

Chapter 6

HUMAN-ANIMAL BOND PROGRAMS

PERRY CHUMLEY, DVM, MPH^{*}; JAMES T. MILLS, MS, PT[†]; ARTHUR F. YEAGER, MSOT[‡]; MICHELLE NORDSTROM, MS, OTR/L[§]; MATTHEW G. ST LAURENT, MS, OTR/L[¶]; RICK A. YOUNT, MS, LSW[¶]; MOLLY A. MORELLI^{**}; MEG D. OLMERT^{††}; SARA M. HOOK, OTR/L^{††}; PATRICIA B. KENNEDY^{§§}; WINIFRED M. CAREY, MS, OTR/L^{¶¶}; NOAH L. BRISCOE, MA, OTR/L^{¶¶}; CYNTHIA E. RHODES, CTRS^{***}; CECILIA NAJERA, MS, OTR/L^{†††}; TERRY M. MARTINEZ, MSW, LCSW^{†††}; MYRNA CALLISON, PhD, OTR/L^{§§§}; MARY JO BECKMAN^{¶¶¶}; AND LARRY PENCE^{¶¶¶}

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Military Veterinary Services

- * Colonel, Veterinary Corps, US Army; Chief of Human Animal Bond Programs, Department of Defense Veterinary Service Activity, 7700 Arlington Boulevard, Falls Church, Virginia 22042
- [†] Lieutenant Colonel, Medical Specialist Corps, US Army; Physical Therapy Clinical Staff Officer, Rehabilitation and Reintegration Division, 7700 Arlington Boulevard, Suite 112 Defense Health Headquarters (DHHQ), Falls Church, Virginia 22042
- [‡] Lieutenant Colonel, Medical Specialist Corps, US Army; Chief of Occupational Therapy, Rehabilitative Services, Reynolds Army Community Hospital, 4301 Wilson Street, Fort Sill, Oklahoma 73503
- [§] Research Occupational Therapist, Henry M. Jackson Foundation and the Center for Rehabilitation Sciences Research, Walter Reed National Military Medical Center, 8901 Wisconsin Avenue, Bethesda, Maryland 20889
- [¶] Lieutenant Colonel, Medical Service Corps, US Army; Assistant Chief of Occupational Therapy, Department of Orthopedics and Rehabilitation, Walter Reed National Military Medical Center, 8901 Wisconsin Avenue, Bethesda, Maryland 20889
- ^{‡‡} Executive Director, Warrior Canine Connection, 14934 Schaeffer Road, Boyds, Maryland 20841
- ^{**} Director of Dog Program, Warrior Canine Connection, 14934 Schaeffer Road, Boyds, Maryland 20841
- ^{††} Director of Research and Development, Warrior Canine Connection, 14934 Schaeffer Road, Boyds, Maryland 20841
- ^{†††} Rehabilitation Manager, Warrior Transition Brigade, Walter Reed National Military Medical Center, 8901 Wisconsin Avenue, Building 62, Bethesda, Maryland 20889
- ^{§§} Director of Communications and Government Relations, Warrior Canine Connection, 14934 Schaeffer Road, Boyds, Maryland 20841
- ^{¶¶} Occupational Therapist, Warrior Transition Brigade, Walter Reed National Military Medical Center, 8901 Wisconsin Avenue, Building 62, Bethesda, Maryland 20889
- ^{¶¶¶} Occupational Therapist, Warrior Transition Brigade, Walter Reed National Military Medical Center, 8901 Wisconsin Avenue, Building 62, Bethesda, Maryland 20889
- ^{***} Recreational Therapist, Inpatient Behavioral Health, Dwight D. Eisenhower Army Medical Center, Fort Gordon, 300 East Hospital Road, Augusta, Georgia 30905
- ^{††††} Major, Medical Specialist Corps, US Army; Occupational Therapist, US Army 1st Medical Recruiting Battalion, 4550 Parade Field Lane, Suite 5502, Fort George G. Meade, Maryland 20755
- ^{†††††} Lieutenant Colonel, US Army (Retired); formerly, Medical Specialist Corps, Social Worker, Evans Army Community Hospital, 1650 Cochrane Circle, Fort Carson, Colorado 80913
- ^{§§§} Colonel, Medical Specialist Corps, US Army, Executive Officer, Occupational Health Sciences, Army Institute of Public Health, 5158 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010
- ^{¶¶¶} Commander, US Navy (Retired); formerly, Communications Officer, Naval Telecommunications Command, Washington, DC; currently, Co-founder and Volunteer, Therapeutic Riding Instructor, Caisson Platoon Equine-Assisted Program, 268 Old Cropps Mill Road, Fredericksburg, Virginia 22406
- ^{¶¶¶¶} Command Sergeant Major, US Army (Retired); formerly, 5th Command Sergeant Major of the Army National Guard, Washington, DC; currently, Co-founder, Caisson Platoon Equine-Assisted Program, 268 Old Cropps Mill Road, Fredericksburg, Virginia 22406

"If all the beasts were gone, men would die from a great loneliness of spirit, for whatever happens to the beasts soon happens to the man. All things are connected."

— Chief Seattle of the Suquamish Tribe¹

INTRODUCTION

Animals and the Military

Ever since mankind went to war, animals have played significant roles in military operations. Such roles have been either in official capacities such as cavalry horses, sentry dogs, carrier pigeons, and unit mascots or unofficially as a soldier's battle companion. Prior to a battle, the Roman army performed a ritual that involved offering food to sacred chickens: if the chickens ate the food, it was an omen that the gods would join them; if the chickens refused to eat, defeat was imminent.² Lieutenant Colonel George A. Custer, who commanded the 7th Cavalry at the Battle of the Little Big Horn, was known to have his dogs around him during the American Indian campaigns. He affectionately mentions being surrounded by his dogs in several letters to his wife, such as the one written on June 12, 1876: "Tuck regularly comes when I am writing and lays her head on the desk, rooting up my hand with her long nose until I consent to stop and notice her. She and Swift, Lady, and Kaiser sleep in my tent."³

During World War II, highly trained carrier pigeons provided a means of communication. Also during World War II, General Eisenhower once remarked that his Scottish terrier mascots were especially appreciated, "because they are the only 'people' I can turn to without the conversation returning to the subject of war."⁴ Today, most utilitarian uses of animals in the military are not well known, except for the military working dogs that are trained for various uses, including attacking the enemy and detecting explosives or narcotics. However, the US military inventory of animals is actually quite diverse and includes Navy dolphins and beluga whales, Special Operations horses, Marine Corps mules, and even peacocks that act as security alarms at key government installations.

Animal mascots have long been associated with unit esprit de corps. For example, in the spirit of interservice rivalry, service members have boasted the Air Force falcon versus the Army mule or the Navy goat versus the Marine Corps bulldog. Animal mascots have been placed on official unit orders and even given rank by the adoring units that proudly parade them around the military posts. There are many stories of animal mascots being integral parts of combat units, offering pride and stress relief, during challenging periods.

Finally, animals are bona fide members of many military families, with these strong bonds perhaps even assisting with military family transfers or service member deployments. A 1985 book about pets and families notes that pets are a stabilizing factor for children of military families.⁵ A more recent study showed a direct correlation with pet attachment levels and the military pet owner's decision to take the pet with them during transfers, despite the obstacles faced with moving to a new duty location.⁶ Other research shows that for a married couple without children, the attachment level to the pet can be very high, implicating a "surrogate" child relationship with animals (Perry Chumley, chapter author, unpublished study data, 1992).

Animals and Military Healthcare

As more US military personnel commit suicide,⁷ the military seeks to use every possible treatment modality to assist service members. "Of the 750,000 veterans of wars in Afghanistan and Iraq, more than 100,000 have sought mental health treatment from the government, and about half of those have been diagnosed with PTSD [post-traumatic stress disorder]."⁸ In the healthcare field, popularity of the bond that is enjoyed between humans and animals is increasing. Multiple healthcare professions have recognized potential health benefits associated with the interactions that humans experience with animals. For example, it is well-documented that the presence of dogs has been associated with reductions in blood pressure, mean arterial pressure, heart rate, and distress. Furthermore, Friedmann et al demonstrated a decreased mortality rate in pet owners a year after discharge from a coronary care unit.⁹ These examples illustrate the beginning of many potential treatment benefits offered by companion animals in a clinical treatment setting.

Animals have a place in assisting the human healthcare professionals work with patients to meet specific goals through a practice known as animal-assisted therapy (AAT). One of the first documented AAT sessions in the US military was in 1919 at St Elizabeth's Hospital (Washington, DC) when the hospital promoted the use of dogs as a therapeutic intervention with psychiatric patients.¹⁰ Another early documented human-animal

bond program involved the Department of Defense (DoD) at Pawling Army Air Force Convalescent Center (Pawling, New York) during the 1940s.¹¹ The center's farm animals were integrated into the treatment milieu for emotionally traumatized veterans and provided a purposeful interaction during their convalescence. Following World War II, Dr Boris Levinson, a psychologist, used his own dog as a co-therapist during counseling sessions and published his findings in the 1960s.⁴ Interest in this field grew rapidly with the formation of the Delta Society in 1981 (now called Pet Partners), along with international membership and influence, leading to recognized benefits of human-animal bond interactions being accepted by the health-care professions.

In 1983, Lieutenant Colonel Thomas Catanzaro, US Army Veterinary Corps, wrote of the interdependent relationships of animals, humans, and the health professions and also described many considerations for establishing an AAT program in *An Administrator's Guide for Animal Facilitated Therapy Programs in Federal Healthcare Facilities*.¹² In 1985, the US Army Veterinary Corps took the lead in developing a better understanding of human-animal relationships and actively pursued ways for this knowledge to contribute to the military community.

To this end, a Veterinary Corps officer, Major Lynn Anderson, was designated as the Human-Animal Bond Advisor to The Surgeon General of the Army in 1986. The Veterinary Corps also established a 2-year Masters of Public Health program with an emphasis in the human-animal bond and community health specialties at the University of Tennessee in Knoxville. Upon graduating from this program in 1992, Major Perry Chumley became the Veterinary Corps subject matter expert. He established the US Army Service Dog Training Center (SDTC) in 1995 and directed it until 2004 (Colonel Perry Chumley, chapter author, personal knowledge).

A pilot program was initiated to assist physically disabled veterans and exceptional family members at the SDTC. Through the SDTC, stray dogs were trained to become the indispensable helpers for these veterans and family members. The SDTC staff consisted of two civil service animal trainers who trained not only the animals, but also select inmates from the Ft Knox Military Law Enforcement Command's prison. The inmates who assisted with this animal training program could also experience rehabilitation as they transformed the unwanted stray dogs into invaluable helpers for persons in need (Colonel Perry Chumley, chapter author, personal knowledge).

The SDTC graduated its first-trained human recipient and animal teams on Veterans Day 1997. Throughout its 7-year history, the SDTC successfully graduated

over 60 human-animal teams, represented by all of the DoD Services. This program closed in October 2004 because of funding constraints within the Army Medical Department (Colonel Perry Chumley, chapter author, personal knowledge).

Today, various military medical centers support animal-assisted activity (AAA) programs, which are frequently run by the Red Cross. AAA programs occur in both inpatient and outpatient settings and do not require specific patient and animal goals or a therapist. AAA programs typically include animal visitation with volunteers and operate at a number of Army medical centers, most notably at Tripler Army Medical Center (AMC) (Honolulu, Hawaii), Walter Reed National Military Medical Center (WRNMMC) (Bethesda, Maryland), and Brooke AMC (Joint Base San Antonio-Ft Sam Houston, Texas), as well as the Munson Army Health Center (Ft Leavenworth, Kansas). The main purpose of these programs is therapeutic, bringing smiles to the patients, family members, and hospital staff. In doing so, patients focus on the animals, which may help alleviate their fear, anxiety, and pain. Often, the hospital staff reports an increased patient-provider interaction after patients participated in the AAA programs.

An example of the DoD AAA program's continued success is the Tripler AMC animal visitation program, which has existed for over 20 years and has been endorsed by the Annual Hawaii State Red Cross Heroes Award on multiple occasions. Also, before it was deactivated, the US Army Veterinary Command spearheaded a competition each year, recognizing among other best practices the best human-animal bond program among its subordinate branches. (For more information about the Above and Beyond recognition program, see Chapter 5, Family-Owned Animal Health Services.)

As an adjunct to traditional treatment modalities, WRNMMC is currently involved with a service dog training program. This program is run by Occupational Therapy and uses the human-animal bond and mission-based trauma recovery, allowing soldiers with PTSD, depression, and anxiety to train mobility service dogs. Each dog is trained by 60-plus service members over a 2-year timeframe. If the dog passes all requirements, the dog is permanently assigned to a veteran with mobility impairments. The Dwight D. Eisenhower Army Medical Center (Eisenhower AMC) (Ft Gordon, Georgia) also has a dog program that uses one therapy dog to help soldiers recovering from post-PTSD to work with dogs. Both programs are distinctly different but work toward the same purpose: facilitating the patient's goal-oriented therapeutic regimens.

Another human-animal bond program is Task Force Phoenix (Joint Base Lewis-McChord, Washington). This therapeutic program began in 2008 and trains

dogs to become service dogs for physically disabled individuals. The wounded warriors must train their dogs in weekly classes as part of their transitioning process. Contributing to the success of this program are the monthly board meetings with the commands and social work department that access new applications for dogs and help address issues that may arise.

In the military operational environment, pairs of certified therapy dogs have been specially trained and deployed to Iraq and Afghanistan with several combat and operational stress control units. Using therapy dogs has been shown to affect patient at-

titudes, mood state, job satisfaction, stress levels, and resilience level.¹³ Command teams are also more willing to request briefs that focused on life skills and stress management, and service members were more likely to share their concerns, fears, and goals when therapy dogs are used.

Several aforementioned programs are described in more detail later in this chapter. For clinical staff interested in learning more about animal-assisted therapy programs, the DoD technical bulletin *DoD Human-Animal Bond Principles and Guidelines* is an excellent initial source for information and guidance.⁴

DEFINITIONS OF ANIMALS USED IN HEALTHCARE SETTINGS

With few exceptions (eg, medicinal leech therapy), medical interventions using a live animal are defined by the human-animal bond. Encounters center on the dynamic and interactive relationship between humans and animals to provide a psychological or physical benefit.^{14,15} This bond is the core of several therapeutic approaches using various species. The most common are assistance or service animals; therapy and activity animals; and emotional support, companion, or social animals. The efficacy of the human-animal bond as a healthcare treatment modality greatly depends on how the animal's roles are used by a group or an individual. Unlike medical equipment, defining specific functions of a living treatment modality is essential to the maintenance and common logistical factors that affect the health and welfare of the animal. From a legal perspective, definitions are necessary for establishing eligibility, benefits, and even liability when considering whether the standard of care is met. As the military medical community increases its use of animals, specifically canines, clarification of utility is needed to develop policy and ensure good practice.

Assistance or Service Animals

Throughout much of the world, assistance animals are categorized into guide dogs, hearing dogs, or service dogs.^{16,17} However, the term "service animal" is often used in the United States and may mean any type of assistance animal.¹⁷ In 2010, the Americans with Disabilities Act (ADA) 42 United States Code (USC) §12101-12213 and 47 USC §§225, 611 was revised with regard to the definition and use of service animals.¹⁸ For purposes of US law, Title III of the ADA (Title 28 Code of Federal Regulations) (CFR), Part 36 (revised as of July 1, 2013) defines a service animal as "any dog that is individually trained to do work or perform tasks for the ben-

efit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability."^{18(p704)} Further, Title III stipulates that "individuals with disabilities shall be permitted to be accompanied by their service animals in all areas of a place of public accommodation where members of the public, program participants, clients, customers, patrons, or invitees, as relevant, are allowed to go."^{18(p709)}

The ADA definition of disability is a "physical or mental impairment that substantially limits one or more major life activities of such individual."^{18(p702)} To be considered a service animal, a direct link must exist between the animal's work or tasks and the handler's disability. However, the animal's work must be a trained behavior and not a response that is natural to the animal.

The current ADA definition of service animal work or tasks includes, but is not limited to, the following work:

... assisting individuals who are blind or have low vision with navigation and other tasks, alerting individuals who are deaf or hard of hearing to the presence of people or sounds, providing nonviolent protection or rescue work, pulling a wheelchair, assisting an individual during a seizure, alerting individuals to the presence of allergens, retrieving items such as medicine or the telephone, providing physical support and assistance with balance and stability to individuals with mobility disabilities, and helping persons with psychiatric and neurological disabilities by preventing or interrupting impulsive or destructive behaviors.^{18(p704)}

However, the ADA definition does not include violent protection (whether trained or untrained), crime deterrence due to an animal's presence, emotional support, well-being, comfort, or companionship as acceptable work or tasks.

Moreover, although animals such as primates, horses, birds, cats, pigs, and even bovines have all been trained to help humans perform daily tasks, 28 CFR §36.104 limits the definition of a service animal to canines only and does not include any other species of animals, regardless of whether those other species are wild or domesticated, trained or untrained.¹⁸ A trained miniature horse as an alternative to an assistance dog is the one exception to permitting the use of a non-canine species in the role of a service animal in a public space.¹⁸ However, a miniature horse is not defined as a service animal by 28 CFR §36.104 and its use is subject to certain limitations, as outlined in 28 CFR.^{18,19}

The ADA further delineates conditions and rules regarding service animals. A service animal must be housebroken and under the control of the handler at all times; must remain harnessed or leashed at all times (unless that restraint would interfere with the performance of the animal's work); and is not subject to size, weight, or breed limitations.²⁰ A public entity cannot inquire about the nature of an individual's disability; however, an entity may ask the handler whether the animal is required because of a disability and what work or task the animal performs for the disabled person to determine whether an animal qualifies as an assistance animal. The public entity cannot ask for proof of documentation that the animal is a qualified or trained assistance animal or require payment of a surcharge for access to a public space or facility, even if that entity requires payment for pet access.¹⁸

Given legal constraints, canines are the most common species of assistance animals, working well as guide dogs, hearing dogs, or service dogs. Guide dogs assist the visually impaired (blind or low vision) with navigation such as avoiding obstacles, stopping at curbs and steps, and negotiating traffic.²¹ Hearing dogs are trained to alert those with hearing impairment (deaf or hard of hearing) to the presence of people or household and community sounds by making physical contact and, if appropriate, leading their handlers to the source of the sound.²²

Service dogs are also trained to perform a wide variety of common and customized tasks for individuals with impairments other than auditory or vision dysfunction. Assistance with physical, cognitive, or psychiatric disabilities can promote functional independence and increased quality of life. Specially trained service dogs can perform a variety of tasks including, but not limited to, providing balance and counterbalance; alerting the handler to pending medical disorders such as seizures or hypoglycemia or assisting during episodes of those disorders; assisting to pull a wheelchair; retrieving a variety of large or small items; alerting to the presence of an allergen;

turning lights on and off or pushing elevator and automatic door buttons; assisting with functional transfers; and providing nonviolent protection or rescue work.²³ Specific skills that address a particular disability may be included in a service dog's title, such as "balance dog" or "psychiatric service dog." The latter may assist individuals "with psychiatric and neurological disabilities by preventing or interrupting impulsive or destructive behaviors," or mitigating behavioral health disabilities in other ways, per 28 CFR §36.104.^{18(p704)} All of the above examples of assistance dog tasks are consistent with the ADA definition of a service animal.

Therapy and Activity Animals

While federal law does not define therapy and activity animals, some states do have laws defining such animals. Regardless of a therapy or activity animal's legal definition, they are not service animals and do not have the public access privileges afforded to service animals. The main distinction between therapy or activity animals and service animals is that the former, through the use of the human-animal bond, provide services to other people (with or without disabilities) under the direction of their handlers, whereas, the latter are trained to do work or tasks for a single disabled handler. In other words, service animals usually work exclusively for one person at a time, but therapy and activity animals are expected to work reliably and safely with different people, often with many distractions and in group settings.

Recognizing that the therapeutic effects of the human-animal bond are not exclusive to people with disabilities,^{15,24,25} several professional and animal advocacy organizations also have made distinctions among various types of therapeutic animal work. Two such organizations, Pet Partners (formerly known as Delta Society) and the American Veterinary Medical Association, provide definitions for both AAT and AAA.^{25,26}

AAT is part of a goal-directed, individualized healthcare treatment plan for individuals with physical, social, emotional, or cognitive dysfunction, whereas the AAT intervention is documented in the patient's health record. AAT is conducted in scheduled visits, on regular intervals, and directed or delivered by a professional within the practice scope of a healthcare provider. AAT animals may or may not have previous formal assistance or service dog training. Examples of an AAT may be a patient with balance dysfunction using a trained dog wearing a rigid-handled harness to assist with gait training or the use of trained dogs in military combat stress control units for behavioral health interventions.

TABLE 6-1.
CHARACTERISTICS OF TYPES OF ANIMALS USED IN HEALTHCARE SETTINGS

	Guide Dog	Hearing Dog	Service Dog	Miniature Horse	AAT Animal	AAA Animal	Emotional Support Animal	Resident/Facility Animal	Companion Animal	Social/Therapy Dog	Recreational Animal	Mascot
Legally Defined	Yes	Yes	Yes	Yes	In some states	In some states	In some states	No	No	No	No	No
Federal Legal Definition as an Assistance/Service Animal	Yes	Yes	No	No	No	No	No	No	No	No	No	No
Federal Legal Protections for Access to Public Facilities and Spaces	Yes	Yes	With certain conditions	No	No	No	No	No	No	No	No	No
Federal Legal Protections for Access to Housing	Yes	Yes	With certain conditions	No	No	No	Maybe	No	No	No	No	No
Performs Trained Tasks/Work for a Dedicated Handler	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No
Used as Part of a Facility's Planned or Spontaneous Activities	No	No	No	Planned	Both	Both	No	Maybe	No	Both	Both	Both
Used as Part of a Healthcare Treatment Plan	No	No	No	Yes	No	No	No	Maybe	No	No	No	No
Used to Achieve Specific Healthcare Treatment Goals	N/A	N/A	N/A	N/A	Yes	No	N/A	Maybe	N/A	N/A	N/A	N/A
Used with Individualized or Group Sessions	N/A	N/A	N/A	N/A	Individual	Both	N/A	Maybe	N/A	N/A	N/A	N/A
Medical Documentation Required	N/A	N/A	N/A	N/A	Yes	No	N/A	Maybe	N/A	N/A	N/A	N/A
Visit Schedule and Length is Predetermined	N/A	N/A	N/A	N/A	Yes	No	N/A	Maybe	N/A	N/A	N/A	N/A
Visit Conducted/Supervised by a Healthcare Professional or Any Handler	N/A	N/A	N/A	N/A	Healthcare professional	Any Handler	N/A	Maybe	N/A	N/A	N/A	N/A
Can Be a Pet	No	No	No	No	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes
Used to Provide Comfort	No	No	No	No	No	Maybe	Yes	Maybe	Maybe	Maybe	Maybe	Maybe
Used for Recreation	No	No	No	No	No	No	No	No	No	No	Yes	No
Used for esprit de corps	No	No	No	No	No	No	No	No	No	No	No	Yes

AAT: animal-assisted therapy
 AAA: animal-assisted activities
 Adapted with permission from Mills JT, Yeager AF. Definitions of animals used in healthcare settings. *US Army Med Dep J*. 2102; Apr-Jun:12-7.

Comparatively, AAAs are untailed “meet-and-greet” activities without specific treatment goals. AAA can be conducted in group settings with many people, and no documentation is necessary. Unlike a therapy program, the AAA visits and activities can be spontaneous, of any length or frequency, and conducted by any handler. Examples of an AAA might include a volunteer handler with a dog visiting a hospital pediatric oncology ward to raise the spirits of children or a dog training organization bringing their animals to an outpatient facility to positively interact with wounded warriors.

Animals used in AAT and AAA are often dogs, but also frequently include equines, such as hippotherapy programs, which use horses as part of an integrated rehabilitation treatment program supervised by a healthcare therapist.²⁷ Resident or facility animals can be AAT or AAA animals and are similar in that each works with a volunteer or professional whose training falls under the auspices of a formal program.²⁵ The work of a facility animal can include visitations or professional therapy in one or more locations.

Resident animals can live or work in a facility full time. They are often owned by the organization or a facility staff member and can be handled and cared for by the staff, volunteers, or residents. After appropriate training and screening, resident animals that are deemed capable of facility work may formally participate in appropriate planned or spontaneous activities and therapies.²⁵

Resident animals may also function in the role of emotional support, companion, social, or mascot animals. Although the scientific medical evidence for the health benefits of the human-animal bond is not definitive,²⁸ empirical evidence suggests that pets can promote health and well-being in disabled and able persons alike.^{24,29}

Skills that are inherent to a canine do not necessarily assist an individual in completing a task but instead can provide emotional support to an individual. For example, emotional support animals provide comfort to persons with psychiatric disability but do not perform trained tasks to assist the individuals. Because the comfort offered by the mere presence of an animal

is not a trained skill, emotional support animals are not covered under US laws that apply specifically to service animals.¹⁸ However, some persons with psychiatric disability served by emotional support animals may be afforded certain housing rights as a “reasonable accommodation” under Section 504 of the Rehabilitation Act of 1973 (29 USC §701) and the Federal Fair Housing Amendments Act of 1988 (42 USC §3601-3619).^{30,31}

Unit mascots are similarly not considered service animals. According to the governing Tri-Service regulation to qualify as a mascot, the animal must be on orders signed by an officer in the grade of O-5 or higher.³² Such mascots are owned by the DoD and are eligible for veterinary medical and surgical care and support services. However, animal mascot or pet adoption is also subject to the policies and limitations of animal adoptions imposed by theater commands in their respective areas of responsibility such as the US Central Command’s prohibition of animal adoption in the deployed environment.³³ (For information about other relevant command restrictions regarding nonservice animal interactions with deployed military members, see Chapter 12, Rabies and Continued Military Concerns.)

Legal definitions notwithstanding, the overwhelming success of using animals in a therapeutic setting relies more on America’s cultural familiarity with canines and family pets than it does on the legal type of animal used. More specifically, patients respond well to animal interactions regardless of whether the animal is a service dog with public access, an emotional support dog’s efficacy can be proven, or a therapy dog fosters rehabilitative care. For many, a dog’s all-accepting disposition and wide range of intangible health-promoting factors is a welcome oasis in a setting where anxiety, pain, or decreased function is often prevalent.

Some of the defining characteristics of the different types of animals involved in healthcare are presented in Table 6-1. Understanding the legal, professional, and common definitions of these types of animals will help providers deliver the best care and develop appropriate policy to maximize the tangible and intangible benefits of the human-animal bond.

ANIMAL-ASSISTED ACTIVITY AND ANIMAL-ASSISTED THERAPY PROGRAMS

Tripler Army Medical Center Animal-Assistance Programs

At Tripler AMC, there are three distinct, yet similar, animal programs. One program is based on informal pet visits (AAA) by the volunteer teams to promote social interaction between patients, their visiting families,

and medical staff. Touted as one of the first large AAA programs within the DoD, this program was approved and implemented in 1989 to aid in the convalescence of patients by using animals and their volunteer handlers as “co-therapists.” The AAA program places immense value on the animal-patient-staff-family interactions that occur during animal visits. During

each session, animals facilitate socialization, providing unconditional affection for all people involved. This, in turn, promotes an environment with less stress, as evidenced by studies that indicate a lowering of heart rate and blood pressure while petting an animal.³⁴

Another Tripler program involves a therapist who requests the use of an animal in a goal-oriented and documented treatment plan (AAT). Patients who participate in this program (especially younger patients) may experience a decrease in isolation, a temporary escape from pain, a calming of anxiety, and even enhanced self-worth.

The third Tripler program, which offers many of the same therapeutic benefits offered by the other programs, involves patients who are visited by only their own pet animals.

Complementary Intervention for Post-Traumatic Stress Disorder

AAT is utilized in a variety of hospital settings for many patient-related needs to include pain reduction, emotional support, comfort, and specific therapeutic applications in rehabilitation settings.³⁵ Because AAT also has been shown to reduce anxiety ratings in psychiatric patients,³⁶ Rick Yount, a social worker, professional service dog trainer, and chapter author, introduced the use of AAT as a complementary behavioral health intervention to help wounded warriors suffering from traumatic brain injury (TBI) and PTSD symptoms as a result of deployments to Iraq and Afghanistan.

Yount's nonprofit organization, Warrior Canine Connection, harnesses the healing power of the human-animal bond by introducing and teaching wounded warriors with TBI and PTSD symptoms to train mobility service dogs. The program's primary goal and design is reducing the symptoms of TBI and PTSD in wounded warriors who train the dogs.³⁷ These warrior-trained service dogs are then partnered with physically disabled veterans. Warrior participants benefit from reduced symptoms and the development of new communication skills and interests that can be used in everyday life.

A secondary goal is to harness the warrior ethos of taking care of battle buddies. The opportunity to help fellow veterans offers a powerful motivation for warriors to participate in the program. It also permits warriors to shift their mindset from consumers of mental health treatments to contributors who are meeting the critical needs of other wounded warriors.³⁸ Disabled veterans, in turn, benefit as recipients of highly trained service dogs to assist them with functional independence and public access challenges.

Other Specialized Wounded Warrior Service Dog Training Programs

Problems Being Addressed by Military Treatment Center Programs and Supporting Programs

Defense and Veterans Brain Injury Center reported 357,048 total diagnosable cases of TBI from 2000 to 2016.³⁹ PTSD affects 11 to 20% of Operation Iraqi Freedom and Operation Enduring Freedom veterans, 12% of Gulf War veterans, and 15% of Vietnam veterans.⁴⁰

TBI and PTSD are widespread problems in veterans. Close to 40% of the veterans treated at health centers from 2002 through 2008 were diagnosed with PTSD, depression, or other mental health issues.⁴¹ Extended deployments, physical and psychological combat injuries, and unemployment put a severe stress on military families. Being separated, divorced, or widowed can also pose a serious post-deployment risk for mental health problems.

Effective treatments to mitigate TBI and PTSD symptoms are necessary. Both TBI and PTSD may lead to drug and alcohol abuse and other maladaptive behaviors that stress families, relationships, functional independence, and occupational performance. Complementary and alternative medicine approaches can be used as adjunct treatments and may prove to be an effective treatment option. Service dog training programs offer another safe treatment approach to mitigate these symptoms.

To meet the diverse needs of the wounded warriors, the occupational therapy programs at the WRNMMC, Ft Belvoir Community Hospital, and National Intrepid Center of Excellence operate service dog training programs in the National Capital Region. These programs, facilitated by professional service dog trainers, teach warriors service dog training skills through positive verbal and nonverbal communication while also challenging their memory and concentration. Wounded warriors undergoing outpatient rehabilitation in these facilities are eligible to participate in the service dog training programs based on their interest and clinical staff recommendations. The programs' target populations are wounded warriors diagnosed with PTSD, TBI, or both.

Unlike many other AAT programs, the service dog training programs are considered occupationally based behavioral health interventions that are complementary to traditional forms of behavior health treatments. Those involved in the programs are offered the opportunity to address their PTSD symptoms (eg, negative cognition and mood, avoidance, arousal and the re-experiencing of traumatic events) through the process of training a future mobility service dog.

Participation in this program offers the warriors structure. It also facilitates the development of social interaction and other skills needed to successfully train a service dog and reintegrate into the community.

Purpose-Breeding of Dogs Used in the Programs

The dogs are purpose-bred specifically for their health and temperament: social responsiveness, soft temper, and low arousal. The dogs are then loaned specifically for the training from the Warrior Canine Connection (WCC) service dog nonprofit organizations (NPO). The WCC directs the selection and training of the service dog trainers and are ultimately responsible for the health, welfare, and management of the dogs in training.

Throughout the training, typically 18 to 24 months (Figure 6-1), the WCC maintains responsibility for the health and well-being of the service dog in training and maintains the skill sets of the dog trainers, ensuring everyone is using the same standard and the warrior trainers are receiving the best and most consistent information and practice. Once fully trained as a mobility service dog, determined by a rigorous evaluation completed by the WCC, the dog is then placed with a qualifying veteran, based on their needs and the dog's skill sets. Dogs participating in the program are required to consistently demonstrate behaviors that include low arousal, control, and obedience around other dogs, patients, family members, and visitors.

Breeding the right type of dog for this program is critical since many complex tasks may be required of a service dog on a daily basis. Service dogs must have



Figure 6-1. Young pup service dog in training on a community trip to the Pentagon. Photo courtesy of Erin A. Krik-Cuomo, US Department of Defense.

stable and reliable temperaments, ensuring the recipient, a disabled veteran, can consistently depend upon the dog's service. Each dog must also be mentally and physically healthy, as well as intelligent and eager to please. These traits make certain breeds more desirable as service dogs. Labradors and Golden retrievers often have the specific set of desirable traits required of service dogs; their controlled friendliness and eagerness to please makes training them to be well behaved in public easier than most other breeds.

At the conclusion of training, a certified service dog must perform up to 90 different tasks that assist the physically disabled with functional and mobility limitations. These tasks include retrieving items such as the following: medications, keys, phones, small objects dropped on the ground, clothing out of a drawer, or money from a purse or backpack. They are also used for pulling wheelchairs, opening a door, and balancing someone along a busy sidewalk. According to Assistance Dogs International, a dog's presence can be a natural deterrent to a perpetrator, but, again, service dogs should not be protective. In other words, a service dog's job is to make individuals with disabilities more able—it is not to protect them. Because many disabled people are unable to physically restrain their dogs, the service dog must be under verbal control to ensure public safety.⁴²

Early Socialization and Training of Puppies

Purpose-bred puppies begin their training process from birth. During this time, the puppies are continuously handled to build trust and socialization with humans. Around 12 weeks, the puppies are transitioned to the training site where they continue to develop during training with the warrior trainers and the official service dog instructors to foster socialization (Figure 6-2). Learning basic commands such as sit, down, and stay begins soon after their eyes are open and they respond to sounds. Puppies-in-training require exposure to as diverse a population as possible and are introduced to persons of all races, sizes, smells, ages, and abilities so that they are comfortable with any person.

Fostering of Puppies

"Puppy parents" (foster parents) are volunteers who shelter and care for dogs in training at the foster parent homes during nonduty hours. Puppy parents attend training sessions provided by WCC to learn handling and proper dog care before taking a puppy or dog home. They are expected to reinforce learned commands while the dogs are in their care. Puppy parents also are expected to work out reasonable



Figure 6-2. Early puppy petting and socialization, Brookville, Maryland.

Photo by Cynthia Del Conte, Cynthia Del Conte Photography, Rhiebeck, New York, provided courtesy of Colonel Perry Chumley, chapter author.

schedules with the service dog instructors to deliver and retrieve the dogs to and from training throughout the workweek.

Warrior trainers may assist with puppy parent training, which facilitates social interactions, competence, sense of mastery, and pride in their accomplishments as highly skilled participants within a meaningful occupational program. Trainers and foster parents may meet in a public location to work on public access issues with the service dog. The WCC also evaluates the dogs to make sure learned commands are reinforced, and the dogs are not learning bad habits.

Government Relationships with Nonprofit Organizations Supporting the Programs

One of the most critical and important factors in developing a wounded warrior service dog training program is the relationship between the government and the NPO, in this case it is the WCC. Most professional service dog organizations are federally recognized nonprofit organizations and rely solely on donations, which can complicate their ability to operate and function with wounded warriors (ie, government employees are bound by ethics to prevent any quid-pro-quo, monetary, or other gift exchange for services or access provided when collaborating and relating with NPOs). It is also imperative that the formal service dog training facility is near the installation where the training takes place.

To maintain the highest professional standards and render the most effective and ethical program, program planners and participants are highly recom-

mended to work closely with the military installation's public affairs office for guidance on public relations activities or events involving the government and NPOs. The real or perceived exploitation in caring for wounded warriors for marketing purposes poses a major concern. Although nonprofit organizations rely on donor funding, clear boundaries must be set that allow the NPO to operate while maintaining the utmost respect for the wounded warriors.

The service dog training program at the WRNMMC, National Intrepid Center of Excellence, and Ft Belvoir collaborate with a single NPO because of the specific training requirements for the patient population and the dogs in training. Additional organizations would have to demonstrate similar interests and objectives in providing service dog training programs that serve the best interests of the wounded warriors' individual medical needs and the military installation providing access. The dogs and their food, equipment, medical care, and other animal-related resources are not donated to the government. These are all provided by the NPO as a loan agreement for the sole purpose of operating the program.

Government employees participating in this program manage the training schedule processes. Both the government and NPO collaborate to manage the puppy parent foster program. Once dogs are fully trained, the NPO certifies and determines placement for the dog with a disabled veteran, military family, or, on occasion, an active duty wounded warrior.

Costs of the Programs

Service Dog Training program costs vary depending on facility needs or arrangements. Once a command endorses a program for warrior care, budgets can be determined based on employee and facility space availability. A program cannot be started without NPO volunteer interest. Much of the work required for this type of program involves significant volunteer efforts from all parties involved.

Staff Roles and Responsibilities in the Programs

Service Dog Instructors. Service dog training refers to the training of purpose-bred dogs to be certified mobility service dogs. Since service dog instructors facilitate and instruct participating warriors in service dog training, instructors and volunteers are required to be fully qualified and certified with expertise in training service dogs. Identification of the training standard must be identified by the NPO and accepted by the military installation as well as the clinical support system for the program.

Service dog instructors give direction and guidance and maintain control of the training environment. They ensure that successful training progresses safely and assists individual warrior trainers as needed. Instructors are present during every training activity until the warrior trainer has progressed to an advanced level of training. At this time, he or she may request to assist as a volunteer in order to help care for the dogs independently. Additional instructors may be necessary, acting as eyes and ears for controlling the training environment, depending on the number of participants and dogs.

Clinicians, Social Workers, Occupational Therapists, and Recreational Therapists. Healthcare providers are responsible for implementation and management of the service dog training program. Supervising healthcare providers informally evaluate staff performance through weekly and daily interactions, collaborations, and coordination through annual reports. The healthcare providers are responsible for oversight of the training instructors who, in turn, ensure the well-being of the participating dog. Supervising healthcare providers also ensure that all required documents (eg, instructor certification credentials and canine health records) are maintained, current, and complete.

Healthcare providers manage several different groups of program personnel, including all warrior volunteers participating in the program. The supervising healthcare providers maintain weekly communications between the service dog instructors and the warrior's referring healthcare provider. Specific patient goals and objectives are identified and updated as the

patient progresses through the program. Supervising healthcare providers also ensure that the service dog instructors accompany and monitor warriors at all times when with the dogs in training. In rare cases, the supervising healthcare providers, service dog instructors, and the referring healthcare provider may want the warrior trainer to work on independent activities with the dog. Independent work is a possibility only after the trainer has successfully advanced through the program, demonstrating confidence and competence with the service dog in training, and an emergency plan has been agreed upon prior to the independent activities. In some cases, the trainer may be authorized to have the dog overnight.

Warrior Trainers. Service members are considered "warrior trainers." They are participating in a "train the trainer" program and follow all direction from the certified training instructors and clinical staff responsible for managing the program in which the service members are enrolled. There are three types of warrior trainers: (1) Novice, (2) Advanced, and (3) Senior, which can be characterized as follows:

- Novice trainers: Novice trainers focus on learning service dog training work tasks and policies.
- Advanced trainers: Warrior trainers are considered advanced when they demonstrate a solid working knowledge of the program and are comfortable with the dogs.
- Senior trainers: Senior trainers are encouraged by instructors to take a leadership role in the training environment and to possibly mentor both novice and advanced trainers when appropriate (Figure 6-3).

Instructor Teaching and Instruction Guidelines

Each program's curriculum consists of service dog tasks intended to assist a disabled veteran in mitigating functional limitations and enhancing public access. Oftentimes, the training methods and curriculum must be adapted to meet the needs of the trainers. For example, instruction of these tasks may avoid the use of certain cues that the disabled veteran may not be able to use (eg, snapping fingers, clapping hands, or manipulating the dog's position using the leash).

Timeline for Instruction. Warrior trainer comprehension and retention is accomplished through repetition; however, the trainer and the dog are often learning at the same time. As a result, the timeline of learning a task progresses slower than traditional service dog training involving only a professional trainer.



Figure 6-3. Warrior trainers work together during a training session, Walter Reed National Military Medical Center, Bethesda, Maryland.

Photo courtesy of Helen Hocknell, Naval Support Activities Bethesda Public Affairs staff writer, Walter Reed National Military Medical Center.

Continuity of Instruction. Dogs will work with multiple trainers throughout their training. With each change, the dog must learn to adjust and bond with the new trainer. This creates an opportunity for the warrior trainer to learn patience through practice and witness the powerful effects that a meaningful bond has on a relationship. During the first sessions that a dog has with a novice trainer, the warrior may feel much like a substitute teacher working with a classroom of unfamiliar students. He or she is likely to feel overwhelmed and unsure how to motivate the dog. However, with time, the trainer will gain familiarity with the new dog, establish appropriate boundaries, and identify the best ways to instruct the dog.

Training of Low-Arousal Dogs. As the warrior trainer progresses and gains competence, skill, timing, and precision are developed and refined (Figure 6-4). Some trainers have previous dog training experience working with breeds that have much higher arousal levels. For example, warrior trainers with prior military working dog handler experience (eg, with high-arousal Belgian Malinois military working dogs) may expect their program dogs to also immediately respond to a command. Initially, working with program purpose-bred, low-arousal dogs can be challenging to these warriors. However, with patience, such instructional challenges can result in benefits. Teaching the warriors to slow down and connect with the purpose-bred, low-arousal dogs is helpful in reducing the warrior trainers' symptoms of hyperarousal.



Figure 6-4. A senior animal-assisted therapy trainer exhibiting competence, Brookville, Maryland. Photo courtesy of Rick Yount, chapter author.

Training Session Instruction Overview

Ongoing professional instruction (one-on-one, group, or team training) is provided throughout the dog's training to master essential concepts such as self-control. Professional instruction should not interfere with a warrior trainer's opportunity to teach and engage a dog unless there is an immediate concern for safety. Safety is paramount for the success of the warrior trainers and the program as a whole. Instructors are responsible for ensuring that the dog behaves at all times and never presents as a safety risk to others. Instructors are also responsible for supplemental dog training to mitigate the risk and potential safety hazards.

One-on-One Training. Training sessions at the one-on-one level are typically conducted once per week and last about an hour, but both the length of time and number of days may fluctuate, depending on the warrior trainer's needs and goals. Each training session has a predetermined training plan set by the instructor and clinical staff. This plan is based upon the expected training goals of the warrior trainers at that session as well as the skills and abilities of the dogs participating. Instructors match each warrior trainer with a dog prior to each training session to maximize benefits and success for both trainer and dog (Figure 6-5); however, instructors must be willing and able to change or adapt their training plan both before and during a training session ensuring trainer participation and success.

The initial training session begins with an explanation of the reward and reinforcement system and a review of the warrior trainer and provider goals. The next step is a demonstration and the opportunity for hands-on practice while completing the same task. At conclusion of the initial session, expectations regarding timelines, dress code, and attendance are set, and any questions or concerns are answered. If available, a visual reference such as a white board should display each dog's name and the task being trained or validated during the exercise. At each additional session, the instructors should conduct a short verbal question-and-answer session with the participating trainers evaluating retention and comprehension before starting the session. Each new session will follow a similar pattern as the first with new commands and possibly new environments (eg, bringing the dog outside or around the facility). Every training session concludes with a summarization of events. Trainers and instructors discuss their observations, review tasks trained, set goals for the next session, and allow time for additional questions. Instructors also confirm the time and date of the next scheduled session.

Group Training. A circle group requires all instructors and trainers to work together using one dog at a time. The lead instructor gives verbal instruction to the group and, if possible, asks the support instructor or a senior trainer to demonstrate for the group. During the group session, it is important that the lead instructor maintain control of the training session to ensure all trainers have equal opportunity to participate regardless of their skill and ability.

Benefits of training in the circle group include giving the trainers the ability to observe and learn from each other. Instructors can use circle groups to incorporate novice trainers and challenge senior trainers while fostering an atmosphere of camaraderie and encouragement for all participants. Earlier in this chapter, it was mentioned that senior trainers are encouraged to mentor novice trainers. Since all trainers must participate for effective dog training, circle group training can facilitate socialization between instructors and warrior trainers and is recommended when there is a larger number of trainers available than dogs.

Team Training. Team training involves one senior trainer and one novice trainer per dog. Service dog training instruction is geared toward tasks that require at least two people for teaching. Team training provides senior trainers with an opportunity to teach the skills they have learned. Teaching and mentoring solidifies learning, builds confidence, and helps the senior trainer to see the progress and accomplishments they have made thus far. The novice trainer benefits by learning from a peer who is able to correlate commands with many of the service dog training tasks. Team training is also valuable for a warrior trainer whose treatment goals include improving communication skills (Figure 6-5).

General Benefits of the Training Programs

The wounded warrior service dog training programs have far-reaching benefits. Military medicine benefits from a low-cost, nonpharmaceutical, complementary treatment method that is safe and effective. Military installations implementing these programs offer warrior trainers friendly social contact with countless other patients, family, staff, and visitors every day. Service dogs are required to be well socialized to public settings, allowing service members to take the dogs-in-training out into the community (Figure 6-6). The purpose-bred Labrador and Golden retrievers provided to the program serve as social lubricants and facilitate interactions between warriors and civilians. Participants commonly report that the interactions inspired by the dogs are less stressful, since the dog becomes the topic of conversation rather than war-related stories.

Additionally, the presence of dogs helps to reduce the institutional appearance of the medical facility and the stigma that medical treatment can sometimes trigger. As noted earlier in this chapter, the treatment method of training service dogs appears to be effective, including producing the psychosocial and biological effects that can modulate the warrior's TBI and PTSD symptom clusters of re-experiencing, avoidance and numbing, and hyperarousal.⁴³ Finally, service dogs provide a means for the disabled individual to regain functional independence and public access.

Controlling Re-experiencing. Wounded warriors must reintegrate into civilian life while leading the dogs they are training. Many aspects of civilian life (eg, crowds and loud noises) that may trigger PTSD symptoms may also upset young dogs being trained. By participating in a Warrior Transition Battalion (WTB) program, wounded warrior trainers accomplish a symbiotic goal: they learn to control their anxiety and take a confident lead in order to calm their dogs in these challenging situations.



Figure 6-5. Warrior training session, Walter Reed National Military Medical Center, Bethesda, Maryland. Photo courtesy of Heidi Bonorato, service dog instructor, Walter Reed National Military Medical Center.



Figure 6-6. Community reintegration trip to the Warrior Café, Walter Reed National Military Medical Center, Bethesda, Maryland. Photo courtesy of Heidi Bonorato, service dog instructor, Walter Reed National Military Medical Center.

Learning to train a service dog requires a focus on the needs of the dog in the here and now. Each dog needs to develop positive associations with all of the environments and situations encountered on a daily basis. Warriors are taught and encouraged with positive responses to shape the dog's perceptions of new experiences in a light-hearted and fun manner, thus shaping the dog's attitudes to be confident and comfortable in all situations.

This shaping not only teaches the dog a positive way to internalize these events, but also provides warriors with a way to challenge their own automatic thoughts that can transform safe environments into threatening ones. The presence of their dog in training can also help to lower anxiety and make PTSD-impacted service members more successful in challenging their intrusive or distorted thinking.

Overcoming Avoidance and Numbing. A trainer must use effective communication skills when interacting with the dog to optimize service dog training. The trainer must use an assertive command voice to instruct the dog and then follow up with a happy, emotional praise voice to reinforce the desired behaviors offered by the dog. Trainers are taught to use the positive affect (praise voice) to reinforce service dog behaviors such as retrieving, rope tugging, wheelchair pulling, and turning on lights. The need to sound happy when praising the dog even when the warrior may not feel happy or may want to avoid doing or feeling anything creates many opportunities for the warriors to "fake it" until they "make it."

Although initially challenging, the sense of duty to a fellow veteran can be a compelling reason for an emotionally numb warrior to emote positive affect.

Warrior trainers learn how intensity of experience determines speed of learning for the dogs. In this case, positive, intense emotions quickly result in associations between commands and learned behaviors. The dogs provide immediate and honest feedback when the warrior trainers "get it right." Participating in the "no-fail mission" of training a service dog for a brother or sister-in-arms provides the reason to "fake it" in this program. "Making it" describes the end goal of patterning of warrior's behaviors, much like the patterning of learned service dog's behaviors, which happens simultaneously.

Managing Increased Arousal. The dogs used in this program are purpose-bred to have a low-arousal temperament, an inhibited prey drive, a friendly and affectionate personality, and a desire to focus more on their trainer than on stimuli around them. Training enhances these traits, making the dog more manageable for a veteran recipient with severe mobility limitations.

However, training a low-arousal dog requires warriors to lower their hyperarousal state to successfully connect with the dog. As noted earlier, warriors who are used to having a command obeyed in a split second have to readjust to the low-arousal dog's timing and processing speed. This opportunity to practice patience and emotional regulation through the training process is experientially provided through a meaningful and purposeful activity.

Focusing on the dog's training needs also helps divert the warrior from focusing on their own survival. Learning to synchronize with the "laid-back" dogs in the program has been shown to have very calming effects on trainers. Periodically, warrior trainers are authorized to complete an overnight with the dogs-in-training. After the overnight experience the trainers frequently have reported improvement to their quality of sleep by having their dog-in-training sleep with them. Participants also report a dog's presence as being very helpful in disrupting nightmares, and they fall back asleep after awaking from the nightmare. Participants have also reported it is easier to fall asleep initially with their dog by their side.⁴⁴

Final Thoughts About the Benefits of Service Dog Training Programs

The process of training a service dog for a fellow veteran is a form of AAT and can help address symptoms and daily functional activities associated with PTSD.³⁸ Mitigation of PTSD symptoms in warriors can improve their functional recovery and reengagement of life roles (eg, participants may see improved emotional regulation as training service dogs requires patience).

When wounded warriors are involved as trainers, they also benefit from other improved social, emotional, cognitive, and physical symptoms through human-animal bond experiences and purposeful participation in a therapeutic occupation. Multiple clinical staff observations and wounded warrior participant testimonials report improvement in PTSD-related symptoms to include improved impulse control, sleep, parenting skills and family dynamics, startle response, and pain perception, as well as lowered stress levels and noticeable improvements in social interactions.⁴⁵ As one wounded warrior in the program stated in an *ABC World News* webpage story about dogs helping veterans, "It [the program] helped me a lot more than it's helped the dog for sure. It's nice just to get out and about again. Because, you know, after I was wounded, I was kind of stationary for a bit. So it's nice to actually do something productive and meaningful, instead of just healing. It's nice to contribute back."⁴⁶

AAT also has been documented as helpful for individuals with mental health disorders and may decrease depression.³⁶ Reports of reduction of sleep and pain medications and decreased social isolation, irritability, and anxiety have occurred as well.⁴⁴ Service dog training and the associated benefits of human-animal bonding also can provide a safer and more cost effective means for treating mental health injuries.

As previously mentioned, the program may also provide a sense of purpose to warriors by helping fellow veterans. Training service dogs provides an opportunity to participate in training and produce professionally certified service dogs that will be placed with physically and or psychiatrically disabled veterans. Through volunteerism and experiential learning, learning by doing, the warrior trainers are working toward their individual recovery and overcoming the symptoms of TBI and PTSD.

Dwight D. Eisenhower Army Medical Center Animal-Assisted Programs

Program Session Overviews

Dogs are routinely used for animal-assisted interventions. Both AAA (nonstructured, non-goal-oriented session) and AAT (treatment session with a specific clinical goal focusing on the human and the animal) programs are held at the Eisenhower AMC. During AAA sessions, a therapy dog like "First Sergeant" Maverick (Figure 6-7) enters a group setting and is let off leash to freely interact with the patients. When a patient initiates interaction, the dog responds by stopping and returning the interest and interaction. If the patient ignores the dog, it continues to the next patient.

Once the dog and patients have interacted for a few minutes, the therapist begins the session. The therapy dog will continue to sit quietly as long as someone is petting it and then will go and lie down quietly until the group has ended. Normally, at the conclusion of a group session, patients will again initiate interaction.

Clinical experiences at the Eisenhower AMC with the therapy dog Maverick demonstrated the need to limit the number of patients in a group. Inpatient groups no larger than 12 patients created the optimal environment for the dog to co-facilitate patient interaction and communication. During inpatient group psychiatry sessions, where getting the patients to beneficially interact with one another is normally difficult, Maverick was found to be the icebreaker that put patients at ease. They laughed together with the dog, played with him, and spontaneously began talking about their own dogs and other pets (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, personal observations, 2012).

Another benefit of AAA is that no specific treatment goal setting is required. Although special or extended interactions between the patient and the dog may be documented, casual contacts do not require detailed notes. Each visit is unique because the patient population frequently changes because of various factors including appointments, testing, and discharges from the hospital. Visits with the dog also create spontaneous interaction, whether in a group or in the hall. Although the amount of time Maverick interacted with



Figure 6-7. Maverick, an animal-assisted activity and animal-assisted therapy dog at Dwight D. Eisenhower Army Medical Center, Ft Gordon, Georgia. Photo courtesy of Jerry P. Coule, Retired medical photographer, Dwight D. Eisenhower Army Medical Center.

patients was frequently controlled by the patients and the confines of the healthcare provider's schedule, the relaxed atmosphere of the visits encouraged patients to let down their "protective" or "self-constructed" walls of isolation and focus on the love and attention being offered by a cute, playful, nonthreatening dog (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, personal observations, 2012).

Individual AAT sessions are normally scheduled for 20 to 30 minutes and involve the handler, patient, and the dog. Although AAT is usually a referral from one of the psychiatrists, anyone on the interdisciplinary treatment team can make the recommendation. During therapy sessions with Maverick, the therapy dog, patients often communicated, established rapport, and trusted the therapist quicker when Maverick was present, possibly from patients following his lead in trusting the therapist (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, personal observations, 2012).

A frequently utilized AAT method is using the dogs in community reintegration. Many of the soldiers returning from Iraq or Afghanistan who suffer with PTSD experience typical symptoms that include hypervigilance, anxiousness, social phobias, and inability to sit in a room unless their backs are to the wall. They also experience feeling unsafe, anger and irritability, increased startle responses to sudden noises or movements, panic attacks, depression, social withdrawal and self-isolation, and trouble sleeping. Some dogs are trained to help alleviate these symptoms; canines learn to block people from getting too close, help remove the handler from a crowded area during a panic attack, or search a room and turn on the lights. Some patients request that their dog lie next to them in bed to help them feel at ease and rest while other patients lead their dog through crowded areas in the hospital and facilitate interactive therapy.

Unlike AAA, AAT needs to be carefully documented with attention to certain details in a patient's notes. For example, specific times need to be allotted and may vary depending on the anticipated length of the individual treatment.

Each AAT session should also have identified goals, which are determined individually according to patient needs. Typical goals may include the following:

- Increased willingness to interact with healthcare providers and be more involved in treatment
- Improved involvement in group activities and verbal interactions with group members
- Increased attention skills and time a person stays on task

- Reduced hyper-vigilance, anxiety, stress, loneliness, anger, and irritability
- Increased exercise
- Increased self-esteem
- Increased ability to accept and give unconditional love

The Assessment, Planning, Implementation, and Evaluation (APIE) system of documentation is common for most recreation therapists (Exhibit 6-1).

Program Results and Findings

Animals have found a permanent place in assisting human healthcare professionals treat wounded warriors. As reiterated throughout this chapter, the use of animals to serve as "co-therapists" is becoming an accepted treatment modality with multiple benefits for several reasons. Dependent, dependable, domesticated animals present perpetually juvenile attributes that stimulate innate nurturing responses and provide people with unconditional love and acceptance. In addition to serving as catalysts for social interaction and as bridges to interpersonal communication and attachment, animals that provide unconditional regard can also assist in the stress relief of hospitalized patients and hospital personnel (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, personal observations, 2012).

Finally, animal interaction provides a medium for communication and relaxation that promotes and supports emotional well-being, and tactile, auditory, and visual stimulation can be provided through animal contact.⁴⁷ By using a therapy dog in the recreational therapy programming within the Behavioral Health Department at Eisenhower AMC, the healthcare team seeks to improve patient health outcomes by promoting recovery, increasing the speed of service members returning to function and mission readiness, and promoting healthy behaviors and wellness.

After 42 months of utilizing Maverick, the inpatient behavioral health unit documented 1,862 separate encounters with patients. Of these documented appointments, 1,537 were with male service members and 325 with females. Patient diagnosis was not a limiting factor in exposure to AAT as Maverick appeared to work well with a wide variety of behavioral health concerns.

Patient satisfaction surveys have gained a great deal of acceptance within the healthcare industry. They are used to measure patient outcomes and are useful when looking for ways to improve programs. Two surveys were used to assess patient satisfaction,

EXHIBIT 6-1.

PATIENT ASSESSMENT, PLANNING, IMPLEMENTATION, AND EVALUATION

Assessment

Demographic information

Sergeant John Doe is a 25-year-old 11B (infantryman) who presented to the unit with complaints of severe anxiety, depression, and hypervigilance. He has served in the active duty Army for 6 years and has been deployed twice to Iraq and was in the seventh month of a 12-month scheduled deployment to Afghanistan.

History

This is the patient's first encounter with behavioral health since enlisting in the Army. He states he is having trouble concentrating and remaining focused on a singular task. He states he is more isolative and avoids contact with his friends. He is able to speak with his wife; however, he feels more distance from her since his last deployment. Patient states he is no longer interested in activities he enjoyed prior to deployment. Patient states he has no physical concerns and is not on a physical profile. Patient was active in his church prior to his deployment and has requested to see the chaplain.

Present behavior

Psychiatrist has ordered diagnostic testing to determine a more finite diagnosis. Patient has indicated that he has difficulty walking in crowded areas and cannot eat in the cafeteria because of the crowds. Patient stated that he loves dogs and has expressed an interest in working with our therapy dog. Doctor has placed a referral for animal-assisted therapy to help reduce patient's anxiety in crowds. Patient's wife is very supportive.

Planning

Long-term goal

Reduce Sergeant Doe's anxiety in crowded situations.

Short-term goals

The two short-term goals are to be able to walk through the crowded pharmacy area of the hospital without experiencing a panic attack and to be able to sit in the cafeteria for meals.

Content

Sergeant Doe will be enrolled in Recreational Therapy, Occupational Therapy, and Spiritual Wellness courses during his admission. Patient will be provided with anger management training, coping skills, self-esteem building, leisure awareness, and relaxation therapy. Patient will participate in individual animal-assisted therapy sessions with the recreational therapist.

Process

During each of the individual animal-assisted therapy sessions, therapist will discuss with the patient possible coping techniques to help the patient relax in crowded situations. The patient will be educated about possible treatment programs for service members suffering with post-traumatic stress disorder. The patient will be provided with information about how he may benefit from his own service dog.

Implementation

Sergeant Doe will walk with Maverick, the therapy dog, and the recreational therapist through the lobby of the pharmacy area three times each day and stay in the area for increasing amounts of time each day. Patient will initiate one conversation with a stranger who shows an interest in the dog during each outing.

Patient will go to the cafeteria with Maverick and the recreational therapist and observe mealtime routines for 2 days. The next day, the patient will sit at a table close to the door with Maverick for 15 minutes during each meal. Patient will consume breakfast and supper in the cafeteria with Maverick and the recreational therapist for the fourth and fifth day. Beginning the second week, the patient will consume all meals in the cafeteria with Maverick and the recreational therapist for 3 days. Patient is to eat all meals in the cafeteria without Maverick being present beginning the fourth day of week two of his admission.

Evaluation

The interdisciplinary team reevaluates each patient's progress and treatment plan on a weekly basis. The recreational therapist has charted Sergeant Doe's progress during each week to determine the effectiveness of the animal-assisted therapy program.

TABLE 6-2.
RECREATIONAL THERAPY WITH AND WITHOUT DOG

Without a Dog	
Recreational Therapy helped me to cope with my hospitalization.	76%
I understood the role of Recreation Therapy services I received.	80%
I did not receive enough Recreational Therapy.	38%
Recreational Therapy has helped to prepare me for discharge.	74%
I enjoyed the Recreational Therapy sessions.	74%
Which recreational therapy groups do you feel helped you the most :	
Worksheets	3
Exercise	14
Games	15
Community Outings	19
Leisure Awareness	4
With a Dog	
Recreational Therapy helped me to cope with my hospitalization.	80%
I understood the role of Recreation Therapy services I received.	84%
I did not receive enough Recreational Therapy.	34%
Recreational Therapy has helped to prepare me for discharge.	80%
I enjoyed the Recreational Therapy sessions.	84%
Which recreational therapy groups do you feel helped you the most :	
Worksheets	7
Exercise	12
Games	21
Community Outings	16
Leisure Awareness	7
Animal-Assisted Therapy	14

*Patient surveys were handed out at the Dwight D. Eisenhower Army Medical Center to patients who had a dog involved in their treatment and those who did not. Results were based on completed surveys.

Data courtesy of Cynthia Rhodes, chapter author.

one for the Eisenhower AMC recreational therapy programs and one for the Eisenhower AMC animal-assisted programs.

The surveys were voluntary and were handed out by the nursing staff at discharge to every psychiatric inpatient at the Eisenhower facility. A total of 100 patients completed the surveys, 50 by each group;

however, of the 50 in one of the two groups, 18 were incomplete. Therefore, 32 completed surveys were randomly selected from each group to include the 100 general Recreational Therapy satisfaction surveys collected. Results from Recreational Therapy without a dog and Recreational Therapy with a dog (Table 6-2) were used to represent the experiences of 64 patients who self-randomized into the using and not using animal-assisted intervention (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, 2012).

The collected questionnaire information (Table 6-3) (expressed in a mean score from the Likert scale used) (1=strongly disagree/dislike and 5=strongly agree/like) is a starting point to see if and what the patients viewed as beneficial regarding having a dog in the unit. The two top answers (expressed in percentages) were as follows: 90% of the patients (29 out of the 32 useable surveys) felt the dog created a calming presence, and 85% of the patients (27 out of the 32 useable surveys) felt their mood improved when the dog was present. These data show a relatively strong positive correlation

TABLE 6-3.
RESULTS FROM A POST-ANIMAL-ASSISTANCE-THERAPY PROGRAM SATISFACTION QUESTIONNAIRE*

	Mean Score
The dog provided me with companionship	4.07
The dog created a calming presence within me	4.54
The dog made me feel safer	4.07
I did not find the dog comforting	2.25
The dog provided me with emotional support	3.82
My mood improved when the dog was present	4.25
The dog did not lessen my frustration/irritability	2.00
The dog made it easier to communicate with others	3.39
The dog reduced my frustration/irritability	3.96
I was more relaxed when the dog was present	3.93
I would prefer that there was not a dog that visits the unit	1.50
I would have liked to have spent more time with the dog	4.14

*Results based on questionnaires that were handed out to patients specifically receiving treatments with a dog at the Dwight D. Eisenhower Army Medical Center and used a 5-point Likert scale where "1" was "strong disagreement" and "5" was strong agreement. Data courtesy of Cynthia Rhodes, chapter author.

with having a dog involved and satisfaction with the AAA or AAT activities, despite the fact that about 10% of the patients (3 out of the 32 useable surveys) chose not to actively participate with a dog (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, 2012).

One of the more difficult parts of gathering information was that survey and questionnaire completion was optional; probably the last thing a patient who is finally being discharged from an inpatient psychiatric facility wants to do is complete additional paperwork. Despite this challenge, 32 useable questionnaires were collected during the 3-month period without the dog, and 32 additional questionnaires were collected during a separate 3-month period with a different group of patients who had the benefit of Maverick's company (see also Table 6-2) (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, 2012).

Two conclusions were made from the survey data in Table 6-2. Scheduled treatment methods were relatively consistent with or without Maverick, and they included game activities, community reintegration, worksheets, leisure education, and physical fitness. Almost every category improved, at least slightly, with the therapy dog present (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, 2012).

The total number of activities indicated as beneficial by the service members, regardless of demographics, sometimes more than doubled when they were exposed to Maverick (see also Table 6-2). This suggests an overall improvement in the patients' willingness or motivation to participate in treatment, which is often a key battle when dealing with behavioral health patients. There are some limitations and confounders that must be noted. Most notably, the patient socio-demographics and diagnosis, which may have impacted the responses, could not be adjusted for as the surveys were anonymous and voluntary, and, given patient-schedule constraints, the two groups being measured in Table 6-2 at check-out were not composed of the same people (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, 2012).

Below are real-life examples of how AAT played significant roles in the gradual treatment of two patients in military therapy programs. These two examples come from the personal communications and observations of therapists and chapter authors and are representative of the progress other patients with similar issues experienced:

Example (1) Patient with Post-Traumatic Stress Disorder. Some of the most memorable AAT experiences present sometime after the AAT sessions when patients contacted the staff in thanks. One such example is from a female who loved working with Maverick.

She didn't say much and startled very easily because of PTSD. However, she was adamant about later saying thank you for the following reasons:

After returning from Afghanistan I saw Maverick and started petting him, tears started flowing. When I'm around people, my defenses are up and emotions are numbed, so I am able to function in any situation; but with Maverick, that defense was not needed. I would not have known about this possible form of therapy for my situation if I hadn't met Maverick.

Example (2) Patient with Paranoid Schizophrenia.

The following is an example of how Maverick benefited a patient with paranoid schizophrenia who had been at the inpatient psychiatric unit for several days. The treatment team consisted of a psychiatrist, physician assistants, social worker, chaplain, occupational therapist, and a recreational therapist. The patient was angry, confused, paranoid, and not talking to anyone, and had been pacing circles around the nurse's station. At one point, he stopped pacing briefly, petted Maverick for a few minutes, and then resumed pacing. Later that day, he again petted the dog, a little longer this time, but still would not speak to the recreational therapist and continued pacing.

On day 3, the patient was asked if he would like to walk the dog. He walked Maverick halfway down one hall, but returned the dog after that brief encounter. The recreational therapist brought a tennis ball onto the unit and asked the patient if he would please work with Maverick and try to teach the dog to fetch, explaining that the dog would go get, but not return, the ball. The only condition was that the patient would have to come into the classroom to work with Maverick so that the patient was kept in sight.

The patient was hesitant at first because his paranoia made it difficult for him to believe someone was being truthful with him. He "negotiated" that he must be allowed to sit by the door and allowed to leave whenever he wanted. The first classroom session lasted less than 5 minutes, but within 2 days, the patient was participating in groups from his chair by the door as he "worked" to teach Maverick to fetch.

Follow-up Care Programs

As patients discharged from the inpatient psychiatry unit, they were oftentimes assigned to the WTB. Significant challenges encountered in the WTB include the lack of consistent involvement in activities; the need for patients to isolate themselves; and the tendency for patients to become noncompliant: not taking their medication, taking an incorrect dosage, or using the wrong frequency, which causes them to end

up back in the hospital. Occupational Therapy at the WTB also reported difficulty encouraging behavioral health patients to become involved in programs possibly because a relationship wasn't established prior to discharge.

To help address these problems, the Eisenhower AMC behavioral health staff formed the group "Transitioning to Success," a patient-centered and patient-directed program that encouraged social interaction and included AAT. Based on patients' feedback, the interaction with the dogs is something the wounded warriors love and feel good about, which adds to their everyday happiness.

Every animal program at Eisenhower AMC illustrated how service members can become more

tolerant and accepting of one another, kind and considerate of each other's limitations, and willing to put another's needs ahead of their own. The Eisenhower healthcare team also has found the dogs to be a beneficial addition to the staff; they have witnessed some very touching moments only the dogs could have evoked. For example, when participants in one of the previous AAT programs were asked how many sessions they felt would be adequate to receive maximum benefit from the group (dogs and people), they were all quiet. One member finally spoke up and asked, "You mean it has to end?" (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, personal observation, 2012).

COMBAT AND OPERATIONAL STRESS CONTROL DOGS PROGRAM

Background of Combat and Operational Stress Control Dogs Program

Deployed service members experience a multitude of stressors during the course of their tour in theater. In addition to the rigorous combat environment, service members are deprived of the simple comforts of home, including pet interactions. Prolonged periods of deprivation from these familiar comforts may ultimately affect performance and hinder the unit mission. It is imperative to maximize the functional capabilities and mission effectiveness of service members within theater and restore the mission capabilities of those affected by combat and operational stress reactions or other bio-psycho-social conditions.

The presence of AAA and AAT dogs elicit the human-animal bond and opens doors to behavioral healthcare interventions. Therapy dogs are an effective means to assist service members affected by crisis or challenges, especially in a prolonged war environment as part of deployed and combat operational stress teams. Combat and Operational Stress Control (COSC) personnel used therapy dogs in pilot programs from 2007 through 2013 to facilitate human-animal interaction when treating combat and operational stress reactions in deployed service members (Figure 6-8).

Justification for Animal-Assisted Therapy Programs in Theater

Following a traumatic event, most service members require compassion, in addition to basic needs of food, shelter, and medical care for physical injuries; thus, a tenet of combat stress and disaster management is therapy presence and face-to-face interaction.⁴⁸ One of the common AAT methods used to manage combat

stress occurs during walk-about, when therapists make contact with service members to build rapport and trust. These walk-about are informal and typically done in the service member's living or working environment in deployed settings. The service members who interact with therapy dogs often receive needed friendly and affectionate companion-like contact from the canines. When accompanying occupational therapists in theater, therapy dogs positively impact these therapists' interactions with units and help alleviate some of the common types of combat and operational stress service members experience during deployment.

In addition to walk-about, the therapy dogs were used primarily by the prevention team for unit briefings and classes, traumatic event management, and



Figure 6-8. Therapy dog "Sergeant First Class" Boe poses with occupational therapists then-Major Arthur Yeager and then-Captain Cecilia Najera (chapter author) in Tikrit, Iraq. Photo courtesy of Lieutenant Colonel Arthur Yeager, chapter author.

by fitness teams during their classes and therapeutic sessions. Prevention teams visit units and conduct general COSC-related classes or briefings in the unit's environment while fitness team meetings are conducted in the COSC clinic and are typically designed for service members who have been identified by their unit or a provider to have specific COSC-related needs.

Deployed service members often remark that a primary stressor is the lack of a close relationship and social support. During stress management sessions, the AAT dogs are used to improve social interaction in groups and facilitate discussion concerning healthy coping strategies. The AAT dogs also assist in improving the morale of service members attending restoration programs. For example, having the dog perform a trick or rest his or her head on a service member's lap will typically lead to some laughter, smiles, and conversation with other service members. For a moment, an uncomfortable situation becomes more light-hearted with the dog's presence.

In the COSC setting, the presence of an AAT dog during therapist-lead, psychosocial evaluations, and treatment sessions is often viewed as nonthreatening, providing reassurance with nonverbal and tactile comforts that may help break a cycle of social withdrawal. After a relationship is built with units and their leadership, the prevention team is often requested for traumatic event debriefings after incidents leading to serious injury or death have affected the unit and, consequently, its morale. The AAT dog becomes a safe outlet for expression of emotions and receiving comfort in these difficult times.

In one particular case in which a unit was affected by the death of five of its members, several support providers were summoned the night following the event. An NCO respectfully turned all away, stating the team requested to be alone, "except for you," turning to the therapist and her dog. "You and the dog can stay." That evening, not another word was spoken, but the dog made her rounds past the service members who lovingly petted or hugged her (Cynthia Rhodes, Eisenhower AMC ambulatory therapist and chapter author, personal knowledge).

Animal-Assisted Therapy Program Strategies in Theater

There are seven therapeutic goals of AAT that could be used in theater, all aimed at service member well-being:

- Improve socialization and communication
- Reduce isolation, boredom, and loneliness
- Brighten affect and mood

- Lessen depression
- Provide affection
- Address grief and loss issues
- Reduce stigma for behavioral healthcare⁴⁹

The COSC doctrine incorporates occupational therapy with these goals. Occupational therapists assess client progression through graded levels of performance, culminating in the client's functional independence. The AAT Program may likewise be graded to match service members' ability levels to help build skills, self-confidence, and motivation to move beyond the physical and psychological barriers the wounded warriors may be experiencing. For instance, the actions of walking, grooming, and feeding a dog are potential activities that can be incorporated into the occupational therapy intervention.

Considerations for Deployments with Therapy Teams

Determining Resources and Establishing Relationships

Advanced planning and careful considerations are required prior to deploying with a therapy dog team, to include selecting the appropriate dogs to deploy. Not all therapy dogs should deploy with COSC units, despite passing the typical behavioral requirements for therapy dogs. The dogs should have the ability to work for long hours, be accustomed to traveling in rotary and fixed-wing vehicles, and be able to acclimate to environmental factors (eg, weather, surrounding wildlife, war zones, and overstimulation).

Units must obtain approval from the command structure, utilizing the established standard operating procedures detailed in the next section. Primary and secondary handlers must be identified, and all members of the unit need to be trained on AAT. Units must provide the necessary equipment (eg, kennels, muzzles, and ear protection) and arrange travel with the flight crews to ensure the dogs are safe and secure. Most importantly, units must have a detailed program description of how the dogs will be implemented into an AAT program within theater.

The AAT program should include targeted therapeutic goals and objectives for incorporating the dogs into therapy and describe whether the interventions will be AAA versus AAT. Since the utilization of AAT in deployed environments was a pilot program from 2007 through 2013 that is no longer in continuation, it is recommended that a program evaluation or research study be conducted to assess its effectiveness and value for future considerations.

It is imperative that representatives from the COSC, Occupational Therapy, Veterinary Services, and Behavioral Health Division interface to develop awareness and maintain support for any in-theater AAT program. Approvals must also be obtained from the US Medical Command, US Forces Command, and US Central Command for the dogs' entry into theater. Veterinary Services at home station and in theater must be aware of the dog teams' status and final destination as Veterinary Services will be responsible for conducting medical and temperament evaluations; providing health certificates, immunizations, and medications; and providing monthly follow-up care in theater.

Planners must also ensure funding is available for instructor travel to train primary and secondary handlers, transport the dogs to the unit, and provide additional familiarization with dog handling, care, and commands to the entire COSC unit. Funding to purchase the pilot program AAT dogs was not necessary as all dogs were donated from nongovernmental organizations to the US Army for use in the COSC.

Standardized Procedures

Because of the complexity of theater AAT programs, all team members need to follow a set of standardized procedures. The core principle behind these procedures is that therapy dogs are trained professional animals. All dog handlers must be trained and familiarized with proper handling procedures for these trained professionals to include verbal and nonverbal commands, rewards, and discipline. It is also important to incorporate the COSC unit in familiarization training as all service members need to understand the proper methods of responding to and rewarding the dogs. Service members who are afraid of dogs, do not like these animals, or have allergies to them can elect not to participate in the AAT program.

The therapy dog's husbandry must be coordinated and authorized by the handler, including all nutritional intake (ie, food and water), grooming, hygiene, and healthcare. The therapy dog should only receive the type and amount of food prescribed by the supporting veterinarian. A specific diet is recommended for the dogs, and handlers are provided with the national stock number to order their supply. The dogs must be weighed monthly, and this information is reported to the supporting veterinarian, who will provide required mandatory health examinations every 6 months and additional care as needed.

The handler is also responsible for the therapy dog's work-rest cycle, kennel arrangements, and other scheduling or logistical concerns. Therapy dogs need to reside with their handlers and should not be kenneled with other military working dogs to eliminate the

potential of being injured or acquiring aggressive traits. When alone, the dogs should be kept in a quiet area. When the dogs are out of their kennels, they must be kept on-leash. Finally, all theater travel arrangements for AAT teams are coordinated with the handlers.

Evaluating Benefits

Modeled after civilian programs, the utilization of therapy dogs in unit briefings and classes served to build a sense of companionship with the dog as well as to assist with participant self-regulation of emotions, behaviors, and social interactions.⁵⁰ However, other people in theater may benefit from encounters with the dogs, including other military members, civilian contractors, and third-country or local nationals (Figure 6-9). Depending on safety and availability, dogs were authorized to travel to other forward operating bases and prevention teams when requested by the unit representative.

An overwhelming amount of literature depicts anecdotal evidence on the benefits of incorporating AAA and AAT into therapy sessions.⁵¹⁻⁵⁴ In contrast, very few articles demonstrate statistically significant evidence supporting AAA and AAT, probably because the benefits provided by animal therapy are temporal and subjective, and therefore, more challenging to determine whether results are real (and measurable) or happen by chance. For example, after a 30-minute visit with a therapy dog in a COSC unit, a service member being treated may report a feeling of decreased anxiety. However, whether this service member's improved work performance after the 30-minute visit is directly related to the dog interaction (or how much it might be related) is



Figure 6-9. Therapy dog "Sergeant First Class" Boe entertains handler, then-Captain Cecilia Najera, and fellow soldiers during a conference at the Al-Faw Palace, Baghdad, Iraq. Photo courtesy of Major Cecilia Najera, chapter author.



Figure 6-10. Captain Theresa Schillreff, an occupational therapist and therapy dog handler, prepares “Sergeant First Class” Timmy for flight in Afghanistan. Photo courtesy of Captain Theresa Schillreff, US Army.



Figure 6-12. “Sergeant First Class” Budge plays ball in Mosul, Iraq. Photo courtesy of Lieutenant Colonel Arthur Yeager, chapter author.

more difficult to ascertain via scientific evaluation methods. Deployed environments provide even more challenges to conducting clinical evaluation studies of AAT benefits (eg, because of the deployed environment’s frequent unit and personnel turnover).

Furthermore, the individual personalities of each dog play a part in how the dogs will be utilized (Figures 6-10, 6-11, and 6-12). For example, during one deployment tour, it was found that one therapy dog did well with travel but disliked engaging in large group settings; in contrast, the unit’s other



Figure 6-11. Staff Sergeant Blas Guigni and therapy dog “Sergeant First Class” Boe at a combat support hospital in Tikrit, Iraq. Photo courtesy of Major Cecilia Najera, chapter author.

therapy dog thrived on being the center of attention but became very anxious with travel. This unit had to adjust and accommodate to these differences in personalities to maximize performance when engaging these animals with service members. Unfortunately, it takes time for unit personnel to understand their dogs’ individual traits and acclimate the dogs to the deployed environment, making it difficult to submit a research protocol in time to get it approved, start the program, and collect sufficient data prior to redeployment.

Although a research study is preferred, the deployed environment lends itself to program evaluations to show the effects of AAA and AAT on deployed troops. Examples of possible program evaluations for COSC units include surveys requesting anecdotal information from service members, identifying the number of COSC visits attributed to using the therapy dog, or providing service members with Likert scales that rate the effects of AAA and AAT during their COSC experience.

Post-Deployment Considerations

COSC units were generally deployed 9 to 15 months in support of Operations Iraqi Freedom and Enduring Freedom. The nature of the environment combined with being away from loved ones and experiencing stressful events led many units to bond as a family—this bonding effect was especially common between handlers and their therapy dogs, leading to separation issues for the redeploying handlers, other unit members, and the therapy dogs that remained in theater.

Oftentimes, the unit that deployed with the dog did not get to return home with the dog, making unit members feel as if they were leaving a “battle buddy” behind, especially since many individuals desired to adopt or continue working with the therapy dog back at the home station. Since the deployment of therapy dogs with COSC units in 2007, most dogs have typically served two consecutive tours, requiring them to transition to new handlers. During unit transitions, it takes time for the dog to acclimate to its “new family” and build a trusting relationship with its new handler. It is possible that lengthy deployments may also be stressful for the animal, and his or her behavior and health should also be documented.

To make the transition process smoother, it is advisable to have a set plan for the dog’s tour prior to deployment. All members of the unit need to understand how the dog will be used during and after deployment.

Clarifying these roles helps minimize the disenchantment unit members may develop about keeping the dog with their unit.

The Way Forward

For decades, the human-animal bond has anecdotally demonstrated powerful positive effects on individuals’ emotional and physiological state. The US Army’s AAT pilot program in COSC units indicates similar effects in deployed environments; however, more research and program evaluations would be beneficial to justify permanently incorporating such programs in the military. In addition, it is important to consider the safety of the dogs in such programs, the consequences of handler-animal and unit bonding and separation, and placement of the dogs post-deployment and after retirement.

EQUINE-ASSISTED THERAPY PROGRAMS

Overview of Equine-Assisted Therapy

Therapeutic horseback riding is another example of successfully using animals for the treatment of individuals with emotional and or physical disabilities.⁵⁵ Therapeutic riding has as its primary objective, the alleviation, in so far as possible, of the rider’s handicap or disability through a prescribed riding program.⁵⁶ This objective is accomplished by selecting a particular mount and equipment specific to the assigned rider in combination with a qualified instructor who has a thorough understanding of the teaching methods pertaining to physical, cognitive, and emotional disabilities.

The rider requires the proper horse based on the rider’s size, strength, physical limitations, and experience. New riders would benefit from a docile horse, but they may not be able to get their legs around the girth of a wider horse, or they may require a thinner horse because of range of motion restrictions. They also require proper equipment, and the hands-on support provided by side-walkers. When the rider has achieved a stable, secure base of support, he or she can learn better torso control.

Guernsey describes the ideal therapy horse as one that will stand quietly, especially when the students mount and dismount, and be tolerant of off-balanced riders, wheelchairs, ramps, leg braces, and unusual noises that riders may make. She indicates that when a qualified horse is available, the rider can realize numerous and extensive benefits, including learning riding skills and developing physical strength, flexibility, coordination,

improved motor skills, balance, and body awareness.⁵⁷ All of these benefits contribute to the rider’s increased self-esteem.

Some of the more well-known equine-assisted treatment using high-quality equines for therapy work was the product of the now-legacy organization Caisson Platoon Equine-Assisted Programs (CPEAP). Formed as an all-volunteer organization in May 2006 in Ft Myer, Virginia, CPEAP was founded to provide equine-assisted therapy to service members and veterans at the Walter Reed AMC, later renamed the WRNMMC. During its years of operation, soldiers helping fellow soldiers was a key strength of CPEAP. Powerful Percheron draft and draft cross horses from the Caisson Platoon were partnered with their handlers, active duty soldiers of the platoon. During the CPEAP lessons, the soldiers served as horse leaders and side-walkers for fellow military members and veterans who were riding the horses (Figure 6-13). CPEAP activity was terminated by the Army in January 2015. (The Caisson Platoon belongs to the US Army’s famed 3rd US Infantry Regiment [The Old Guard], whose duties include guarding The Tomb of the Unknowns and conducting military ceremonial honors during funerals at Arlington National Cemetery.) (For more information about the Caisson Platoon, see Chapter 8, Military Equine Programs.) (More information about CPEAP is found in the History and subsequent sections of this chapter.)

Some of the more well-known reasons for using horse riding as a therapeutic treatment modality for disabled individuals was found in a pamphlet at the National Institutes of Health Library, Bethesda, Maryland (pamphlet located by Mary Jo Beckman, chapter



Figure 6-13. An animal-assisted therapy patient escorted by soldiers from the Caisson Platoon, illustrating the use of the “soldier helping soldier” concept in hippotherapy. Photo courtesy of Mary Jo Beckman, chapter author.

author, spring 2017). The pamphlet quotes a section of the forward written by Dr R.E. Renaud in the book *Riding for Rehabilitation; A Guide for Handicapped Riders and Their Instructors*:

Horse riding for the disabled has indeed been an enriching experience. Day by day we are finding features which point even more forcefully to the advantages of this modality of treatment. For example: The need to stay mounted provides a major motivating factor; the isometric type of exercises are admirable for treatment; the length of therapy time is at the discretion of the patient’s fatigue tolerance; the unconscious stimuli of contact between horse and rider tend to induce reflex muscle activity and tone. Many of these stimuli and responses can be regarded as physiological and this spontaneity of performance gives this recreational pastime its greatest therapeutic value.⁵⁸

Both physical and psychosocial benefits occur from therapeutic riding. The rhythmic, swinging movement of the horse promotes coordination and motor development, and the position of a rider astride a horse promotes correct postural alignment and evenly activates and strengthens trunk musculature for the dynamic balance required when sitting.^{59,60}

More specifically, patients who are affected both orthopedically and neurologically must develop balance to compensate for movement of the horse. The balancing skills required in horsemanship improve postural alignment and facilitate equilibrium reactions.

Patients who ride horses also experience improvements in sitting balance (and, in some cases, standing balance) and walking and decreases in lower extremity adductor spasticity.⁶¹

Other physical benefits include facilitation of normal movement, integration of sensory stimulation with motor-planning skills, and low-level cardiovascular conditioning. Riding has also been shown to improve self-esteem and increase strength, flexibility, and range of motion.⁶²

History of the Caisson Platoon Equine-Assisted Programs

In 1997, Dr Paul W. Brown (Colonel, US Army, Retired) was the keynote speaker at the Ninth International Therapeutic Riding Congress (Denver, Colorado). Brown wrote an article, “Rehabilitation of Bilateral Lower-Extremity Amputees,” in which he describes some of the over 500 patients with major amputations who were treated from May 1966 to May 1969.⁶³ Brown was instrumental in developing unique rehabilitation methods such as skiing, golfing, scuba diving, and equestrian therapy with Vietnam War amputees. With the help of Mary Woolverton, a horsewoman and social worker at Fitzsimmons Army Hospital, Aurora, Colorado, he developed and implemented an ancillary riding rehabilitation program for amputees.

In December 2005, Mary Jo Beckman (chapter author) was introduced to Larry Pence (chapter author), who became the spokesperson for the CPEAP, described earlier in this chapter. The first meeting with the Caisson Platoon occurred on April 11, 2006, after receiving official permission from 1st Battalion, 3d US Infantry Regiment Caisson Platoon and Ft Myer. Discussions during this meeting included horse selection and training, mounting ramp construction, equipment requirements, and training soldiers to serve as leaders and side-walkers for the riders with disabilities. Patient riders were also concurrently recruited from the Walter Reed AMC Physical Therapy Department.

After the meeting, Caisson Platoon soldiers built a ramp complex; the Caisson horses Mickey, Minnie, Aribie, and Wiley were trained; and 14 soldiers were trained as horse leaders and side-walkers. The four-lesson pilot program was sponsored by the Walter Reed AMC Occupational Therapy Department, and a therapist accompanied the patients each week.

Program participants were given balance tests before and after they rode, and the results demonstrated increased core stability. Riders also reported how much they enjoyed the riding experience and wanted to return after the pilot program.

Caisson Platoon Equine-Assisted Programs' Benefits and Success Stories

Improving Confidence

One of the earliest success stories for the CPEAP involved a 23-year-old female enlisted soldier. In June 2005, she was deployed to Iraq, and in October of the same year, the vehicle she was driving was hit by an explosive device. Her injuries included amputation of her left leg below the knee. During her recovery, she suffered a fracture of her left tibia, which delayed the fitting of an artificial limb. In early 2006, she suffered from phantom pain and constipation and had some psychological factors that affected her physical condition. She was seriously challenged by the loss of her leg and, as a result, had chosen to have limited interaction with others.

At the first riding lesson, the female soldier arrived at the stables using crutches. Although she came in a van with other participants, she kept herself apart from the other riders and soldiers. She wore a cap and walked with her head down. She positioned herself apart from the other riders and their family members at the initial briefing.

The first lesson was a group lesson, during which the female soldier was very tense and hesitant. The instructor was told she had been on a horse before, but the extent of her riding experience was unknown. Once mounted, the soldier gripped the horse's mane, and her body position was crouched. She was instructed to do deep breathing and relax into her horse's movement. After the horses walked around for a while and the riders got used to the respective movements of the horses, the horses were halted, and the students were instructed on how to turn sideways on their horses, facing toward the inside of the arena.

Once in position and appropriately supported by the side-walkers, the riders requested their horses to "walk-on." In the new position, the female soldier was extremely dependent on her side-walkers for stability, and she had difficulty allowing her body to face sideways. After one time around the arena, the horses were stopped, and all riders were asked to sit facing backwards. This rider found riding backwards was better because of a wider base of support; however, facing sideways to the other side was just as challenging as the first position. All riders were challenged by the instructor to move into a forward position with the horses walking, which they did with maximum assistance of the side-walkers.

The next activity was the ball toss. Extra people were brought into the arena, including the female soldier's mother, who served as her catching buddy. Initially,

the ball tossing was done at the halt and then at the walk in both directions. This exercise was selected to challenge balance, encourage upper extremity independence, and provide the soldiers with an activity that they could accomplish prior to their injuries. This soldier was positively engaged in throwing and catching the ball and seemed to enjoy the activity.

Following the first riding lesson, all soldiers were asked to complete a questionnaire. In response to the first question, "Was the riding session what you expected?" the female soldier marked "no" and added that she enjoyed riding and learning about the "beautiful" horses and had expected to ride around in circles, but "the difference in positions [brought] a positive feel overall" (Mary Jo Beckman, chapter author and therapeutic riding instructor, personal review of the Ft Myer questionnaire, 2006).

During subsequent lessons, the female soldier learned to steer her horse through poles while practicing lateral weight shifting through her hips. The trotting sequences provided her with increased motion, which required more balance. As the rider established more control with her horse, she was allowed more independence. Her horse, Minnie, was receptive most of the time to the physical cues (pressing the knee into the side of the horse cueing a change in direction), otherwise known as body-aids. However, Minnie frequently challenged her rider by not listening to her physical cues, which meant the rider had to increase her aids to accomplish the task. This final understanding between horse and rider resulted in an increase in the rider's sense of accomplishment.

As the lessons progressed, the rider's position became more stable because her body was relaxed and followed the horse's motion. Eventually, she developed the confidence and skills to ride independently. Because of her increased riding skills and abilities on the horse, the rider gained self-confidence, self-esteem, and determination. The change in her attitude and demeanor were observed by the Caisson Platoon soldiers and the instructor. Additionally, the hospital staff noted that because of her increased physical ability and association with the horses, she was more determined to proceed with her rehabilitation.

Additional Benefits and Rider Goals and Achievements

Because of the centralization of expensive high technology and specialty providers at tertiary care medical centers, families often have to leave their homes so that injured service members can receive required treatment. This separation causes significant stress for the patients and their families.⁶⁴ For example, the parent

from the riding lesson story recounted earlier (the one who threw the ball to her daughter) did not live in the same city or state where the daughter received treatment. The parent had been with this soldier for most of the hospitalization and rehabilitation at the Walter Reed AMC, which was a major stressor and hardship. The parent also attended all of the riding sessions at Ft Myers. However, while here and talking with the Caisson Platoon leader at the first lesson, the parent noted a positive change in the daughter. The parent reported, "That's the first time since she got back from Iraq that I've seen a smile on her face."⁶⁵ With the daughter being more engaged and happier,⁶⁶ the parent's stress and concern decreased.

In addition to stress relief for themselves and their families, goals for all riders participating in the pilot program are improved balance, development of core muscle strength and control, independent riding, and increased exercise. The end goal for therapy was for each of the students to be able to ride independently while the horse is walking and execute a drill team maneuver with three other riders.

In order to measure the physical progress of the riders in the pilot program, an occupational therapist administered the Timed Get Up and Go Test before and after each riding session. The Timed Get Up and Go Test measures mobility and includes a number of tasks such as standing from a seating position, walking, turning, stopping, and sitting down.⁶⁷

More specifically, the test requires individuals to stand up from a standard chair and walk a distance of approximately 10 feet, turn around and walk back to the chair, and sit down again using their usual footwear and any assistive walking device they normally use. Individuals sit with their back to the chair and arms on the arm rests, holding any walking aid they use in their hands. Timing, using either a wristwatch with a second hand or a stop watch, begins when individuals start to rise from the chair and ends when they are once again seated in the chair. The normal time required to finish the test is between 7 to 10 seconds.⁶⁷

Continuing with the example of the same female soldier used previously, this female soldier's timing improved more than 42 percent over the course of 2 weeks: from 13.8 seconds to 7.9 seconds. (Table 6-4 details more of this soldier's test results.) The female soldier also worked with the Ft Myer military veterinarian. A horse in the Caisson Platoon injured her hoof the evening before the first therapeutic riding class. The female soldier saw the horse when she was in the barn and asked the veterinarian about the injury. The veterinarian informed her about the wound and told her she could help change the dressing after her second ride.

Between the first and second lessons, the female soldier drew a picture of a horse's hoof with all parts labeled to show the veterinarian and was able to assist in changing the wounded horse's dressing. After the third ride, she worked with the veterinarian's technician to review equine radiographs.

While the female soldier benefited physically from the therapeutic riding classes, her attitude and friendliness also changed as she realized her goal of becoming a veterinarian was still obtainable. Because of her increased physical ability, she developed more self-confidence and increased self-esteem. Once a shy and noncommunicative wounded individual, this soldier blossomed into a confident young lady. She rode in the weekly lessons at the Caisson Platoon until her medical discharge from the Army. She was also featured in some of the national television news segments representing the CPEAP, including *The NewsHour*.⁶⁸

The riding program made a major difference in her outlook concerning her skills, abilities, and her life after the Army. After her medical discharge, she enrolled in a preveterinary and veterinary technician

TABLE 6-4.

ONE SOLDIER'S PRE- AND POST-RIDING THERAPY TEST RESULTS* USING TIMED GET UP AND GO TEST

19 May	Timed Up and Go Test* pre-riding	13.8 seconds
	Timed Up and Go Test post-riding	10.6 seconds
	Improved time	3.2 seconds
	Single Leg Stance (right leg) pre-riding	43 seconds
26 May	Single Leg Stance (right leg) post-riding	137 seconds
	Improved time	94 seconds
	Timed Up and Go Test pre-riding	9.0 seconds
	Timed Up and Go Test post-riding	7.9 seconds
	Improved time	1.1 seconds
	Single Leg Stance (right leg) pre-riding	119 seconds
	Single Leg Stance (right leg) post-riding	134 seconds
	Improved time	15 seconds

*Results from a 23-year-old female soldier who suffered amputation of her left leg from injuries she received in Iraq. Joe Butkus, an occupational therapist at the Walter Reed National Medical Center, administered the Timed Get Up and Go tests for the Caisson Platoon equine pilot program in 2006. A more detailed description of the Timed Get Up and Go Test used by this soldier and other patients during the duration of the pilot program can be found at <http://www.fallprevention.ri.gov/Module3/sld006.htm>. Data courtesy of Mary Jo Beckman, chapter author.

college program in North Carolina. In October 2009, this retired soldier returned from North Carolina to be one of two riders at the Washington International Horse Show during the CPEAP demonstration. She rode her favorite horse, Minnie.

CPEAP has also benefited numerous other patients, based on author and therapists' recollections. Representative examples of the diverse kinds of patient improvements witnessed after hippotherapy appear below:

- A male soldier, with his right leg amputated above the knee, was having difficulty learning to use his prosthetic. After riding on a hard-surface road, his body equalized, instead of relying solely on his intact (dominate) left side. After the riding lesson, he returned to the clinic and went from using the parallel bars to walk—to using two canes—to only using one cane—all in a single week, a notable improvement.
- A female officer with the diagnosis of PTSD rode numerous times in 2011. She had never been on a horse before joining the CPEAP. During four of her lessons, she suffered flashback episodes due to unexpected noises at Ft Myer. After each episode, she praised her horse for “being there” for her and allowing her to return to the present very quickly.
- In July 2009, an adaptive horse-drawn carriage ordered from Europe arrived with a built-in wheelchair ramp. In 2010 and 2011, Caisson Platoon soldiers, certified by the Carriage Association of America Driver Proficiency Program, assisted a veteran with a TBI learn to drive again using this carriage. The veteran could perform the correct automobile driving reactions when using a computer; however, this simulation did not translate to being behind the wheel. By driving a horse carriage around Ft Myer, the veteran was put in a more realistic environment, which made it easier for him to transfer his “horse-driving” skills to appropriate and proper decisions on real highways.

As of December 2011, the CPEAP at Ft Myer had provided equine experiences to almost 80 wounded service members and others undergoing rehabilitative services at WRNMMC and the local Veterans Administration Medical Center, Washington, DC. In April 2012, the Army moved the CPEAP to a section of land on Ft Belvoir, Virginia, which had previously been used by the Caisson Platoon for training and resting the horses. Service members diagnosed with TBIs and

receiving care at Ft Belvoir Community Hospital were referred to the program. Of this population, the most common subjective reports to the physical therapists included reduced pain levels, better coordination, improved memory, and peace of mind. A June 2012 report from the Old Guard Public Affairs Office updated the numbers treated by the therapeutic riding program to approximately 175 service members.⁶⁹

The Way Forward

CPEAP was highly successful, partly because of the lessons that have benefited the participants, but also because of the commitment of all who supported the program (Figure 6-14). The camaraderie before, during, and after the CPEAP lessons proved to be



Figure 6-14. Ryan Kules, who works for the Wounded Warrior Project and supports the hippotherapy program, sits atop his horse awaiting riding lessons to begin. Warriors like Kules appreciate the chance to visit with other soldiers and veterans during the equine-assisted therapy sessions. Photo courtesy of Larry Pence, chapter author.

immensely positive for active duty and veteran soldiers, and CPEAP's "soldier helping soldier" concept is one of the cornerstones of many military and civilian therapy programs. The international publicity generated by CPEAP activities also brought increased awareness of the value and benefits of the equines.

In fact, the results of the publicity allowed existing Professional Association of Therapeutic Horsemanship (PATH) International centers to establish Equine Services for Heroes (formerly North American Riding for the Handicapped Association Horses for Heroes) programs. One program in Illinois is servicing five veterans' centers and has over 50 veterans participating weekly. In 2012, the Wounded Warrior Project partnered with PATH International to provide grant money for veterans injured after 9/11 to benefit from equines. PATH International is now able to help more

than 5,500 veterans and active-duty military personnel with physical, cognitive, and emotional challenges find strength and independence through the power of the horse each year.⁷⁰

The legacy of the CPEAP (Soldiers and Horses—Helping Soldiers, Now and in the Future) has been very positive and rewarding. Looking forward, more research must be accomplished to document the equine-assisted benefits for the wounded military members and veterans. Testimonials from participants are powerful and heart-warming; however, senior military and Department of Veterans Affairs leaders need data, statistics, and empirical objective evidence in order to promote this alternative therapy model. (For more information about other ways the military used and continues to use horses and other equines to benefit military and civilian populations, see Chapter 8, Military Equine Programs.)

CONCLUSION

There has been a huge increase in interest and programs designed to help wounded warriors throughout the DoD. Numerous nongovernment organizations have developed as well to help assist America's wounded personnel. When the assistance is physical, the results are usually quite obvious in how the animals (usually dogs) help individuals cope with their physical disability. However, when the assistance stems from a mental or psychiatric disability, the results may be more challenging to document.

Often, substantial amounts of "anecdotal" evidence associated with such programs exist, but little hard, clinical data can be documented. For example, there are a multitude of benefits associated with human and companion animal interaction. A 2008 literature review by Barker and Wolen reported that humans will generally benefit across the whole spectrum of interaction from simple ownership to participation in defined AAA and AAT programs.⁷¹ While most of the published studies in this review were descriptive and conducted with convenience samples, a promising number of controlled studies also supported the health benefits of the human-animal interaction.

Still, there is a tremendous need for more objective research in the animal-assisted therapies. Additionally, there may be more subtle benefits that may be objectively measured via lower drug dosages or blood cortisol levels, which could be investigated as possible adjuncts to conventional therapies in pain management. For example, recent findings show that blood oxytocin levels rise in both animals and people

as the animals and humans interact with each other.⁷² Oxytocin is thought to be associated with pair bonding and a reduction in fear or anxiety.

Another area of investigation with possible far-reaching implications is the human-animal bond effect as a broad alternative to conventional direct pain relief. Using a multidisciplinary approach, the human-animal bond programs associated with animal-assisted therapy may offer significant help for select patients to minimize pain. For example, the activity of caring for animals, both small and large, assists people with arthritis by providing activities that requires them to move about (eg, walk a dog or feed a horse). Some patients may have a greater pain tolerance while in the company of live animals.

Finally, there is a definite role for companion animals in the treatment of US military personnel in multiple treatment venues. Involving the animals as an adjunct to traditional treatment modalities has been shown to have positive psychological and physical benefits for some patients during the healing process. However, as the Barker and Wolen article points out, there are still many knowledge gaps and challenges within the human-animal bond field regarding specific therapeutic benefits.⁷¹ Although much of the evidence that supports the use of animals is anecdotal, the limited empirical data collected thus far has yielded promising results. Future research employing more rigorous designs and systematically building upon a clearly defined line of inquiry is needed to advance knowledge of the benefits of human-companion animal interaction.

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