Chapter 5 FAMILY-OWNED ANIMAL HEALTH SERVICES

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INTRODUCTION

Family-owned animal health services have changed immensely since their beginnings in the early 20th century, not only in what care is provided but also how that care is financed and documented. This chapter covers the history of privately owned animal care in the US Army Veterinary Corps, various opportunities for US Army Veterinary Services personnel, the reorganization of Army veterinary treatment facilities, two standardization programs for military pet care, and several special services and programs that have been provided by Veterinary Services personnel.

EVOLUTION OF MILITARY-PROVIDED PET CARE SERVICES

Preventing transmission of zoonotic diseases to service members and their families has been of utmost importance throughout the history of the Army Veterinary Corps and is a main emphasis of its public health mission. Although military veterinarians have long provided some general veterinary care to service members' dogs, cats, and other pets, the Veterinary Corps' original and primary motivation to treat privately owned pets was to prevent disease transmission such as rabies to humans, military animals, and communities, particularly during animal movement.

As far back as 1928, Army veterinarians vaccinated pets against rabies, a disease that can be fatal to humans and animals. On Army installations, the provost marshal initially had two mandates for animals that resided in government housing: (1) all dogs and cats had to be registered annually, and (2) they needed annual rabies vaccinations to renew the registrations each year. Unregistered animals and strays were subject to impoundment and disposal. In addition to providing vaccination services, Army veterinarians also conducted physical examinations and issued veterinary health certificates to pets prior to their transportation. Upon arrival at their destination, these animals were kept under quarantine or veterinary observation until declared free of contagious diseases.¹

Later, the military initiated vaccination programs for diseases that could be transmitted to military working dogs (MWDs), including distemper, adenovirus (hepatitis), parainfluenza, leptospirosis, and parvovirus. Military veterinarians also began vaccinating cats for common feline viruses.

Military programs for other personally owned animals have also changed over the years. For example, before World War II, military officers' privately owned horses were given the same veterinary care as that provided for Army-owned horses and mules.² Today, most installation horse stables have either disappeared or are run by private clubs. Veterinarians stationed on installations with equine boarding facilities offer only limited testing and vaccination services in addition to providing mandatory sanitary inspections of installation stables on a quarterly or monthly basis. (See also the section on horses in this chapter and Chapter 8 in this textbook, Military Equine Programs.)

After establishment of the US Air Force Veterinary Corps in 1949, the Air Force Veterinary Corps serviced Air Force installations. The Army Veterinary Corps provided veterinary services to Army installations and shared provision of veterinary services to Navy and Marine Corps installations with the Air Force. However, upon dissolution of the Air Force Veterinary Corps in 1980, the Department of the Army expanded Army services to provide animal health care to all military installations.³ (Although the executive agency has shifted in recent years, the Army still provides veterinary support for all military service branches; see also Chapter 1, Military Veterinary Support Before and After 1916.)

In 1969, an agreement between the US Army Veterinary Corps and the American Veterinary Medical Association (AVMA) limited the practice of military veterinary medicine in pets within the United States (Brigadier General Frank A. Ramsey, Chief, US Army Veterinary Corps, written correspondence to Dr Richard B. Williams, May 20, 1983). Shortly after this time, military veterinary facilities were referred to as ADPACs, an acronym for Animal Disease Prevention and Control, which emphasized the ADPACs' preventive medicine services and downplayed their limited veterinary services for privately owned animals.⁴

Essentially the only services allowed for pets by Army regulation and the initial AVMA military animal disease prevention and control policy were health certificates, vaccinations, deworming, and diagnosis and treatment of potentially zoonotic conditions. Pet surgery was restricted to those emergency procedures necessary to prevent undue suffering or to save the life or limb of animals before transporting to a civilian veterinarian for further care⁵ (Brigadier General Frank A. Ramsey, Chief, US Army Veterinary Corps, written correspondence to Dr Richard B. Williams, May 20, 1983). All other medical and surgical conditions had to be referred off the installation to local civilian veterinarians for further workup and treatment. The impetus behind the AVMA policy was to limit competition with the civilian veterinarians in communities surrounding military installations. It also focused Army veterinarians on their primary missions. Privately owned pet care was, and remains today, a mission that ranks in priority behind three other veterinary missions: (1) care for MWDs and other government-owned animals, (2) food safety, and (3) public health.⁶⁷

Some geographic exceptions were made to the AVMA policy regarding Army-provided pet care. In military terms, the 48 contiguous United States are called the "continental US," commonly referred to by the acronym, CONUS; the two noncontiguous US states (Alaska and Hawaii) and overseas locations are considered "outside the continental United States" or by the common reference, OCONUS. Because of language barriers and a lack of equitable veterinary standards in several countries where US service members and their families are stationed, full-service military veterinary clinics were established at many OCONUS locations. These clinics provided a wider array of veterinary services for pets of authorized personnel than ADPAC facilities could, including surgery and treatment for conditions other than zoonoses. At some OCONUS locations, military veterinarians even provided 24-hour emergency care. These extra services were not against policy because the AVMA agreement applied only within the United States.⁵

However, in some remote locations, an exception to policy allowed full-service veterinary clinics to operate even in the United States because no civilian veterinary clinics were located nearby (eg, Ft Irwin, California, and White Sands Missile Range, New Mexico, both situated in the desert a long distance from a city or large town). At OCONUS locations and some remote locations, DoD civilians were also authorized veterinary care for their pets because these civilians could receive DoD medical care when living in these areas.⁵

By the early 1990s, key Veterinary Corps leaders realized that the policy prohibiting Veterinary Corps officers (VCOs) from practicing surgery and services beyond preventive medicine in pets caused various second- and third-order effects: without more animal practice, officers lost needed veterinary skills; MWD quality of care gradually declined; officers began to lose interest in staying in the Veterinary Corps; and retention became a problem.

The 1994 version of the triservice veterinary regulation (ie, Army Regulation 40-905, Secretary of the Navy Instruction 6401.1B, and Air Force Regulation 48-131) corrected some of these detrimental effects by permitting the military to authorize population control and other animal surgical programs within the United States and its territories. Under this regulation's provisions, VCOs established spay and neuter programs for unclaimed, adoptable stray dogs and cats found on installations after receiving prior approval from commanders.⁸

As these new programs for pets developed, ADPAC facilities were named "veterinary treatment facilities" or, more commonly, VTFs. Not only did the term VTFs align with the new acronym used for human care facilities of the time (ie, "medical treatment facilities" or MTFs), but use of the term VTFs also strengthened the animal mission by adding the word "veterinary" to the names of treatment facilities operated by the Veterinary Corps.⁸

As part of the Army Medical Department's reorganization, the US Army Veterinary Command (VETCOM) was established on October 2, 1994, to unite broadening veterinary activities scattered across the United States and institute new common goals and policies.⁹ To maintain and develop VCOs' clinical skills, the second VETCOM commander, Colonel Gary Stamp, started a clinical proficiency initiative that required each VCO to perform a small number of cases each quarter in three categories: (1) surgeries, (2) medical workups, and (3) emergency medicine. Eventually, the required number of cases within each category expanded to seven, and 7-7-7 became the minimum standard, with no limits set on the maximum (Figure 5-1) (Colonel [Retired] Gary Stamp, written communication, February 2015). (See also Chapter 3, Military Working Dog Procurement, Veterinary Care, and Behavioral Services.)



Figure 5-1. An Army Veterinary Corps officer counsels a client about surgical options after diagnosing her pet Scottish terrier with a cranial cruciate ligament rupture. Photo courtesy of Dr Nancy Vincent-Johnson, chapter author.

MILITARY VETERINARY TREATMENT FACILITIES (VTF) POLICY

Army veterinarians provide health care for government-owned animals and for animals of individuals authorized military privileges, with an emphasis on wellness, preventive medicine, and outpatient services. Veterinary services will be provided across the full spectrum of veterinary medicine. These services are an important benefit for service members and their families. These clinical platforms also provide a critical training and proficiency base for Army veterinarians. Authorized veterinary services, for both active duty and retired personnel, are the same for personnel living on or off post. The military veterinary treatment facility is operated by the veterinary officer or designated civilian veterinarian in charge, and all assistants are under their direct supervision. A valid Veterinarian-Client-Patient relationship (VCPR) will be established prior to initiating treatment. Veterinary services will not be provided in support of any commercial operations raising animals (pet or livestock) for sale or profit.

Cooperation and referral between civilian and military veterinary personnel is strongly encouraged. Participation of military veterinary service personnel in local and state veterinary activities such as associations, immunization campaigns, fairs, epizootic control programs, public relations functions, etc. in a professionally complementary manner is authorized and encouraged. The vital "One Medicine" human and animal health effort may require government and civilian veterinarians to partner in an overwhelming event such as natural or man-made disasters or disease outbreaks. Army veterinarians may be authorized to assist the local veterinary association or other appropriate civilian authority in these situations, upon request and, with the approval of their chain of command.

The AVMA recognizes and supports Department of Defense animal and public health programs. In the event clarification is needed on the activities of a particular military treatment facility, the president of the local veterinary association should first contact the veterinary officer in charge, and if further clarification is needed, the American Veterinary Medical Association.

Exhibit 5-1. American Veterinary Medical Association (AVMA) Military Treatment Facilities (VTF) Policy (current as of April 2015 and under review).

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Source: AVMA website. https://www.avma.org/KB/Policies/Pages/Military-Veterinary-Treatment-Facilities-Policy.aspx. Accessed February 17, 2015. (Updates to current policy, if any, will be provided at the AVMA website after April 2015.)

The original AVMA agreement that set limits on military pet care in the United States was later revised to the current* version, which reads in part as follows: "Veterinary services will be provided across the full spectrum of veterinary medicine. These services are an important benefit for service members and their families. These clinical platforms also provide a critical training and proficiency base for the Army veterinarians."¹⁰ (*Exhibit 5-1 is a reproduction of the entire AVMA policy for military VTFs as of April 2015. This policy is currently under review; any changes to the existing policy will be available in the future at the AVMA website.)

FINANCING OF VETERINARY CARE FOR PRIVATELY OWNED PETS

Although funds are appropriated by Congress to provide veterinary care to government-owned animals, privately owned animal veterinary care operations are financed through nonappropriated funds (NAFs), which are self-supporting. NAFs are generated through the sale of goods and services to support or provide authorized programs; in other words, the money raised from an individual program's sales is used for the collective benefit of the program that generated them. A few examples of other entities that operate using NAFs include morale, welfare, and recreation facilities such as bowling alleys, child development centers, and military exchange and lodging programs. However, the Veterinary Services NAF is quite different from other NAFs. Because veterinary facilities are not considered morale, welfare, or recreation facilities, the Veterinary Service NAF was established as a separate, supplemental mission fund under the NAFs system.^{5,8,11} Operational control of the veterinary facility, including fiscal decisions, is handled by the installation veterinarian.

Rather than aiming to make large profits, the goal of the Veterinary Service NAF is to be a nonprofit activity that generates enough funds to cover expenses including NAF salaries. (If any profits are made, they are to be put back into the veterinary facility [eg, buying new equipment and increasing services].) Although the salaries of Army VCOs and Army animal care specialists are paid through appropriated funds because these personnel are in the military, civilian receptionists who work at the veterinary facility are paid through NAFs funds generated by the fees collected from pet owners who utilize the facility.

The NAFs collected also must be sufficient to purchase and restock the large inventory of medications and supplies that are used to provide care for privately owned animals. In addition to the NAF fees that cover the actual costs of the products and services rendered, a \$2.00 user fee is charged with each transaction. The mandated user fee goes to the US Treasury to offset the use of appropriated fund resources that support the NAF activity, namely military personnel.¹²

Demand for pet appointments at military clinics usually outnumbers the supply available. In order to better meet clientele needs, many veterinary facilities started hiring civilian veterinary technicians using NAFs. NAFstechnicians allowed for continued availability of pet appointments during shortages of Army animal care specialists and increased the number of appointments overall. However, NAF technicians could only work when a VCO was in the building to supervise appointments. Because of this restriction, it became common practice to add civilian NAF veterinarians to VTF staffs (Sergeant First Class [Retired] Tracey L. Draper, Deputy Director for Veterinary Treatment Facility Operations, Assistant Fund Manager, US Army Public Health Command, Veterinary Services Central Fund, written communication, May 2015). This addition provided for an increased number of available appointments even when the VCO was out of the facility and in other situations where continuity of care might be affected (eg, when the supervising VCO moved, attended a lengthy military school, or had to focus on the more primary missions of food inspection, MWD care, and public health).

Unfortunately, as the number of NAF employees increases, the fees charged to clients also have to increase to cover the cost of additional wages. Recently, due to manning changes necessary to provide deployed veterinary support for combat operations during the Iraq and Afghanistan conflicts, some VCO and noncommissioned officer-in-charge authorizations were converted to general schedule positions. General schedule personnel retain the same spectrum of responsibilities as were held by VCOs or noncommissioned officers-in-charge and because these positions are paid for with appropriated funds, they do not contribute to increased NAF costs.

Historically, large variations existed in the scope of services provided and the amount of fees charged to clients for pet services among various military veterinary facilities. Although assigned VCOs were responsible for the clinical operations of their respective veterinary facilities, local installation NAFs councils, which managed individual NAFs, reviewed and often influenced these operations. In 2008, VETCOM began an initiative to consolidate all veterinary facilities under one central NAF fund (ie, the Veterinary Service Central Fund) (Sergeant First Class [Retired] Tracey L. Draper, Deputy Director for Veterinary Treatment Facility Operations, Assistant Fund Manager, US Army Public Health Command, Veterinary Services Central Fund, written communication, May 2015). The goals of this consolidation were to standardize fees, expand services, and increase continuity of care by being able to hire additional NAF veterinarians and technicians where needed. In addition, by consolidating under a single umbrella account, military clinics received price breaks on bulk drug and supply purchases, producing cost savings that could be passed on to clientele.

Veterinary facilities from Army, Navy, and Marine Corps installations converted from their individual NAF to the one central NAF fund in May 2012. Operations on Air Force installations converted in October 2012 (Sergeant First Class [Retired] Tracey L. Draper, Deputy Director for Veterinary Treatment Facility Operations, Assistant Fund Manager, US Army Public Health Command, Veterinary Services Central Fund, written communication, May 2015).

MAINTENANCE OF PRIVATELY OWNED ANIMAL HEALTH RECORDS

Veterinary medical records are initiated on privately owned animals at the time of animal registration or at the first visit to the veterinary facility. Traditional hard-copy medical records consisted of the green record jacket, Defense Department Form 2344, and inside, on the left, a Defense Department Form 2343, Veterinary Health Record, which was used as a cover sheet to display pertinent items such as owner information, animal data, immunization data, a master problem list, and a record of laboratory test procedures. The right-hand side of the record held the Standard Form 600 forms documenting the doctor's and technician's medical notes. Many other DoD forms and standard forms also were filed within the pet health record, including the rabies vaccination certificate and health certificates.¹²

With the advent of computerization came the transition to electronic medical records. At first, veterinary facilities transitioned at will to software programs of their choice. Even though most facilities opted to use software for invoicing and inventory control only, not for taking medical notes, many different programs were in use. Transitioning from one facility to another often was difficult because personnel had to learn a new system with each change of station. The large variety of programs also generated very different-looking reports, making data comparison difficult from one facility to the next. Because of these issues, VETCOM encouraged all VTFs to standardize to one commonly used veterinary medical record software program called AVImark (McAllister Software Systems, Piedmont, Missouri). By September 2009, all facilities had made this transition, which allowed for implementation of standardized wellness packages (Sergeant First Class [Retired] Tracey L. Draper, Deputy Director for Veterinary Treatment Facility Operations, Assistant Fund Manager, US Army Public Health Command, Veterinary Services Central Fund, written communication, May 2015).

Veterinary personnel also began to use AVImark's medical recordkeeping feature to document their medical notes directly into the computer. The use of one system drastically improved note-keeping efficiency because veterinarians and technicians no longer had to learn new programs when they moved from one location to the next. However, because each AVImark program resided only on the computer hard drives or local server within the building, the individual AVImark programs could not communicate with each other. All animal data had to be completely reentered when clients changed veterinary facilities. Veterinarians and staff also could not retrieve records from another facility, which was problematic when proof of a previous vaccination was required but could not be accessed.

In 2005, strategic planners recognized that a webbased system of electronic veterinary medical records similar to CHCS and AHLTA would allow global access of records across all VTFs and make data mining possible for epidemiologic investigations. In 2007, a source selection board chose a vendor to build a web-based system to be used by all Veterinary Services personnel. Ultimately, the planned Veterinary Electronic Medical Record system was replaced by a similar system called the Remote Online Veterinary Record (ROVR), which was fielded worldwide to all VTFs in 2013 to 2014. ROVR can be accessed only by credentialed personnel via any common access cardenabled computer. With the mandated ROVR system, client and animal data no longer has to be reentered with each client move, and permissions can be granted to access data from other facilities when the need exists (Lieutenant Colonel Kay D. Burkman, VSSM Subject Matter Expert, oral communication, February 2015).

TRAINING FOR MILITARY PET CARE PROVIDERS

Army Enlisted Animal Care Specialists

The trained Army animal care specialist plays an extremely important role in the provision of military veterinary care to pets. Previously classified as the military occupational specialty (MOS) of 91T, the animal care specialist's designator was changed to 68T or "Tango" in September 2006 because of reclassification of the medical MOS series.¹³ Individuals with the 68T MOS must possess the skills of medics, laboratory technicians, X-ray technicians, nurse anesthetists, operating room technicians, pharmacy technicians, patient administration specialists, and dental hygienists, all rolled into one. At all duty locations, Tangos perform multiple tasks, including administering anesthesia, placing intravenous catheters, prepping animals for surgery, assisting the veterinarian in surgery, testing blood and urine, performing dental cleanings, taking X-rays, and managing the animal bite and rabies control program (Figure 5-2).

Tangos learn many of these skills on the job because the advanced individual training (AIT) school for 68Ts is shorter than the training for personnel at any other medical AIT school. The training received at the AIT school for Tangos is also much shorter than that of their civilian counterparts: veterinary technicians. Because of the length and scope of their education, only graduates of civilian programs can sit for individual state veterinary technician licensing examinations. Even though the brevity of their AIT makes Tangos



Figure 5-2. An Army animal care specialist (68T) assists a Veterinary Corps officer in changing a bandage on a pet dog belonging to a military family.

Photo courtesy of Dr Nancy Vincent-Johnson, chapter author.

ineligible for state licensing, once assigned to their permanent duty station, they undergo credentialing based on the tasks listed in the *Soldier's Manual and Trainer's Guide MOS 91T Animal Care Specialist*, becoming critical force multipliers by enabling the military to provide more services to many more pets than could be seen by the base veterinarian alone.¹⁴

Tangos assist veterinarians with military family animals' sick call appointments just like licensed veterinary technicians do with pets in civilian practices, but unlike veterinary technicians in civilian practices, credentialed Tangos also can handle military family animals' wellness appointments independent of veterinarians. During these wellness appointments, Tangos perform vital sign checks, obtain brief health histories, perform screening physical exams, obtain blood for heartworm and feline leukemia tests, perform other laboratory procedures, administer vaccines, insert microchips, and dispense preventive heartworm and flea and tick products. Tangos also answer client questions regarding health and training and alert the veterinarian when health problems are identified. Because there are relatively few Army veterinarians to cover all branches of the Armed Forces worldwide, the Tangos' ability to provide diverse pet care assistance is imperative to the success of the Veterinary Corps' animal care mission.

When a veterinarian is not physically present in the military clinic, Tangos are normally limited to performing noninvasive animal care procedures such as fecal examinations. However, an exception to policy has occasionally been granted in some remote OCONUS locations (eg, the Azores), allowing Tangos to perform vaccinations, heartworm testing, and minor treatment for parasites and ear infections in the absence of a veterinarian. The Tangos who singularly perform these services not only make increased veterinary care possible for military pets that have no permanently assigned veterinarians, but also allow these veterinarians to concentrate on more serious health issues (eg, performing surgical procedures) during their limited remote-site visits (Sergeant First Class [Retired] William L. Wade, Licensed Veterinary Technician, Registered Licensed Animal Technologist, Certified Professional Institutional Animal Care and Use Committee Administrator, written communication, March 2015).

New Army Veterinary Corps Officers

Most veterinarians enter the Army Veterinary Corps shortly after graduation and are typically assigned to duty sites where they are the only veterinarian; these assignments can be somewhat overwhelming to the new graduate who usually has had limited hands-on experience. (See also Chapter 3, Military Working Dog Procurement, Veterinary Care, and Behavioral Sciences.) Unlike most of their civilian counterparts who enter internships or go into private practice under the direct supervision of a seasoned clinician or practice owner, new VCOs may not have mentors nearby when performing surgery, seeking advice on medical cases, or managing a business.

Although the problems faced by junior VCOs were recognized for quite some time, a solution for them was not simple. After much work and several briefings to the staff of the Army Surgeon General, a First-Year Graduate Veterinary Education (FYGVE) program was eventually approved. The first FYGVE class started in fall 2010 with five new graduate veterinarians who reported to the Ft Belvoir Veterinary Center (VETCEN) for the first iteration of the 10-month program. Since inception, participating VCOs have alternated between clinical and nonclinical rotations (eg, public health and food protection) every 2 to 3 weeks. During clinical rotations, VCOs typically spend a week conducting MWD appointments, another week conducting privately owned pet appointments, and throughout the rotation block, the VCOs also perform surgery and other procedures. During the week of MWD appointments, VCOs are also on call for MWD emergencies. (Lieutenant Colonel [Retired] Nancy Vincent-Johnson, chapter author, unpublished data, fall 2010).

Clinical rotations are supervised by a 64F clinical specialist at each participating veterinary center (Figure 5-3). Learning is supplemented by various



Figure 5-3. A 64F instructor for the First-Year Graduate Veterinary Education program demonstrates the use of a vessel-sealing device during an emergency splenectomy procedure on a dog.

Photo courtesy of Dr Nancy Vincent-Johnson, chapter author.

activities, including daily group case discussions, critical review of journal articles, pathology rounds, topic presentations, and lectures by outside speakers. Participants are also allowed 1 to 2 weeks to perform off-site elective rotations such as spending time with a veterinary ophthalmologist, a veterinary neurologist, a veterinary emergency practice, or an equine veterinarian at Joint Base Myer-Henderson Hall, Virginia (Lieutenant Colonel [Retired] Nancy Vincent-Johnson, chapter author, unpublished data, 2014).

In 2011, additional FYGVE programs were established at Ft Bragg, North Carolina, and Joint Base Lewis-McChord, Washington, allowing for approximately 15 participants in all. From 2012 to 2013, four more sites opened at Ft Benning, Georgia; Ft Campbell, Kentucky; Ft Hood, Texas; and Ft Carson, Colorado, allowing virtually almost all new Veterinary Corps accessions to participate in the FYGVE program. As the other FYGVE sites opened on various military installations, rotation schedules have varied from the Ft Belvoir initial design. Each site runs the details of its own program within a set of standard guidelines; specifics are often based on the numbers of participants, which changes slightly from year to year (Lieutenant Colonel Jennifer Beck, 64F FYGVE instructor, oral communication, April 2015).

Specialized Army Veterinary Corps Officers

VCOs who stay in the Army after their initial two tours are encouraged to apply for long-term health education training, including clinical medicine programs. Officers have completed residencies in veterinary internal medicine, surgery, emergency medicine and critical care, radiology, and sports medicine. Veterinarians who successfully complete their clinical residency and become board-certified in their specialty are given the MOS designator 64F, nicknamed "Foxtrots," and are assigned to work in various clinical positions. The FYGVE program enables participants to get a solid clinical experience that is extremely beneficial to those who decide to pursue one of the clinical specialties and become Foxtrots. (See also Chapter 3, Military Working Dog Procurement, Veterinary Care, and Behavioral Sciences for more information about Foxtrots, FYGVE, and long-term health education for VCOs.)

STANDARDIZATION OF MILITARY PET CARE

Clinical Credentialing Program

In 2005, the VETCOM commander, the late Colonel Clifford Walker, proposed that a clinical credentialing program be developed, assuring all VCOs assigned within VETCOM met a set standard of clinical skills. A credentialing program conducted only in the Southeast Regional Veterinary Command was used as a model for the new VETCOM credentialing program (see also Chapter 3, Military Working Dog Procurement, Veterinary Care, and Behavioral Services). However, the North Atlantic Regional Veterinary Command was chosen to develop, test, and refine the VETCOM clinical credentialing program because this command had just created a new position for a regional 64F clinical consultant.¹⁵

Clinical credentialing is designed to test the newly graduated VCOs' abilities to apply their knowledge and skills in a clinical setting, focusing on the critical skills necessary to provide the best veterinary care to MWDs and privately owned pets. The Clinical Credentialing Checklist used during testing is separated into four critical skill sets—(1) general medicine, (2) anesthesia, (3) radiology, and (4) surgery—and tasks are categorized into those requiring mastery, proficiency, or familiarization (Exhibit 5-2).

Using this checklist, supervisors test groups of two to five junior VCOs over a period of 1 week, ensuring that each VCO knows how to conduct comprehensive physical, neurologic, orthopedic, and ocular examinations; interpret electrocardiograms and radiographs; and perform anesthesia and two different types of surgery. Evaluations normally take place in the junior officer's everyday work environment, in familiar facilities and with the usual equipment and clinical staff.

Tasks are graded as a "Go" or "No Go." Those that are "No Go's" are trained and retested during the same credentialing period when possible. If the junior officers' first retesting attempts are still not successful, VCO commanders can order additional extensive training in identified weak areas and set clinical limitations until success is achieved.

Because the initial VETCOM program design was highly successful, clinical credentialing became a US Army Institute of Public Health policy that now is applied to all Army VCOs, GS, and NAF veterinarians. Credentialing of surgical and anesthesia tasks must be done within 90 days of assignment or employment, with the remainder of the tasks being credentialed within 180 days.¹⁶

The benefits of clinical credentialing include ensuring a minimal level of clinical competency in military veterinary practitioners, instilling confidence levels in new officers, giving new Army veterinarians an opportunity to ask questions and gain additional training in weak areas, and developing rapport between junior officers and their region's 64F clinical

Name: Ra	nk:					
Duty Site: DV	DVC:					
Proctor's Name: Pro	octor's Signature:					
Primary Tasks			Proctor's			
<u>General medicine</u>		<u>No Go</u>	Initials	Date		
Authorized the perform General Medicine without direct supervise	on*					
Perform physical exam on a MWD						
Perform orthopedic exam						
Perform neurologic exam						
Perform ocular examination						
Interpret ECG						
Manage GDV						
MWD Deployment Processing						
Properly write a SOAP entry						
Maintain a MWD record						
Manage the Trauma Patient						
Sedation and anesthesia	<u>Go</u>	<u>No Go</u>	Initials	Date		
Authorized the perform Sedation and Anesthesia without direct su	pervision*					
Inhalation anesthesia						
Staff safety - initial and annual briefings						
Pre-operative equipment check		\Box				
Determine patient's physical status risk category		\Box				
Plan individualized anesthetic protocol		\Box				
Preparation of patient						
Induction						
Maintenance and Monitoring (manually; Propaq/equi	valent)					
ETCO2, SpO2, Body temperature, HR/RR ECG, Fluids						
Post-operative recovery						
Sedation Protocols						
Pain control (post-operative and chronic pain)						
Anesthetic documentation						
Radiology	Go	<u>No Go</u>	Initials	Date		
Authorized the perform Radiology without direct supervision*						
Radiation safety						
ALARA, staff safety briefings (initial and annual), ra badge program, shielding, annual testing of protective						
Critique standard radiographs and identify features of common MWD						
Surgery Authorized the perform Consul Surgery without direct encouriei		No Go	Initials	Date		
Authorized the perform General Surgery without direct supervision Prepare patient for surgery (clip, scrub, position)						
		\square				
Scrub, gown, and glove-in for a surgical procedure		\square				
Properly drape a surgical patient		\square				
Demonstrate proficiency at the following surgical procedures						
Laparotomy (Incisional Gastropexy)			<u> </u>			
Other Laparotomy proceedures (i.e. OHE, explorator						

(Exhibit 5-2 continues)

Exhibit 5-2 continued

CPR (Basic and Advanced)			
Administer Oxygen Therapy			
Manage dermatologic conditions (skin, ears, perianal fistula, etc.)			
Manage GI disease (diarrhea, parasites)			
Perform dental notations and prophylaxis			
Perform dental x-ray views with proper positioning and technique			
Evaluate dental radiographs			
Manage anaphylactic shock			
Manage heat injury			
Total IV Anesthesia (TIVA)			
Supervise surgical pack and autoclave maintenance		\square	
Evaluate and treat envenomation			
Manage toxin exposure/ingestion		\square	
Infection control/zoonosis	Ē	\square	
Perform standard x-ray views with proper positioning and technique		\square	
Develop an x-ray with automatic processor or Develop an x-ray with Orex CR	Ē	\square	
Perform abdominal ultrasound			
FAST Exam (Focused Assessment with Sonography for Trauma)			
Perform ultrasound-guided percutaneous cystocentesis and aspiration			
Properly write a SOAP entry	H	H	
Maintain a MWD record	H	H	
Perform fine needle aspirate	H	H	
Interpret Cytology Specimen	H	H	
Interpret CBC and chemistry results	H	H	
Review MWD necropsy techniques and specimen submission	H	H	
Process a blood sample	H	H	
Prepare and review blood smear slide	H	H	
Process a urine sample	H	H	
Examine microscopic urine sediment	H	H	
Demonstrate bandaging techniques	H	H	
Perform basic parasitology tests (fecal flotation, skin scraping, HW test)	H	H	
Perform clinical decision-making; determine when to refer an MWD	H	H	
Perform root canal		\square	
Perform dental extraction	H	H	
Perform exploratory laparotomy		\square	
Operate and maintain Piccolo or VetScan chemistry analyzer	H	H	
Operate and maintain I tector of versean chemistry analyzer Operate and maintain I-stat machine	님	H	
•	님		
Operate Magellan anesthesia machine and oxygen concentrator	님	H	
Operate Propag monitor	님		
Operate IV fluid pump	님		
Operate syringe pump			
edentialing certification entered into DTMS ink = items taken directly from VETCOM training guidance Attachment 3 cized tasks = items that are dependent on having the proper equipment or opportune of	clinical case	ç	

and Familiarization. Source: VETCOM Clinical Operations Handbook, VETCOM Headquarters, Ft Sam Houston, Texas, website. https:// vet1amedd.army.mil/862574E500672F73. Accessed April 27, 2015. consultant. These benefits also facilitate consultations and referrals, which result in improved veterinary care for both government-owned and privately owned animals.

Veterinary Medical Standardization Board

In 2007, Colonel David Rolfe became the VETCOM commander. As a board-certified small animal internal medicine specialist, he sought to improve the level of clinical veterinary medicine in 150-plus VETCOM veterinary facilities. He selected a small number of VCOs to develop the Clinical Operations Handbook, a guide that standardizes the way each veterinary facility operates in order to give clients a consistently good experience at every facility.¹⁷ Simultaneously, he directed the establishment of the VETCOM Veterinary Medical Standardization Board (VMSB) to create norms modeled after the human clinical practice guidelines of some of the most successful health maintenance organizations and medical institutes in the United States (eg, using standard formularies and equipment). The VCOs selected to be VMSB members represented various ranks and specialties in the Veterinary Corps; these officers worked in committees to create a set of high but practical standards and create consistency regarding equipment and pharmaceuticals. Three groups were organized: (1) the Formulary Committee, (2) the Equipment Committee, and (3) the Protocol Committee.^{18,19}

The Formulary Committee

The Formulary Committee created a standardized formulary similar to the ones found in military medical treatment facilities. Items not used frequently enough to remain on the formulary are prescribed to an individual patient for purchase at an outside pharmacy. Such standardization is necessary because VCOs generally change duty stations every 2 to 3 years.¹⁹

Before formulary standardization, transitioning VCOs often found their new clinic's shelves stocked with medications different from the ones they typically prescribed at their previous duty site. Rather than using up the existing but unfamiliar stocks before they expired, the incoming veterinarian ordered new prescription pharmaceuticals, resulting in shelves filled with slightly different versions of similar medications, many of which were wasted.

Formulary standardization resulted in several benefits: (*a*) enabling military veterinarians to transition more easily from one facility to another because the inventories are now almost the same at each clinic; (*b*) saving money by combining purchasing power among facilities and changing inventories less frequently; and (*c*) helping consolidate various individual NAFs into one centralized NAF account.

The Equipment Committee

The Equipment Committee researched numerous manufacturers and models before recommending the initial selections for the Veterinary Corps' standardized equipment list. In order to choose only one brand and model of each equipment item that they felt would best serve all veterinary facilities, the committee analyzed feedback and requests from the field and adjusted the list of standardized equipment accordingly. Final selection was based on a number of factors, including functionality, compatibility, reliability, ease of use by the end user, maintenance requirements, upfront and ongoing costs, and availability of expendable supplies or parts (Lieutenant Colonel [Retired] Nancy Vincent-Johnson, chapter author, unpublished data, September 2008).

VETCOM and the subordinate regions or districts then evaluated each clinic's need for new equipment. Rather than automatically replacing functional equipment items with a standardized item, the Equipment Committee mandated that existing equipment be kept in place until its life expectancy ran out to avoid waste and excessive expenditures.

Besides helping cut costs, equipment standardization solved several other common problems among clinics. Prior to equipment standardization, there was great disparity among veterinary facilities' equipment inventories. When VCOs and Tangos transitioned from one veterinary facility to another, they often found either a lack of essential equipment or the presence of equipment that they did not know how to use. Learning how to use a different piece of equipment sometimes proved difficult, especially when a veterinarian or Tango was only filling in temporarily. Other times, purchased equipment turned out to be incompatible with existing systems or expendable supplies, and replacement parts were hard to come by, which led to disuse of the item.

Standardization ensured that all new equipment came with the same options rather than having different configurations. Purchasing numerous identical items also allowed for large price breaks from the manufacturer, which saved the government substantial costs. Additionally, by standardizing equipment, all veterinary facilities have the same capabilities to perform needed procedures such as administering anesthesia, taking X-rays, and providing laboratory testing. Also, training needs to be done only once on standardized equipment; VCOs and Tangos carry their universal training from one facility to the next.

The Protocol Committee

The Protocol Committee, the third of the original VMSB committees, established standards of care predicated on evidence-based medicine whenever possible. Rather than forcing veterinarians to practice an algorithm style of medicine (ie, one in which a decision tree of symptoms or clinical signs leads the clinician to specific laboratory testing, a diagnosis, and a stepby-step protocol for managing a health care problem), this committee set a minimum bar—with parameters on the right and left—and no ceiling, leaving a large box in which to practice. These guidelines ensured that patients received high-quality care, although the specifics of that care could vary depending on the individual veterinarian.

The first product that emerged from the Protocol Committee was the *Anesthesia/Pain Management Standards*. Because many new veterinarians lack confidence using anesthesia, providing guidelines about safe methods for administration of an anesthetic drug and how to critically monitor the patient while under its effects is extremely important. The comprehensive handbook not only sets minimal standards in such areas as preanesthetic workup and anesthetic through postanesthetic monitoring, but it also provides numerous tips and advice on what to do if one encounters abnormal findings on preanesthetic bloodwork or during anesthetic monitoring.²⁰

The handbook establishes several protocols for using anesthesia with specific groups of animals being treated: (*a*) "normal" patients; (*b*) patients suffering from various conditions, including heart disease, kidney disease, and liver disease; (*c*) patients requiring emergency procedures; and (*d*) critically ill patients. Additionally, it lists recommendations for controlling pain before, during, and after surgery using various methods of pain management.²⁰

The *Small Animal Vaccination Guidelines* is another handbook that the Protocol Committee produced. This guide standardizes vaccination protocols and vaccine products so that when clients move, they do not encounter drastic differences in their pets' vaccination schedules or vaccine types from one installation clinic to another. This handbook also takes into account the risk factors for specific diseases that vary among geographical areas. For example, Lyme disease vaccine is highly recommended for dogs in the northeastern and Midwestern states but is not advocated as much for dogs living in the southeastern United States or the West.²¹

Current Committee Activities

Currently, VMSB committee chairpersons discuss issues with committee members by conference call on an annual, a semiannual, or a quarterly basis to consider additions and changes to their specific areas. Requests for additions or changes to the formulary, equipment items, and protocols can be made by any military, NAF, or GS veterinarian via standard request forms. These forms are forwarded to the appropriate committee for review and are used to refine and improve their products. For example, a number of new pharmaceuticals were added to the formulary as a result of field input. Business practices are largely developed and implemented by the Veterinary Service Central Fund, which also accepts feedback from veterinary staff.

REORGANIZATION OF VETERINARY TREATMENT FACILITIES

Around the time the VMSB was established, VET-COM leaders acknowledged that for various reasons, including size or inadequacy of physical facilities and lack of a permanently assigned veterinarian, some VTFs could never be set up to offer the full spectrum of veterinary services. In the past, VTFs were classified by tiers into three different levels: tier one VTFs were those that had a full-time staff consisting of a minimum of one VCO and one animal care specialist with full-time responsibility for the VTF; tier two VTFs offered limited services (although there was an assigned VCO and animal care specialist, these personnel had other major responsibilities that kept them from working full-time in the VTF); and tier three VTFs were considered attending sites because they lacked an assigned VCO (their services were provided by a VCO assigned to a tier two VTF). Mobile clinics were also set up on a recurring basis at installations lacking a dedicated VTF. These clinics were often held in recreational center rooms or other facilities and used minimal equipment and supplies because everything had to be transported in from a fixed facility and set up by the visiting veterinarian and animal care specialist (Lieutenant Colonel [Retired] Nancy Vincent-Johnson, chapter author, unpublished data, September 2000).

Because this terminology was confusing, new terminology was developed, along with standards defining what staffing, equipment, and procedures would be present at each level of the four reorganized facilities: (1) veterinary centers (VETCENs); (2) veterinary activity (VETACs); (3) veterinary treatment facility (VTFs); and (4) veterinary clinics (vet clinics). Tiering of each veterinary medical facility is based on the MWD and government-owned animal population and mission, privately owned animal catchment area, and the geographic location of the facility.²² The majority of veterinary facilities retained the name VTF. Wellness and sick call appointments continue to be available at these VTFs, in addition to appointments for routine surgeries (eg, spay, neuter, and small mass removal) and any unscheduled basic emergency care.²²

Smaller VTFs were renamed "vet" clinics. Vet clinics do not have a full-time, assigned Army veterinarian but are staffed either as an attending site or with a NAF veterinarian and primarily offer wellness appointments and basic sick call with no surgery capability. After basic stabilization, emergent patients are transported from vet clinics to appropriate civilian or military facilities.²²

The other two reorganized facilities-the VET-CEN and the VETAC-are designated as the highest military veterinary tiers because they offer the most comprehensive clinical services. The primary difference between the two facilities is that the VETCENs have a training mission whereas the VETACs do not. The seven VETCENs support the seven FYGVE sites as well as the training of visiting VCOs, Army animal care specialists, and, occasionally, veterinary students. As teaching hospitals, VETCENs are staffed with more than one veterinarian, including a clinical specialist with expertise in surgery, internal medicine, or critical care. Not only do VETCENs have the same capabilities for appointments and basic routine surgery as are offered at VTFs, VETCENs also handle some advanced procedures and surgeries, depending on the equipment, staffing, and capabilities of the assigned specialist. VETCENs also accept referrals from other VTFs on a space available basis²² (Figure 5-4).

VETACs are located on installations that have high numbers of MWDs, government-owned animals, or a very high privately owned animal catchment area. The VETACs' organization resembles the structure of the VETCEN, minus the training mission. All VETACs have an assigned clinical spe-



Figure 5-4. At the Ft Belvoir Veterinary Center, a clinical specialist veterinary medical officer instructs a junior Veterinary Corps officer about performing an abdominal exploratory surgery. The case was referred from another veterinary treatment facility.

Photo courtesy of Marla Grewelle, General Service Veterinary Technician, Ft Belvoir, Virginia.

cialist and increased technical staff and equipment to manage more involved cases. The facilities in Okinawa, Japan, and Vogelweh, Germany, are current examples of VETACs.²²

SPECIAL TYPES OF MILITARY ANIMAL CARE SERVICES AND PROGRAMS

Horse Stables

As mentioned at the beginning of this chapter, the vast majority of installation stables have disappeared, and military-provided care of privately owned horses is very limited. Although the Army still owns some horses and mules (primarily for ceremonial events), many graduate veterinarians focused their training on small animals and do not feel comfortable working on or around equines. Sanitary inspections of military stables and occasional end-of-quarantine examinations of incoming horses may be the only contact some VCOs have with these large animals.

However, for VCOs who have a strong interest in equine medicine, installations that stable governmentowned horses (eg, Joint Base Myer-Henderson Hall; Ft Hood; Joint Base San Antonio-Ft Sam Houston, Texas; Ft Huachuca, Arizona; and West Point, New York) are highly requested duty stations. VCOs with an interest in horses also often provide some services to privately owned horses stabled on military installations such as vaccinations and annual Coggins (equine infectious anemia) testing. Additional services generally are not offered because of limitations in time and resources.

Stray Animal Facilities

Although collection of stray animals on military grounds is a responsibility of the installation commander, the US Army Veterinary Corps has traditionally played important roles in stray animal control. On many installations (mainly Army posts), the Army Veterinary Service was responsible for the confinement of strays and, by default, maintenance of the stray animal facility. At these locations, animals in the stray facility were cared for by veterinary staff—before and after clinical hours—and during weekend and holiday hours. This extra-duty workload not only took a toll on unit morale, it also detracted from the other veterinary missions.

Because of these problems, VETCOM began an initiative to turn over responsibility for stray animal confinement to individual installations. By 2012, most installation Veterinary Service activities no longer had direct responsibility for a stray animal facility. At those military installations with stray animal facilities, Army veterinarians are still responsible for performing sanitary inspections of the facility at least quarterly (but preferably on a monthly basis) to ensure the facilities meet minimum standards of safety and cleanliness. Army veterinarians also examine injured or ill strays, which are considered government-owned animals for the first 3 working days to provide owners sufficient time to reclaim their animals. After that waiting period, animals with good dispositions are typically put up for adoption. Feral animals, as well as those with bad temperaments or severe medical problems, might need to be euthanized.¹²

In addition to providing veterinary care to ill or injured animals, the installation's Army veterinarian may manage a population control program, which involves neutering stray animals prior to their adoption. Expenses for neutering and vaccinating the adoptable strays are recouped through an adoption fee paid by the new owner.

Animal Bite and Rabies Control Program

Of all the missions performed by the Army Veterinary Corps, one of the most important is that of preventing rabies in humans. VCOs and their staff are considered the subject matter experts in rabies for all branches of the Armed Forces. Knowing which species of animals possess a risk of rabies and which do not, how to manage military pets that may have been exposed to a rabid animal, and when and how to test rabies suspects are just a few examples of essential knowledge for the Army veterinarian. (See also Chapter 12, Rabies and Continued Military Concerns.)

toll onas long as it is initiated in a timely manner but is neverrinaryundertaken lightly because it is expensive, painful, and
not without risk of adverse effects.12,23ran anAttempts are made by Veterinary Services staff to
locate the biting animal either indirectly, by contacting
the military police, health departments, and animal
control officers; or directly, by contacting the animal
owner. If the owner lives on an installation, the owner
must bring the biting pet to the military veterinary
facility. Here, the veterinarian will review the animal's
medical record and perform an exam to determine
whether the animal is current on its rabies vaccination
and if it is exhibiting any clinical signs suspicious of
rabies. Depending on the findings, the pet may be al-
lowed to undergo a home guarantine at the owner's

and if it is exhibiting any clinical signs suspicious of rabies. Depending on the findings, the pet may be allowed to undergo a home quarantine at the owner's house or, in some cases, the pet may be required to undergo quarantine in a veterinary facility under the observation of a veterinarian. (Although some military veterinary facilities have the isolation kennels necessary to perform rabies quarantine, some do not. In the latter case, a civilian veterinary clinic would be used to conduct the quarantine.^{12,23})

When a human patient presents to a military treatment facility with any animal bite, a Defense Depart-

ment Form 2341, or animal bite report, is generated

to record all the details about the bite, including a

description of the biting animal and, if it is a pet, the

name and address of its owner, when available. The

report is then forwarded to the veterinary facility re-

sponsible for following up on the biting animal to help

determine risk of exposure to rabies for the patient;

this, in turn, assists the attending physician in deciding

whether or not to vaccinate the patient against rabies.

Rabies postexposure treatment is generally successful

If the pet exhibits neurological signs consistent with rabies at either the prequarantine examination, the end-of-quarantine examination, or at any time during the quarantine, the animal must be euthanized and tested for rabies. Feral (unowned) dogs and cats or wild animal rabies suspects (eg, raccoons, foxes, and skunks) that are captured after biting a person must immediately be euthanized and tested. On military installations, VCOs are responsible for euthanizing and submitting animals for rabies testing and for ensuring that all results are communicated to owners and patients' physicians as soon as they become available.^{12,23}

"Above and Beyond" Program

Each year Public Health Command reviews nominations from numerous veterinary facilities, selecting one to receive the annual "Above and Beyond" Award, an honor started under VETCOM that is still given to units that go out of their way to do more than just their



Figure 5-5. A veterinary staff member and her dog perform an agility demonstration during a pet fair organized and hosted by the Ft Belvoir Veterinary Center.

Photo courtesy of Marge Brandel, civilian client of the Ft Belvoir Veterinary Center, Virginia.

expected duties. Following is a list of some previously recognized accomplishment categories with brief explanations of their exceptional support:

Pet fairs: Pet fairs are community events that feature activities such as pet and owner health walks; pet shows; demonstrations by military working dog teams, dog agility clubs, and dog obedience clubs; distribution of free samples; information booths; and tours of veterinary facilities. Military communities have often hosted such fairs, with installation veterinarians and staff members serving as organizers and sponsors (Figure 5-5).

Pet visitations to hospitals: After undergoing screening for health and temperament, certain animals have been certified by the American Red Cross and other agencies to perform pet visitation to patients in military and civilian hospitals. Several military veterinarians and technicians have participated in this program with their own pets and provided support to others who want to attain certifications for their pets.

Vaccination clinics: Some veterinary facilities took their services to military housing areas so that families unable to transport their animals could still get care for their pets. Other VTFs hosted Saturday or evening clinics for those clients whose schedules would not allow them to bring their animals in for treatment during the week.

Visits to schools and daycare centers: Veterinarians and technicians have visited elementary and preschool classes to give talks and demonstrations on various Veterinary Services' missions such as prevention of animal bites. Frequently, these children got to see various animals accompanying the staff and received educational coloring books featuring animal care themes.

SUMMARY

Even though privately owned pet care is a lower priority mission than government-owned animal care, food inspection, and the public health mission, military veterinary care providers feel that treating pets is a very important and rewarding task. Not only have the pet care services provided by the Army Veterinary Corps expanded over the years because of revised AVMA limitations, but the standard of care provided by Veterinary Services has also improved because of newly established officer and enlisted educational, training, and credentialing programs. The Army Veterinary Services continues to provide care to the pets of service members, retirees, and family members of the Army, Air Force, Navy, Marine Corps, and Coast Guard. All these services are funded by the NAF system and guided by formulary, equipment, and protocol committee standards. Transferring pet records from duty station to duty station also has become easier and more efficient because installation veterinarians now use a universal electronic recordkeeping program. As veterinary personnel strive to provide consistently good services at every veterinary facility, innovative veterinary programs, which enrich the communities being served, continue to be recognized by higher commands.

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