obstetrics and gynecology, as dealt with in human medicine, reproduction on a herd or flock basis, and with artificial insemination and embryo transfer and, in some countries, with neonatology.” **Saunders Comprehensive Veterinary Dictionary**, p. 1098, col. 1 (4th ed. 2012).

⁵ In its entirety **Rev. Stat. Mo. § 340.200: Definitions**, reads “When used in sections 340.200 to 340.330 [**Missouri Veterinary Practice Act**], the following terms mean:

(1) ‘**Accredited school of veterinary medicine**’, any veterinary college or division of a university or college that offers the degree of doctor of veterinary medicine or its equivalent and is accredited by the American Veterinary Medical Association (AVMA);

(2) ‘**Animal**’, any wild, exotic or domestic, living or dead animal or mammal other than man, including birds, fish and reptiles;

(3) ‘**Applicant**’, an individual who files an application to be licensed to practice veterinary medicine or to be registered as a veterinary technician;

(4) ‘**Appointed member of the board**’, regularly appointed members of the Missouri veterinary medical board, not including the state veterinarian who serves on the board *ex officio*;

(5) ‘**Board**’, the Missouri veterinary medical board;

(6) ‘**Consulting veterinarian**’, a veterinarian licensed in another state, country or territory who gives advice or demonstrates techniques to a licensed Missouri veterinarian or group of licensed Missouri veterinarians;

(7) ‘**ECFVG certificate**’, a certificate issued by the American Veterinary Medical Association Educational Commission for Foreign Veterinary Graduates or its successor. The certificate must indicate that the holder of the certificate has demonstrated knowledge and skill equivalent to that possessed by a graduate of an accredited school of veterinary medicine;

(8) ‘**Emergency**’, when an animal has been placed in a life- threatening condition and immediate treatment is necessary to sustain life or where death is imminent and action is necessary to relieve pain or suffering;

(9) ‘**Faculty member**’, full professors, assistant professors, associate professors, clinical instructors and residents but does not include interns or adjunct appointments;

(10) ‘**Foreign veterinary graduate**’, any person, including foreign nationals and American citizens, who has received a professional veterinary medical degree from an AVMA listed veterinary college

located outside the boundaries of the United States, its territories or Canada, that is not accredited by the AVMA;

(11) '**License**', any permit, approval, registration or certificate issued or renewed by the board;

(12) '**Licensed veterinarian**', an individual who is validly and currently licensed to practice veterinary medicine in Missouri as determined by the board in accordance with the requirements and provisions of sections 340.200 to 340.330 [**Missouri Veterinary Practice Act**];

(13) '**Minimum standards**', standards as set by board rule and which establish the minimum requirements for the practice of veterinary medicine in the State of Missouri as are consistent with the intent and purpose of sections 340.200 to 340.330 [**Missouri Veterinary Practice Act**];

(14) '**Person**', any individual, firm, partnership, association, joint venture, cooperative or corporation or any other group or combination acting in concert; whether or not acting as principal, trustee, fiduciary, receiver, or as any kind of legal or personal representative or as the successor in interest, assigning agent, factor, servant, employee, director, officer or any other representative of such person;

(15) '**Practice of veterinary medicine**', to represent directly, indirectly, publicly or privately an ability and willingness to do any act described in subdivision (28) of this section;

(16) '**Provisional license**', a license issued to a person while that person is engaged in a veterinary candidacy program;

(17) '**Registered veterinary technician**', a person who is formally trained for the specific purpose of assisting a licensed veterinarian with technical services under the appropriate level of supervision as is consistent with the particular delegated animal health care task;

(18) '**Supervision**':

(a) '**Immediate supervision**', the licensed veterinarian is in the immediate area and within audible and visual range of the animal patient and the person treating the patient;

(b) '**Direct supervision**', the licensed veterinarian is on the premises where the animal is being treated and is quickly and easily available and the animal has been examined by a licensed veterinarian at such times as acceptable veterinary medical practice requires consistent with the particular delegated animal health care task;

(c) '**Indirect supervision**', the licensed veterinarian need not be on the premises but has given either written or oral instructions for the treatment of the animal patient or treatment protocol has been established and the animal has been examined by a licensed veterinarian at such times as acceptable veterinary medical practice requires consistent with the particular delegated health care task; provided that the patient is not in a surgical plane of anesthesia and the licensed veterinarian is available for consultation on at least a daily basis;

(19) '**Supervisor**', a licensed veterinarian employing or utilizing the services of a registered veterinary technician, veterinary intern, temporary provisional licensee, veterinary medical student, unregistered assistant or any other individual working under that veterinarian's supervision;

(20) '**Temporary license**', any temporary permission to practice veterinary medicine issued by the board pursuant to section 340.248[*Out-of-state veterinarian, temporary licensure for specific animal owner—term, renewal—agent for service of process*];

(21) '**Unregistered assistant**', any individual who is not a registered veterinary technician or licensed veterinarian and is employed by a licensed veterinarian;

(22) '**Veterinarian**', '**doctor of veterinary medicine**', '**DVM**', '**VMD**', or equivalent title, a person who has received a doctor's degree in veterinary medicine from an accredited school of veterinary medicine or holds a ECFVG certificate issued by the AVMA;

(23) '**Veterinarian-client-patient relationship**', the veterinarian has assumed the responsibility for making medical judgments regarding the health of the animal and the need for medical treatment, and the client, owner or owner's agent has agreed to follow the instructions of the veterinarian. There is sufficient knowledge of the animal by the veterinarian to initiate at least a general or preliminary diagnosis of the medical condition of the animal. Veterinarian-client-patient relationship means that the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal by virtue of an examination or by medically appropriate and timely visits to the premises where the animal is kept. The practicing veterinarian is readily available for follow-up care in case of adverse reactions or failure of the prescribed course of therapy;

(24) '**Veterinary candidacy program**', a program by which a person who has received a doctor of veterinary medicine or equivalent degree from an accredited school of veterinary medicine can obtain the

practical experience required for licensing in Missouri pursuant to sections 340.200 to 340.330 [**Missouri Veterinary Practice Act**];

(25) '**Veterinary facility**', any place or unit from which the practice of veterinary medicine is conducted, including but not limited to the following:

(a) '**Veterinary or animal hospital or clinic**', a facility that meets or exceeds all physical requirements and minimum standards as established by board rule for veterinary facilities; provides quality examination, diagnostic and health maintenance services for medical and surgical treatment of animals and is equipped to provide housing and nursing care for animals during illness or convalescence;

(b) '**Specialty practice or clinic**', a facility that provides complete specialty service by a licensed veterinarian who has advanced training in a specialty and is a diplomate of an approved specialty board. A specialty practice or clinic shall meet all minimum standards which are applicable to a specialty as established by board rule;

(c) '**Central hospital**', a facility that meets all requirements of a veterinary or animal hospital or clinic as defined in paragraph (a) of this subdivision and other requirements as established by board rule, and which provides specialized care, including but not limited to twenty-four-hour nursing care and specialty consultation on permanent or on-call basis. A central hospital shall be utilized primarily on referral from area veterinary hospitals or clinics;

(d) '**Satellite, outpatient or mobile small animal clinic**', a supportive facility owned by or associated with and has ready access to a full-service veterinary hospital or clinic or a central hospital providing all mandatory services and meeting all physical requirements and minimum standards as established by sections 340.200 to 340.330 [**Missouri Veterinary Practice Act**] or by board rule;

(e) '**Large animal mobile clinic**', a facility that provides examination, diagnostic and preventive medicine and minor surgical services for large animals not requiring confinement or hospitalization;

(f) '**Emergency clinic**', a facility established to receive patients and to treat illnesses and injuries of an emergency nature;

(26) '**Veterinary candidate**', a person who has received a doctor of veterinary medicine or equivalent degree from an accredited school or college of veterinary medicine and who is working under the supervision of a board-approved licensed veterinarian;

(27) '**Veterinary intern**', a person who has received a doctor of veterinary medicine or equivalent degree from an accredited school or college of veterinary medicine and who is participating in additional clinical training in veterinary medicine to prepare for AVMA-recognized certification or specialization;

(28) '**Veterinary medicine**', the science of diagnosing, treating, changing, alleviating, rectifying, curing or preventing any animal disease, deformity, defect, injury or other physical or mental condition, including, but not limited to, the prescription or administration of any drug, medicine, biologic, apparatus, application, anesthesia or other therapeutic or diagnostic substance or technique on any animal, including, but not limited to, acupuncture, dentistry, animal psychology, animal chiropractic, theriogenology, surgery, both general and cosmetic surgery, any manual, mechanical, biological or chemical procedure for testing for pregnancy or for correcting sterility or infertility or to render service or recommendations with regard to any of the procedures in this paragraph;

(29) '**Veterinary student preceptee**', a person who is pursuing a veterinary degree in an accredited school of veterinary medicine which has a preceptor program and who has completed the academic requirements of such program.

⁶ Dentistry was even in Missouri's first veterinary licensing (registration) law enacted in 1905, effective January 1, 1906. See **House Bill 254 (1905)**; **Missouri Laws**, pp. 209 – 211 (1905)—MEDICINE AND SURGERY: Veterinary Medicine.

⁷ See **Rev. Stat. Mo. § 340.216.1(5)** excluding from owner-performed vaccinations, those vaccinations "for diseases which are communicable to humans and which are of public health significance." (**Bold & underlining added.**)

⁸ **Saunders Comprehensive Veterinary Dictionary**, p. 400, col. 2 (4th ed. 2012) defines estrus synchronization as "aimed at having all of the animals in estrus, and later calving or lambing, at the same time. Prostaglandin injection is a common technique used to induce estrus in cows. Estrus synchronization is based on several combinations of hormones, either interrupting the cycle or 'creating' an artificial luteal phase. Ovulation synchronization is used now more commonly in dairy cattle for fixed-time or appointment-time artificial insemination."

Estrus - “the time during the reproductive cycle in animals when the female displays interest in mating and in most species will stand to be mounted by both sexes and mated by males. In most cases the animal is about to or have just ovulated, and therefore pregnable, but some, including pregnant ones, may not be in true estrus. At the time of estrus there are behavioral signs and changes in external genitalia. In cows these include the passage of very clear mucus, swelling, of the lips of the vulva and hoof brush marks on the side of the rump. Mares show frequent urination with squatting, elevation of the tail, swelling and winking of the vulva and rhythmic extrusion of the clitoris. Ewes are not demonstrative other than positioning themselves close to the rams or teasers. Goat does not bleat a lot, rub themselves against fixed objects and hold their tail high, urinate frequently and evert the clitoris. Bitches wander away, stand with their tails held to one side and are attractive and receptive to males. Queens may be very demonstrative, especially Siamese. They rub against anything, crawl with their belly close to the floor, roll and vocalize with a deep, throaty growl.” **Saunders Comprehensive Veterinary Dictionary**, p. 400, col. 1 (4th ed. 2012).

Luteal - “pertaining to or having the properties of the corpus luteum or its active principle.” **Saunders Comprehensive Veterinary Dictionary**, p.661, col. 1 (4th ed. 2012).

Luteal phase - “the stage of the estrous cycle during which the effect of the corpus luteum dominates and the cow is anestrous because of the high concentrations of progesterone in the blood.” *Id.*

⁹ **Rev. Stat. Mo. § 340.200(8)** does define an “**emergency**” as “when an animal has been placed in a life-threatening condition and immediate treatment is necessary to sustain life or where death is imminent and action is necessary to relieve pain or suffering.” **Rev. Stat. Mo. § 340.200(25)(f)** defines an “**emergency clinic**” as “a facility established to receive patients and to treat illnesses and injuries of an emergency nature.”

See also, **Rev. Stat. Mo. § 340.216.1: Practice without a license prohibited; prohibited acts; exceptions**, stating that nothing in the **Missouri Veterinary Practice Act** shall be construed as prohibiting:

(1) Any person from gratuitously providing emergency treatment, aid or assistance to animals where a licensed veterinarian is not available within a reasonable length of time if the person does not represent himself or herself to be a veterinarian or use any title or degree appertaining to the practice thereof;...” (Underlining added.)

¹⁰ **Avian** – “pertaining to or emanating from members of the class of Aves.” **Saunders Comprehensive Veterinary Dictionary**, p. 99, col. 1 (4th ed. 2012).

Aves – “a class comprising all of birds. Any vertebrate, in fact any living organism that has feathers is a bird. All birds have feathers. Besides the disease that afflict them as birds, they are also of importance as vectors of disease for other species; known ones include West Nile fever, avian influenza, erysipelas, salmonellosis, listeriosis, equine encephalomyelitis.” *Id.*

¹¹ “A carrier, especially the animal (usually an arthropod) which transfers an infective agent from one host to another.” **Saunders Comprehensive Veterinary Dictionary**, p. 1164, col. 2 (4th ed. 2012).

Arthropod – “an individual of the phylum **Arthropoda**.” (Bold original.) *Id.*, p. 84, col. 1.

Arthropoda – “a phylum of the animal kingdom including bilaterally symmetrical animals of exoskeleton segmented bodies bearing jointed appendages; embracing the largest number of known animals, with at least 740,000 species, divided into 12 classes. It includes arachnids, crustaceans and insects.” *Id.*

Phylum – “a primary division of the plant and animal kingdom, including organisms that are assumed to have a common ancestry.” *Id.*, p. 852, col. 1.

¹² “Any disease-producing agent or micro-organism.” **Saunders Comprehensive Veterinary Dictionary**, p. 824, col. 1 (4th ed. 2012).

Pathogen risk factors – “risk factors dependent on the characteristics of the pathogen, e.g., virulence or persistence in the environment of a bacterium or virus.” *Id.*

¹³ “**One Health (OH)** is the concept that the health of animals, the health of people, and the viability of ecosystems are intricately linked. As the link among human and animal populations, environmental changes, (ecological and climate), and global movement evolve, the risk of disease transmission between animals and people has increased. An OH approach embraces the idea that disease problems that adversely impact the health of humans, animals, and the environment can only be solved through improved communication, cooperation, and collaboration across disciplines and institutions. OH supports the idea that healthy productive livestock and pets lead to healthy people and sound environments through food, economy, and companionship.” United States Department of Agriculture, Animal & Plant Health Inspection Service (January 3, 2013). Also, discussing **Animal Diseases, Animal Diseases by**

Species, Animal Health, Laboratory Information and Services, Veterinary Biologics, Veterinarian Accreditation, Veterinary Services, Veterinary Services Data Standards, Animal Health Reports, Centers for Epidemiology and Animal Health (CEAH) and Professional Development Training. http://www.aphis.usda.gov/animal_health/

Epidemiology – “1. the study of the relationships of various factors determining the frequency and distribution of diseases in a community. 2. the field of veterinary medicine dealing with the determination of specific causes of localized outbreaks of infection, toxic poisoning, or other diseases of recognized etiology. 3. the field of veterinary medicine dealing with the investigation and establishment of risk factors for disease and production problems of unknown or undetermined cause. 4. the study of disease in communities. Called also epizootiology.” *Saunders Comprehensive Veterinary Dictionary*, p. 385, col. 1 (4th ed. 2012).

Etiology – “literally the science dealing with the causes of disease, common usage is the causes of diseases.” *Id.*, p. 402, col. 1.

¹⁴ See <https://www.avma.org/KB/Resources/Reference/Pages/One-Health94.aspx>

¹⁵ “**One Health – What is One Health?** One Health is the integrative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and the environment. Because of their expertise, veterinarians play critical roles in the health of animals, humans, and even the environment, but these roles are often overlooked or unrecognized. Nonetheless, veterinary medicine is the only profession that routinely operates at the interface of these three components of One Health.”

(Underlining added.) <https://www.avma.org/KB/Resources/Reference/Pages/One-Health94.aspx>

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