We need another and wiser and perhaps more mystical concept of animals. For the animal shall not be measured by man. In a world older and more complete than ours they move finished, and complete, gifted with extensions of the senses we have lost or never attained, living by voices we shall never hear. They are not brethren, they are not underlings; they are other nations, caught with ourselves in the net of life and time, fellow prisoners of the splendor and travail of the earth.

—from The Outermost House by Henry Beston, 1928

I. INTRODUCTION

This chapter describes and discusses the variety of animal-assisted therapy (AAT) programs and approaches that are being used in a number of settings with different client populations. Illustrations include schools, nursing homes, hospitals, rehabilitation centers, and prisons. Reasons for the variation of AAT are presented.

Although the number of AAT programs throughout the country is increasing, the generic use of the term AAT is still nebulous. The Delta Society has worked at addressing this issue by creating a broad general definition (Delta Society, 1996). They define AAT as a goal-directed intervention that utilizes the human–animal bond as an integral part of the treatment process. The animals and handlers/owners are screened and trained to meet specific criteria and work with professionals who help set therapeutic goals, guide the AAT
sessions, and evaluate the progress (Gammonley et al., 1996). Using this definition, animal-assisted therapy can be differentiated from animal-assisted activities (AAA) and other interactions with animals. To further clarify the difference between AAT and AAA, the Delta Society defines AAA as goal-directed activities that improve a client's quality of life through the use of the human–animal bond. These sessions are not, however, guided by a professional or necessarily evaluated (Gammonley et al., 1996). Even when these general definitions are used as guides, there is no consensus on exactly what AAA and AAT entail. Although the multidisciplinary aspect of AAT adds many positive factors, it also creates additional challenges in creating general guidelines and definitions.

A contributing factor to the current status of AAT is the lack of research and references in the literature that detail AAT protocol or how it is actually conducted. AAT, as delivered in a number of specialized settings, can still be regarded as being in its early professional development, especially when compared to other therapies such as music, occupational, speech, hearing, and physical therapies. It is perhaps more akin to an adjunctive therapeutic intervention that is used by a number of professionals (i.e., psychiatrists, psychologists, social workers), as well as other therapists and trained volunteers.

Although a number of critical questions regarding the validity of AAT remain, support from those who have experienced the positive effects of AAT is increasing. It is both a challenging and encouraging time for increasing the understanding and appreciation of the human–animal bond, the therapeutic use of companion animals, and more specifically AAT.

II. VARIATION OF AAT IN SPECIALIZED SETTINGS

There are numerous reasons for the variation in AAT, including the species, breed, and training level of the animals involved in AAT programs; the level of training and characteristics of the human partner and/or professional; the nature and purpose of the setting and client population; and knowledge level of AAT by individual programs or facilities. Each of these reasons is discussed next.

A. VARIETY OF ANIMALS

1. Dogs

These companion animals are the most common species used in AAT. The type of dog selected depends on its temperament, level of training, and setting
in which it will work. Small and large dogs work well with different populations, as do both pure and mixed breeds. An important aspect of choosing a dog for AAT is careful screening and training. Screening should involve three main components: veterinary screening, temperament testing, and skills or training testing. Veterinary screening involves a complete physical examination, necessary vaccinations, and a check for internal and external parasites. Usually this is performed by the owner's veterinarian. Documentation of a clean bill of health should be presented before beginning any program. Temperament testing is designed to indicate how a dog will react in new situations or during startling events. Although some dogs are simply not suited for therapy work, other dogs will respond positively with practice and exposure to situations in which they first appear nervous or stressed. Temperament testing should include several situations that have the potential to be stressful or novel to a dog. Examples include exuberant or clumsy petting, restraining hugs, staggering people, angry yelling, being bumped from behind, petting from several people at one time, and being held by or left alone with a stranger. Other factors that should be tested include overall sociability and reactions to various new situations (Burch, 1996).

The skills test used by many AAT organizations is the American Kennel Club's Canine Good Citizen (CGC) test. Most aspects of the test involve learned behaviors and not actual personality traits. The 10 parts included in the CGC test include accepting the approach of a friendly stranger, allowing a stranger to pet them, allowing a stranger to groom and examine them, walking on a loose leash, walking through a crowd of people, sitting on command as well as staying in place, coming when called, behaving politely when exposed to other dogs, not panicking when faced with distractions, and maintaining training skills when handled by someone other than their owner. All three components of testing are equally important and mandatory to adequately screen and certify a dog for AAT. Furthermore, periodic checks in each area should be done to monitor any changes that might occur over time.

2. Cats

Felines work especially well with people that are afraid of or are allergic to dogs and can also become certified as animal partners. The ideal cat for this purpose is one that enjoys being petted and seeks out human attention. Any cat must be able to be petted in the numerous ways that may arise during an AAT session. They must also accept being touched all over their body and being held upside down. Cats are held by several strangers during certification testing, both with the owner present and absent. The animal must also get along with other cats and dogs and be able to accept new environments. Additionally, they must not get stressed while being transported, nor get scared...
of loud noises or unexpected behaviors. AAT with cats can provide clients an opportunity to learn more about breeds of cats and how to care for them. In addition, they can help improve gross and fine-motor skills through playing with toys, as well as brushing, petting, and feeding activities. Most cats, however, due to their level of trainability, are used for AAA rather than AAT.

3. Rabbits

These furry creatures are sometimes used in AAT when a dog or cat may not be appropriate, and many can become certified animal partners after going through a careful screening process. To pass certification testing, a rabbit must be easily transported and enjoy different types of handling. The evaluation includes particular items such as easily being passed from the owner to strangers, being placed on a table (in a carrier) for 30 seconds, and having a stranger hold the animal for 2 minutes. The rabbit must also allow basic petting, clumsy petting, and petting by numerous people at once. It must also tolerate being touched on all parts of the body, including the mouth, teeth, ears, and paws. Rabbits must be tolerant of individuals with disabilities and the equipment they might utilize including walkers, crutches, and wheelchairs. They must also be able to handle loud noises, being in crowds, and people yelling. Rabbits that pass these requirements can be used with a variety of populations and have been found to be a favorite among small children (Mallon, 1994). They provide variation to the usual AAT animals and can be used to work on fine-motor skills through holding and petting. Responsibility can be taught through learning to care for a small vulnerable animal.

4. Birds

A variety of birds have been used in wide-ranging settings to alleviate depression and provide an impetus for social interaction (Mugford & M'Comisky, 1975; Holcomb et al., 1997). The most common birds used are parakeets, finches, and canaries (Bernard, 1995). Birds in long-term care facilities can be used to enhance self-esteem and a sense of responsibility by encouraging residents to help in the daily care and maintenance tasks. Larger birds can be used outside of cages within a safe setting. When selecting a large bird, it is important to obtain one that was bred in the United States (identified by a closed band on their foot) as opposed to one that was captured from wild populations. Although some birds are used in AAT, most birds are used as visual stimulation similar to fish tanks. They can, however, serve in an AAT capacity with the proper supervision, goals, and implementation.
5. Horses

AAT with horses offers many unique aspects that are not available with smaller animals. The use of horses within a therapeutic setting falls under four broad categories: hippotherapy, riding therapy, riding for rehabilitation, and vaulting (Biery, 1985). Hippotherapy literally means "therapy with the help of a horse." It refers to a passive type of riding, in which the horse moves the rider. The gait of a horse has been shown to closely resemble that of the human walk, so by sitting on a walking horse, a rider's body can go through the physical motions of walking without having any weight placed on the legs (Engel, 1992). Hippotherapy has been used successfully with one-sided paralysis and other problems with asymmetry (Biery, 1985). It has also shown positive results for people with cerebral palsy: a relaxation of spastic and rigid muscles; increased coordination, balance, and posture; and reinforcement of normal movement patterns (McCowan, 1984).

Although similar to hippotherapy, which is classified as a passive therapy, riding therapy can be either passive or active. Therefore, riding therapy can include times when the rider allows the horse to lead, as well as times when the rider takes an active role in the exercises. Benefits of riding therapy are many, including increased flexibility, walking balance, gross motor coordination, and cardiorespiratory function (Biery, 1985). When the rider takes active control over the horse, he or she is then said to be riding for rehabilitation. Areas that can be targeted include coordination and psychological or social problems. In addition, riders work on sequential tasks by practicing the activities that must take place prior to riding, thereby enhancing long-term memory skills. Learning to control one's behavior is naturally taught during riding for rehabilitation as the rider learns what behaviors result in positive responses from the horse.

Vaulting, defined as "gymnastic exercises on horseback," is one variation of riding therapy. It provides a unique opportunity for the development of communication and trust between the rider and the horse. Only when they cooperate with each other will vaulting activities be performed correctly. Most riding programs combine different types of horse therapy, thereby offering a wide range of benefits including improved balance and arm and leg coordination; and increased muscle strength, mobility, self-esteem, attention span, and self-control (Biery, 1985; Brock, 1988; McCowan, 1984; Fox et al., 1984).

Because the goals for each type of riding therapy differ, the selection of the proper horse or each activity is paramount. Because hippotherapy is designed to improve a rider's posture, balance, mobility, and function (Sayler, 1992), the movements of the horse are extremely important. The horse must move with a symmetrical, balanced, rhythmic gait. As with all types of AAT, the
personality of the horse is a key component to successful therapy. Care should be taken to select a therapy horse who is patient and gentle to help ensure positive experiences for all involved.

6. Farm Animals

Other large animals that have been used as therapeutic interventions in addition to horses include cattle, poultry, and pigs. These animals have been used with a variety of different populations including people with mental impairment and emotional problems (Diesch, 1984). Positive results of interactions with farm animals include improved communication, an increased feeling of worth, and a sense of being needed. Several therapeutic communities have been built around the idea of AAT with farm animals. Bittersweet Farms is one example of a successful program that serves autistic adults. Together with horticulture, carpentry, and special projects, animal care is an important therapeutic component in the program (Kay, 1990). Farm animals are also used at Green Chimneys residential treatment center. This center serves children with behavioral, emotional, and academic problems. Children at Green Chimneys report that they feel happy when they visit the farm, and choose to visit when they want to feel better. The farm is seen by the children as a place to go when they are upset or angry. The animals also allow children to explore nurturing behaviors and provide an opportunity for confidential communication that can make discussing difficult items easier (Mallon, 1994).

Through working with farm animals, numerous skills can be taught or enhanced. Examples of cognitive skills include species care and information, measuring abilities practiced when feeding, and time management used for feeding and exercising schedules. There are many possibilities for the enhancement of gross and fine-motor skills including sweeping, feeding, shoveling, brushing, and milking. While caring for the animals, clients work on responsibility, the ability to be consistent and punctual, and following a set schedule.

7. Dolphins

Although many people do not get the opportunity to work with dolphins, these animals can provide a unique AAT experience. Dolphins in therapy are seen as useful for two primary reasons: their intelligence level and the stress-reducing capabilities of water. Dolphins seem to be closer to humans in their multimodal learning style and cognitive abilities than most other animals (Nathanson, 1989). It is therefore probable that dolphins have a greater capacity to sustain interest in a task, and provide a powerful reinforcement for therapeutic interventions (Nathanson & de Faria, 1993). Because water has been shown to a useful tool for many areas (i.e., increasing motor skills, providing greater
flexibility in movement, and alleviating anxiety and depression), dolphin AAT provides a fresh alternative to traditional therapies and has been shown to increase motivation, attention span, gross and fine-motor skills, and speech and language (Nathanson, et al., 1997). Short-term dolphin-assisted therapy can be used to help children with severe disabilities move up to a new level of functioning in a short period of time. These improvements are favorably comparable to conventional speech or physical therapy alone, with the addition of dolphin-assisted therapy creating more cost-efficient and expedient results (Nathanson, 1998). Because dolphin-assisted therapy can help reduce the amount of time needed in multiple conventional long-term therapies and special resources within the school system, the cost of this type of therapy is well worth the initial investment (Nathanson et al., 1997).

The characteristics, level of training, and care of any type of animal obviously impact the delivery and form of AAT. The important point made is that the very nature of AAT, with the use of a variety of species and breeds, their temperaments, and personalities, complicates the understanding of this form of therapeutic intervention. To some extent, this explains the variation as well as the difficulty in evaluating the effectiveness of AAT with various client populations.

**B. Level of Training and Characteristics of the Human Partner and/or Professional**

Of equal importance are the humans engaged in AAT; the persons who are frequently regarded as “on the other end of the leash.” These persons can include the owner/handler or trained volunteer, professional, staff member of an agency, or a combination of these persons in a team arrangement. The knowledge and skill base, the training and understanding level in AAT, and the personal characteristics of these persons all present important factors that bring about variation.

1. Volunteers

Persons volunteering from varying “walks of life” with different levels of education, training, and work experience tend to have one chief characteristic in common. They are all believers in the importance of the human–animal bond and the therapeutic use of companion animals. Whereas each volunteer is unique, which challenges training requirements, in many ways the human–animal bond factor provides a central point of departure for such aspects as training, suitability for volunteering, maintaining commitment, and the level
of enjoyment/satisfaction of participating in AAT in partnership with a companion animal.

At the same time, AAT requires professional guidance and direction. When volunteers are not human service professionals (i.e., social workers, psychologists, psychiatrists, teachers, therapists) ongoing training and supervisory requirements are essential for effective AAT services. Delta Society's Pet Partners program is one example of addressing this issue; however, the extensiveness and ongoing continuity of the training is not in sufficient depth for delivering AAT. The Delta Society and others are considering additional approaches, such as developing certificate-type programs, that may further help in preparing and supervising persons, whether volunteers or professionals.

2. Professionals

Similarly, although the commitment to the human–animal bond exists, for the most part professionals have not had formal preparation for conducting AAT. Most disciplines do not have content in this area in their curriculum. While professionals are competent in their chosen field of practice, there is the need for both training and supervision in AAT. To date this issue has not been adequately addressed.

3. Staff Members

Whether a volunteer or professional, staff members in agencies or programs where there is the support for and use of animals in therapeutic situations frequently seek opportunities to participate in AAT. Although this should be encouraged, there is the issue of how to provide in-service training and credentialing to ensure quality and evaluation of AAT intervention outcomes.

Whether the animal is a horse, cat, or dog, and regardless of what role the human plays, she or he must be qualified and trained to work with that animal. This involves in-depth training for both the human and animal. When working as an AAT team, the human must feel comfortable and confident with the animal partner. In addition, the human partner should feel confident working with the population or client group receiving the therapy. Training should be provided in order to ensure the human partner is qualified to work with the client.

C. Nature and Purpose of the Setting and Client Population

There are numerous specialized settings with a variety of populations that can benefit from AAT. These include the elderly in long-term care facilities,
homebound elderly, patients with terminal illnesses, patients in hospitals, children in various settings, and inmates in prisons and correctional facilities.

1. Long-Term Care Facilities

The use of AAT with the elderly has expanded rapidly in long-term care facilities, adult day care centers, and private homes. For those that reside in long-term care facilities, therapies that enhance social, psychological, and physical well-being are necessary to combat the negative effects that often accompany relocating to a facility. AAT offers the opportunity for uncritical, nonjudgmental social interaction as well as providing an avenue for sensory stimulation (Struckus, 1991). Weekly AAT sessions help some nursing home residents keep track of the days of the week because they have something to look forward to. By leaving a picture of the animal, residents can have a visual cue to help remind them during the week of their sessions. Many residents enjoy having a picture of "their" animal and like to show it to visitors and other residents.

Studies investigating the effects of AAT with institutionalized elderly have shown positive results in increased attention, improved psychological well-being, appropriate interpersonal interaction and social awareness, an increase in life satisfaction, socialization, communication, concentration, and a decrease in depression (Andrysco, 1982; Francis et al., 1985; McQuillen, 1985; Rowell, 1990; Fick, 1993; Lapp, 1991; Kongable et al., 1989; Haughie et al., 1992).

Characteristics of animals that appear useful in promoting positive changes with the elderly include their ability to stimulate a number of senses, positive responses to clients, nonjudgmental nature, encouraging caregiving behaviors, and their need for exercise and activity (Struckus, 1991). Positive results of AAT have also been found for homebound elderly who have shown a decrease in blood pressure and pulse rate after exposure to AAT sessions (Harris et al., 1993).

2. People with Terminal Illnesses

Patients with terminal illnesses can also benefit from AAT. People with a terminal illness work through the five stages described by Kubler-Ross (denial, anger, bargaining, depression, and acceptance) most smoothly when others around them are seen as supportive and are able to remain emotionally and physically close (Kubler-Ross, 1969). Because death makes many people uncomfortable, even caretakers can unconsciously give signals that increase patients' anxiety and fear levels. Animals, with their unconditional acceptance, have been found to be useful in helping people work through their feelings. Additionally, Muschel (1984) found that patients with terminal cancer felt
more in control when they were able to care for an animal. When patients have another living creature to care for, they are able to shift some of the focus from their own illness. They are able to hold and caress an animal, often in ways they would like to be held and touched. AAT provides one avenue of tactile stimulation that is often lacking in the terminally ill. Especially when someone has a misunderstood illness or one that brings up fear in others, the unconditional acceptance of the animal seems to help people cope. These animals can lessen patients' fears, despair, loneliness, stress levels, and isolation for people with numerous types of terminal illnesses including AIDS (Haldaday, 1989).

3. Hospitals

Medical centers offer other specialized settings in which the presence of AAT is growing with a wide variety of patients showing benefits. Difficulties that have shown improvement include impaired communication, ineffective coping, impaired physical mobility, self-concept problems, sensoriperceptual alteration, impaired social interactions, and altered thought processes (Barba, 1995). Other hospitals report that AAT sessions have helped patients with verbal abilities, memory skills, and motor skills. Stress reduction is often a benefit seen in hospital settings since animals provide a distraction for the patients. This is especially beneficial for patients with pain, anxiety, hyperactivity, or high blood pressure (Arkow, 1982; Bernard, 1995). Because animals make people appear less sick to others (Rossbach & Wilson, 1992), animals can also improve social interactions with visitors. By giving families and friends something else to focus on, communication can become less strained and forced. AAT is also useful for patients that are self-conscious.

Because animals are nonjudgmental, a person's self confidence and self-esteem can improve with animal contact. People are often self-conscious about physical differences during (or after) an illness or accident. These differences could range from speech problems to a lack of muscle coordination or movement. Patients can quickly sense when their changes make other people uncomfortable. Animals provide a wonderful resource for much needed unconditional acceptance. Animals do not care if someone slurs words or drools. They allow people to relax and just enjoy the direct physical contact of holding and petting a living creature. Cole and Gawlinski (1995) found that patients described their feelings after AAT sessions as happier, calmer, and less lonely. Furthermore, almost half of the patients in one survey indicated that the opportunity to participate in AAT sessions would help determine their choice of hospitals (Voelker, 1995). When dealing with physically weak or sick individuals, appropriate screening and precautions need to be followed carefully to guard against zoonoses (diseases that can be transmitted from animals to humans) and...
accidents. Although the risks of zoonoses are always present, they tend to be overestimated, and are actually low even for immunosuppressed patients with cancer or HIV (Barba, 1995).

4. Schools

AAT in school settings, working with emotionally disturbed, is another developing area. Levinson (1964) was one of the first pioneers to report the benefits of AAT for children with various disabilities including those who are nonverbal, inhibited, autistic, withdrawn, or schizophrenic. Although one of the first to actually document his use of animals, Levinson found that 33% of practitioners surveyed utilized animals at some point in their practice (Beck & Katcher, 1984). The use of AAT has shown success with autistic children particularly in increasing self-esteem, socialization, and development of language skills (Law & Scott, 1995). Additionally, problem-solving skills can be improved through implementing planning and strategy techniques when working with the animal. AAT has also shown success with children who have emotional or physical problems, as well as children who have been abused or neglected. One way in which this is accomplished is to introduce the animal as a topic of conversation and mutual interest point. Whereas many children are reluctant to talk about what is going on at home, for instance, they are usually open to talking about how an animal looks or feels. Some AAT sessions begin with the human partner talking to the animal instead of directly to the child. In this way, the child does not feel threatened and oftentimes will join in the conversation.

AAT also allows children an outlet for the tender, loving part of themselves and helps them control and regulate their own behavior while developing empathy toward other living creatures (Ross, 1992; Gonski, 1985). Through successes with the animal, many children are able to increase their self-esteem and thereby have more confidence when approaching new tasks.

5. Institutional Settings

AAT is used with inpatient psychiatric patients to help with assessment and diagnosis as well as create social interaction for isolated patients (Holcomb & Meacham, 1989). Furthermore, increased self-esteem and sense of dignity for these patients can be facilitated through AAT (Hundley, 1991). The AAT program at Lima State Hospital for the Criminally Insane provides an excellent example. During a yearlong study, patients on wards with animals present needed only half the medication of other wards. Furthermore, they demonstrated reduced violence and made significantly fewer suicide attempts than patients on wards with no animals present (Lee, 1984). After the steady success
of the initial program, Lima has since branched out to include caring for disadvantaged animals. This element of the program has shown success in inducing patients' empathy toward other living creatures. Since 1996, the facility has also begun training puppies for the Pilot Dog program, which provides free guide dogs for people who are blind. This provides patients the opportunity to learn a marketable skill and develop pride in their accomplishments.

Several other institutions have implemented dog training programs that benefit everyone involved. The Pets as Therapy program, at Purdy Treatment Center for Women, trains dogs for people with various disabilities. Women in the program feel they are doing something of value and show a decrease in depression levels. Similar programs exist at Washington State Correctional Center for Women and Gainesville Work Camp (Bustad, 1996).

The Wild Mustang program, although terminated in 1992, demonstrated success in a multitude of areas. This program initially involved taming and training wild horses that were in danger of dying from starvation or thirst. The horse problem began when the New Mexico Bureau of Land Management (NMBLM) began removing wild horses from public rangelands because of overcrowding. Since the Wild and Free-Roaming Horse and Burro Act of 1971 required humane care and treatment for these horses, the NMBLM created a partnership with the New Mexico Department of Corrections in which inmates would halter break the mustangs and prepare them for sale to the general public (NMBLM, 1989). Handling the horses allowed inmates the opportunity to do meaningful work with tangible rewards. This program was a win-win situation. The horses were handled humanely, the NMBLM was able to improve its public image, and the correctional facility was able to offer work to its inmates that did not threaten any private industry. The Wild Mustang program helped the inmates in several ways. The opportunity to work with the wild mustangs allowed the inmates to assume a nurturing role, practice autonomy, and gain a sense of responsibility. Inmates that participated in the program had fewer disciplinary reports (when substance abuse issues were addressed) and an increased ability to handle stress. The recidivism rate for inmates in the program was significantly lower than the rate for New Mexico State correctional facilities (Cushing & Williams, 1995).

These different populations and their use of AAT demonstrate the wide range in which AAT is appropriate and useful. Each setting has its own unique needs and residents, therefore, each type of AAT will focus on different goals and strategies. The wide arena in which AAT can be beneficial provides unending opportunities to see AAT at work. It also, however, makes it that much more of a challenge to define exact criteria and definitions.
D. PROGRAM LEVEL OF UNDERSTANDING OF AAT

Related to the preceding discussion is the variation in AAT that is based on the level of understanding that the agency or program has relative to this intervention. Efforts at providing in-service training for staff in facilities have proven to be useful. However, factors such as staff turnover and the difficulty of including all staff members in training opportunities (including the director or administrative staff) challenge agencies’ ability to understand what AAT is and how it can be an important part of their therapeutic program.

To a large extent AAT is viewed as, and is, a volunteer activity. While volunteers are important to any social service and healthy organization, frequently this impacts how and to what extent AAT is incorporated into the professional therapeutic services provided by an agency. For example, frequently the volunteer coordinator is assigned as the agency contact person for AAT. The more traditional professional staff members (i.e., social workers, psychologists, special education teachers, other therapists) are not. When an agency or program has a more coherent understanding of AAT as an effective therapeutic intervention, then there is a greater level of cooperation, communication, and appreciation.

Payment or fees for AAT services often depend on whether agencies acknowledge AAT as an effective intervention and part of the treatment plan. Currently, the majority of AAT is not third-party reimbursable. Like many other worthwhile programs, many AAT programs suffer from insufficient funding with too much time and energy used to locate the funds necessary to operate. Each agency’s perception of AAT impacts education and training issues, as well as the variety/level of AAT being conducted. There is the broad conception that AAT is more of a supportive activity that fits with other volunteer services. This does not necessarily reflect on the support for AAT from programs, but it does indicate the present status and level of understanding of this intervention.

III. DESCRIPTION OF THE STRUCTURES AND APPROACHES OF AAT

Other considerations relative to AAT are the structures through which AAT programs are provided and the particular approach(s) used. Structures can include the following: a university affiliated program, an autonomous nonprofit organization, an agency-based program, an individual volunteer, and the independent practitioner. AAT approaches include the human–animal team, volunteer and companion animal, professional and companion animal, and staff
member and companion animal. A brief description of these structures and approaches is presented. It is important to recognize that the context in which AAT is delivered impacts quality and accountability issues.

A. UNIVERSITY-AFFILIATED PROGRAM

Some universities have been successful in developing human–animal bond interdisciplinary centers where AAT programs are developed and delivered, along with other research, training, and service components. A university-affiliated program is a well-established structure for responding to unique practice areas. However, there are only a few such centers around the country that focus on the human–animal bond (i.e., Colorado State University, University of Tennessee, Purdue University, University of California–Davis). There are significant merits to this approach, including having available the interdisciplinary resources of a university. The program at Colorado State University is described later in this chapter as illustrative.

B. NONPROFIT ORGANIZATIONS

AAT programs are more frequently related to organizations that obtain non-profit status and have varying degrees of organizational structure, including a board of directors, paid and volunteer staff, and a budget. An advantage of this approach is that AAT is conducted under an auspice that provides guidance and some level of ongoing supervision and interaction. These organizations usually have the capacity to compete for foundation funding, and maintain volunteer commitment through training, and ongoing team-building experiences.

C. AGENCY-BASED PROGRAMS

Some direct service organizations, such as long-term care facilities, develop their own AAT programs through staff who have some expertise in the human–animal bond field. Frequently it is the activities coordinator, or another professional staff member, who initiates an AAT program as part of her or his responsibilities or from an understanding of the significance of AAT with clients.

D. INDIVIDUAL VOLUNTEER AND INDEPENDENT PRACTITIONER

Another delivery mode of AAT is a person who wants to use the human–animal bond experience as a vital part of her or his volunteer or professional responsi-
bilities. The level and quality of AAT can vary considerably based on such factors as the degree of training of the animal and human partner and ongoing supervision. Issues can also arise relating to liability and quality control.

Related to the structure through which AAT is provided are the approaches in AAT that are presently being used. These include the human–animal team, professional with companion animal, staff member with companion animal, and volunteer with companion animal.

E. HUMAN-ANIMAL INTERVENTION TEAM

When using this modality, there is a conscious effort to create a team consisting of the animal, owner/handler, and agency professional that can work together with a specific client or resident. The intent is to have an ongoing connection between the expertise or contributions of all team members as AAT is conducted in a facility. There is significant merit to this approach based on treatment goals and objectives being developed and carried out by team members who have specialized knowledge and skill essential for effective intervention. In a school setting, for example, the special education teacher can be the designated professional working with the companion animal and owner in each AAT session. In this situation, the teacher is the expert on the social, psychological, and learning dynamics of the child, and the owner/handler is the expert on how the human–animal team can interact with the child. With this approach there is greater opportunity to specify treatment objectives, to more effectively carry these out, and to evaluate progress—all vital components of AAT.

F. PROFESSIONAL WITH COMPANION ANIMAL

This approach is used most frequently in private practice, where the therapist and her or his companion work together. The therapist determines when and under what conditions the animal could facilitate treatment. Under these circumstances, AAT can vary considerably based on knowledge and skill of the therapist and training/temperament of the animal. It is less likely to be reported in the literature or systematically evaluated. It is more of an adjunctive intervention that is determined by the therapist as potentially beneficial to the client.

G. STAFF MEMBER WITH COMPANION ANIMAL

This approach is similar to professional with companion animal, except that AAT is conducted within the auspices of the specified agency of the staff
member. Based on the interest and expertise of the staff member she or he is either directly involved in AAT or is responsible for developing an AAT program within the agency. With interest and commitment generated from the agency, frequently the human–animal intervention team approach is developed.

H. Volunteer with Companion Animal

This approach is the most prominent within AAT with volunteers showing a wide range of expertise. They, for example, can be professionals who want to engage in the therapeutic use of companion animals, or can be so-called "laypersons" who have acquired a knowledge and skill base (along with their companion animals) and want to engage in AAT. These persons seek out agencies where they can be part of AAT, or join a program where they and their companion animal can become a human–animal team.

IV. Human–Animal Intervention Team: An Example of One AAT Approach

The human–animal intervention (HAI) team is presented as illustrative of one approach that has developed a specific protocol and has had its potential effectiveness in AAT protocol evaluated (Granger et al., 1998). The intervention team consists of a trained owner/volunteer; her or his medically, behaviorally screened, and trained companion animal (usually a dog); and a designated professional staff member from an approved school (or social service/health agency). This intervention team works within the supervised structure and policies/procedures of the human–animal bond organization to which the team is responsible, as well as the school or social welfare/health agency in which the therapy is performed.

In this particular organizational arrangement the human–animal bond program is university centered at Colorado State University. HABIC (Human–Animal Bond in Colorado) is an interdisciplinary program between the College of Applied Human Sciences (specifically the Department of Social Work, in cooperation with the Department of Occupational Therapy, and the School of Education) and the College of Veterinary Medicine and Biomedical Sciences. HABIC is a nonprofit entity that receives all funding through external grants and contracts, foundation support, program fees, and individual donors and memberships. In addition to direct service, HABIC provides training and internship opportunities for students and also research/evaluation of AAT.
The protocol for the HAI team is described in Fig. 1. This figure focuses on school settings; however, the steps in the protocol are essentially the same for other settings (i.e., residential treatment, long-term care, rehabilitation, health, and corrections). This protocol is focused on providing a consistent pattern of operation that can be evaluated in determining validity, reliability, and the merits for replication. From a practice perspective the purposes of this protocol include initial and ongoing training/supervision of the human–animal team(s), careful planning and carrying out of treatment objectives (including evaluation of outcomes) through a designated team, close and continuous relationships with the facility, and an effective administrative structure. Related to the protocol is the selection of goals and strategies that are determined by the intervention team. An example of this is provided in Table I.

**FIGURE 1** Human intervention team protocol.
**TABLE I  Goals and Selected Strategies**

**Goal Setting**

Goals to be addressed for each participant were selected by the students' special education teacher. Once goals were identified, specific strategies used by human–animal teams to work on each goal were implemented. Goals and selected strategies for each participant were as follows:

### Participant A

<table>
<thead>
<tr>
<th>Identified goal area</th>
<th>Selected session strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease negative comments. Increase use of praise and positive comments.</td>
<td>a. Work with the human–animal team to learn appropriate praising techniques.</td>
</tr>
<tr>
<td></td>
<td>b. Process session events to confront this issue directly and transfer it to other situations.</td>
</tr>
<tr>
<td>Decrease self-talk relating to the fantasy world.</td>
<td>a. Work with the human–animal team to emphasize the importance of staying focused on the “here and now” with the animal when giving commands.</td>
</tr>
<tr>
<td></td>
<td>b. Process session events to confront this issue directly and transfer to other situations.</td>
</tr>
<tr>
<td>Decrease distractibility.</td>
<td>a. Work with the human–animal team to help maintain concentration on the work with the animal when giving commands.</td>
</tr>
<tr>
<td></td>
<td>b. Process session events to confront this issue directly and transfer to other situations.</td>
</tr>
<tr>
<td>Improve relationships with peers. Improve relationship with the other participant.</td>
<td>a. Work with the human–animal team to use the participant’s relationship with the animal as a metaphor for human relationships.</td>
</tr>
<tr>
<td></td>
<td>b. Create and deliver a presentation with the other participant about HABIC experiences.</td>
</tr>
<tr>
<td>Increase amount of eye contact with people.</td>
<td>a. Work with the human–animal team to develop appropriate eye contact.</td>
</tr>
<tr>
<td></td>
<td>b. Work at transferring that skill to other relationships.</td>
</tr>
<tr>
<td>Improve appropriateness of voice tone with people.</td>
<td>a. Work with the human–animal team to develop appropriate tone of voice when training the animal.</td>
</tr>
<tr>
<td></td>
<td>b. Work at transferring that skill to other relationships.</td>
</tr>
</tbody>
</table>

### Participant B

<table>
<thead>
<tr>
<th>Identified goal area</th>
<th>Selected session strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease learned helplessness. Increase sense of control over self and environment.</td>
<td>a. Work with the human–animal team to effectively command the animal and problem solve.</td>
</tr>
<tr>
<td></td>
<td>b. Process session events to confront this issue directly and transfer to other situations.</td>
</tr>
</tbody>
</table>
TABLE I (Continued)

<table>
<thead>
<tr>
<th>Identified goal area</th>
<th>Selected session strategies</th>
</tr>
</thead>
</table>
| Decrease pouting and tantrumming, increase age appropriate behavior. | a. When situations of frustration or nonsuccess arise while working with the human-animal team, process session events to confront this issue directly and transfer to other situations.  
  b. Reinforce age-appropriate responses to frustration and nonsuccess. |
| Improve relationships with peers. Improve relationship with the other participant. | a. Work with the human–animal team to use the participant's relationship with the animal as a metaphor for human relationships.  
  b. Create and deliver a presentation with the other participant about HABIC experiences. |
| Increase amount of eye contact with people.                | a. Work with the animal–human team to develop appropriate eye contact.  
  b. Work at transferring that skill to other relationships. |
| Improve appropriateness of voice tone with people.         | a. Work with the human–animal team to develop appropriate tone of voice when training the animal.  
  b. Work at transferring that skill to other relationships. |

V. SELECTED ISSUES

A number of current issues relate to implementing a successful AAT program. Some of these include attention to animal needs, volunteer and professional training, matching human–animal teams and clients, evaluation, and funding issues.

A. ANIMAL NEEDS

In addition to the training and screening that need to occur for any type of animal, care should be taken to ensure that all animals involved in AAT enjoy the activity. Only animals that receive satisfaction from engaging in AAT sessions should be included as therapy animals. Limiting the time an animal is “on duty” and keeping the animal safe from accidents or aggressive client behavior are major responsibilities of the human team member. The quality of AAT declines when the experience ceases to be a positive experience for all involved.
B. TRAINING AND SUPERVISION OF VOLUNTEERS

Ongoing training and support of volunteers are important issues relating to the quality of AAT. All new human–animal teams should go through extensive training prior to beginning AAT. Only after a team has successfully completed all requirements should it visit a facility. In this way, potential recipients are not disappointed if the volunteer does not meet the necessary requirements. After pertinent background information has been received concerning the human–animal team, many programs offer different levels of training for the team. The volunteers should be trained in what to actually do in AAT sessions and well as have some experience or education concerning the type of clients they will be assisting. Most volunteers find it useful to observe several sessions before doing one themselves. Supervision should be available to help with any problems or questions. Feedback on supervised sessions provides a wonderful resource for volunteers to continue to develop their skills.

To help keep things running smoothly, support meetings for each facility’s volunteers should be offered. In this way, volunteers visiting the same facility can get acquainted with one another, share experiences, and discuss concerns. One important topic that often bears addressing in support meetings is the level of involvement for volunteers. Volunteers need to understand the boundaries within the facilities in which they work. While volunteers are oftentimes professional people, it is imperative they understand agency policies and procedures. The role of a volunteer should, therefore, be clearly defined. All volunteers should be clear about who to contact for advice, suggestions, or concerns.

C. TRAINING AND SUPERVISION OF PROFESSIONALS

There is the related issue concerning the training of professionals who engage in AAT, and the supervision and accountability of these professionals. As noted, most disciplines do not include content on AAT in their curriculum. A few universities are offering a course or two, and a trend is beginning of developing certificate-type programs. However, for the most part these are quite superficial, lacking in depth, and do not require experiential learning opportunities. Once a professional has completed a course or continuing education-type of training, there is no ongoing supervision. In addition to this standard of training, the specific content needs to be determined.

D. MATCHING HUMAN–ANIMAL TEAMS AND CLIENTS

During initial assessments, careful consideration should to be given to matching the needs of the resident with the characteristics and availability of the human–
animal team. To best facilitate an appropriate match between a team and a client, the contact person and the human–animal team should walk through the facility and meet the potential clients. Since oftentimes clients are not able to accurately indicate their preferences when queried, a walk-through can help determine what factors are desired and/or needed.

E. EVALUATION AND DETERMINING AAT EFFECTIVENESS

Evaluation is an important defining characteristic of AAT. Many people and programs refer to what they do with animals as AAT, but are not evaluating the effectiveness of their program. In addition, most studies to date are descriptive and do not make use of qualitative or quantitative measures. Crucial elements of AAT include goal setting, evaluation, and the willingness to alter AAT sessions to best meet clients' goals. Goals that can be obtained through the use of AAT are as diverse as the population served, but all must be monitored and tracked. Often this monitoring is achieved through predesignated meetings with all those involved to reflect on the progress seen and implement new ideas. One example, to illustrate, is the verbal ability of a stroke patient. The first aspect involved is some type of verbal ability base rate before therapy begins. The next step includes creating a treatment plan with input from all involved participants. The treatment plan should specifically state the activities for each session, expected goals, and a time frame for reaching each goal. Additionally, how each goal will be measured should be decided before starting AAT sessions. In this example, it would be imperative to involve the speech therapist in the goal-setting stage. The words and phrases practiced in AAT sessions should also be practiced during speech therapy. In this way, AAT works as an adjunct therapy, helping the speech therapist achieve greater results with a patient.

This is a significant issue impacting the validity of AAT as a therapeutic intervention. Based on this chapter's presented material there is difficulty in evaluating AAT due to numerous variable factors. Until AAT can more clearly be defined as to its parameters and protocol, this will continue to be an issue hindering its professional development and recognition.

F. FUNDING

All of the preceding issues have impact on financial considerations such as third-party reimbursement, funding of AAT by agencies and programs, and the degree to which AAT is regarded as a "volunteer" activity. Competing for grants and foundation funds is a challenge for most anyone. Without solid
data that demonstrate to funding bodies that AAT makes a difference in responding to the health, social, and psychological needs of specific clients, we will continue to struggle with the issue of adequate funding.

VI. CONCLUSIONS

We have described the current status of AAT in specialized settings. It is a picture of considerable variation and levels of quality. Much of this is related to the very nature of AAT and the complexity of the human–animal bond. Other factors influencing AAT include the variety of animals involved, their temperament and level of training, and the human team member and her or his level of training and personal characteristics. The setting or agency where AAT takes place and the variety of clients also influences how AAT is conducted.

The interdisciplinary nature of AAT in many respects enriches its content, but also contributes to different ways of conducting or implementing this therapeutic intervention. Professionals, trained staff, and volunteers all engage in various levels of AAT based primarily on their understanding of and personal commitment to the human–animal bond. Some efforts have been made to establish guidelines for AAT; however, this falls short of addressing the wide variation that presently exists.

AAT protocol or how one conducts this type of intervention is noticeably absent from the literature. This is another factor that contributes to the difficulty of evaluating the effectiveness of AAT, and thus to its credibility as a legitimate and significant intervention. In spite of these factors, the therapeutic use of companion animals, and specifically AAT, is continuing to expand into multiple areas of social and health services. Contributions in the literature are also increasing to help define the parameters of AAT and the standards through which AAT should be conducted.

REFERENCES


I. ELDERLY TRANSITIONS

We live in a world that is witness to a tremendous growth in the population of persons who are 65 and older. It is a well-established fact that the oldest-old (85+) represent the fastest growing segment of our population. Researchers and scientists are beginning to seriously consider the ramifications of these demographic changes in our society. There is increased attention directed to health promotion for persons of all ages. Although the lives of humans and animals have been intertwined for thousands of years, there is still much to be learned about the effects of the human–animal companion bond, particularly as it affects the health and the quality of life of older persons. To capitalize on the benefits of the human–animal companion bond, it is essential that one have some familiarity with the aging process and how this process affects the everyday life of older people. An understanding of age-related changes and transitions that occur in the life of older people can provide the basis for interventions that enhance quality of life.

“Come grow old with me! The best is yet to be.” This well-known line from Browning’s work may be prophetic as we now look at the remarkable
discoveries that scientists have made and are continuing to make about changes that accompany the aging process. As data mount, dispelling myths once thought to characterize human aging, there is a growing certainty that the best is yet to be. No longer do we automatically accept the fact that old age is an event that occurs at age 65, but a process that begins at birth, a process that is a very individualized, representing the cumulative effects of the person’s internal and external environment. That which was once thought of as age-related change is slowly beginning to be revised as researchers are discovering that many of the characteristics of age are influenced by disease or disuse rather than normal life processes. Undoubtedly, there are profound data to indicate that cells have a finite period of life. While Hayflick’s (Hayflick, 1994; Hayflick & Moorhead, 1961) well-known experiments about cell division continue to be supported in the literature, there is increased attention to the internal mechanisms that speed up or delay cellular activities that lead to the death of a cell. Because aging is a dynamic interactive process influenced by the internal and external environment, scientists would be remiss if they did not direct their attention to examine the interplay of an individual’s external environment on the aging process. One such area is that of the positive effect of the human–animal companion bond on quality of life for older persons.

To ensure that the promise, “the best is yet to be” is realized by the chronologically old, it is important to understand the difference between the natural results of aging and warning signals of disease and to identify specific instances where companion animals might play a role in compensating for losses that occur with age-related changes. While many changes attributed to aging can be recognized easily (visual changes, hearing impairment, alterations in hair growth, decline in short-term memory, loss of bone mass, decrease in height, loss of strength and stamina, and menopause), it is important to remember that these observed changes have their origins at the cellular level. As these exact mechanisms are identified, the mystery of normal aging will be elucidated. Although we have made considerable progress in teasing apart normal consequences of aging from syndromes of disuse and disease, there is much that still must be learned. Despite the current limitations on understanding what aging is and the consequences of aging, it is essential that we continue to raise questions about symptoms and behaviors that present in humans who have reached the socially recognized time of life called old age and to propose interventions that compensate for or delay these changes. Questions to guide future investigations include these: What is the role of companion animals in preserving and enhancing the quality of life of older persons? What are the health benefits of companion animals for older persons? What role can companion animals play in compensating for age-related change in older persons? What are the essential criteria to select an appropriate companion animal for an older person? Is there a place for companion animals in institutional settings?
To propose and explore possible roles of companion animals with older people, it is important to reflect on some of the physiologic changes that occur with aging. Many of the changes that have been attributed to age actually begin in earlier years, but more attention is directed toward these changes when one reaches and surpasses the chronological age of 65 years.

II. SENSORY CHANGES

Sensory changes are among the first age-related changes noted by individuals and by society in general as outward and visible signs that one is growing older. The subtle, uncompensated alterations in sensory structure and function can have a profound effect on the quality of life of the older individual because these changes affect how one receives and responds to stimuli. Often it is these changes that make older persons vulnerable to ageist comments and attributions about their ability to function in our society.

A. Vision

Visual changes begin in the mid-forties but become more pronounced with each passing decade. External and internal structural changes in the eye and surrounding tissue result in decreased visual acuity, decreased tolerance of glare, decreased ability to adapt to dark and light, reduced contrast sensitivity, restricted color recognition, and decreased peripheral vision. In some instances, visual changes that occur with aging can be modified with prescriptive lenses. In addition, attention to environmental modifications will compensate for the needed increase in illumination, color contrasts, and glare reduction and support existing visual acuity. For those persons whose vision cannot be corrected with prescriptive lenses or surgical procedures, animals, especially seeing eye dogs, can compensate for the visual changes that cannot be altered with current ophthalmological interventions, thus allowing the older person to independently move about the environment. Proper correction of visual deficits will enable the older person to enjoy the soothing experience of watching fish swim about in an aquarium, observe the antics of a young kitten play with a ball of yarn, or watch wild animals scurrying and birds flying about outdoors. Any one of these visually stimulating activities keeps the older person “connected” to his or her environment and serves as an important means of sensory stimulation.

B. Hearing

Hearing loss is the third most frequently reported chronic condition of persons 65 and older. *Presbycusis* is a global term used to describe hearing loss associ-
ated with the aging process. There are two forms of presbycusis: sensory presbycusis, which affects the older person’s ability to hear high-pitched sounds, and neural presbycusis, which affects speech discrimination. For many hearing-impaired older persons, consonants such as sh, f, v, t, p, and b are frequently misunderstood, thus leading to communication difficulties that may result in a mislabeling of older persons as cognitively impaired. Hearing loss can indirectly affect self-esteem, producing self-doubt and self-imposed isolation from others. For those persons who have a hearing deficit that can be corrected or improved with hearing aids, it is essential to be properly fitted for such devices and receive the proper training in their use. A person whose hearing has diminished or failed is deprived of not only the joy of sound but may be placed in jeopardy if unable to hear sounds that warn of danger. An older person who has a hearing deficit may not venture outdoors out of fear at not being able to hear sounds of impending danger. A companion animal can serve as an alert system while outdoors but also to draw the older person’s attention to guests and intruders. In addition, the companion animal can reinforce the older person’s attempts to communicate verbally especially when taking the animal outdoors.

C. Touch

Touch sensitivity is also known to be reduced in older people. The skin has been referred to as the largest organ of the body. While the skin serves many physiologic functions, such as protection of internal organs, regulation of temperature, and synthesis of vitamin D, it is involved in sensory perception and expression of feelings. It is now recognized that changes in the skin (dryness, wrinkling, laxity, uneven pigmentation and proliferative lesions) are not the result of normal aging but represent a response to genetic makeup, lifestyle habits, and/or environmental conditions. Age-related changes in the appearance and texture of the skin, however, continue to be interpreted as outward and visible signs that a person is old. It is this interpretation that often leads to many undesirable comments being made about persons over 65 which could result in isolation. As the circle of significant others that the older person has contact with in later years begins to diminish in numbers, the older person’s opportunities to touch and be touched change accordingly. These changes occur at a time when the need for tactile stimulation takes on greater importance because the threshold of tactile stimulation increases as one ages. Pets provide an opportunity to fulfill the need to touch and be touched. The cold wet nose of a faithful canine friend, the velvet feel of a cat’s sleek coat, the softness of a bunny’s ears, the gentle peck of a budgie can be the stimulus that connects the older person to reality. The short periods of time that one
goes outdoors with one's pet can provide the necessary exposure to the sun to absorb vitamin D, which is essential to bone health.

D. SMELL AND TASTE

Changes in the olfactory and gustatory systems are less noticeable, but nonetheless play an important role in the health and well-being of older persons. The olfactory bulbs show significant atrophy with age, thus resulting in a diminished sense of smell. This decline impacts the older person by reducing the pleasurable smells that are associated with cooking, thus indirectly affecting appetite. There is a gradual but significant loss of taste buds resulting in a decreased ability to enjoy the flavor of foods. Food intake is also influenced by the social environment. The importance of good nutrition to the overall health of older persons cannot be denied. For an older person living alone, having a pet to prepare food for may serve as a stimulus to prepare food for one's self. Also, the presence of pets during meals can be a substitute for other social contact. In addition, the reduced sense of smell places the older person at risk for injury related to undetected smoke from fire and as well as toxic odors. Pets often alert their owners to undesired or dangerous changes in the environment.

III. CARDIOVASCULAR SYSTEM

Many changes associated with the aging process are now recognized to be related to genetics and lifestyle choices rather than to disease processes per se. While researchers continue to struggle with the challenge of separating normal age-related changes from pathologic conditions, cardiovascular disease continues as a leading cause of death among persons over 65 (Lakatta, 1993). Progress has been made in separating risk factors into two categories, nonmodifiable and modifiable. It is in the area of modifiable risk factors that companion animals can make an important difference in promoting quality of life for older persons. Petting a companion animal has been associated with a reduction in blood pressure and an increase in relaxation. Walking a pet or playing catch with a pet may be just the stimulus that is needed for the older person to engage in activity. Having to walk and/or care for the pet gives the older person a reason to get up in the morning.

IV. MUSCULOSKELETAL SYSTEM

The changes that occur in the musculoskeletal system have a direct effect on the manner and ability of older persons to move about in their environment.
Although disease processes, such as arthritis or osteoporosis, do affect a large number of older people, many of the observed impairments in musculoskeletal functioning are related to disuse. The adage "use it or lose it," takes on particular importance in relation to flexibility, strength, endurance, and bone mass. Getting fit and staying fit should be a top priority. It is in the area of musculoskeletal fitness that companion animals take on particular importance. Brisk walking is the simplest form of weight-bearing exercise and can easily be done with a pet dog. Throwing a ball or holding up an object for a cat to paw at provides an opportunity to exercise arm and shoulder joints.

V. IMPORTANCE OF PETS TO THE ELDERLY

The most common thread in literature about the elderly is loss. Generally, the more advanced the age the greater the losses experienced. These losses encompass physical losses, such as mobility, vision, and hearing; psychological losses, such as memory and problem-solving abilities; and social losses, such as support, institutionalization, and deaths of loved ones. Once a loss occurs, what is lost usually does not return, at least not to the same level previously experienced. How an elderly person deals with loss may be the single greatest factor affecting the quality of the remaining years. The presence of a companion animal to whom one is attached may be a moderator in helping the elderly person deal with some of the losses.

A number of studies have found that pet ownership enhances the lives of elderly persons living in the community. Dog owners in mobile home parks are twice as likely to go for walks, talk more often about activities occurring in the present, and report less dissatisfaction with their social, physical, and emotional states that non-dog owners (Rogers et al., 1993). Dog owners may also be more sociable and thus have dogs.

The most famous study of the therapeutic value of pets for the elderly was conducted in England by Mugford and M'Comisky (1975) in which either a budgerigar or a begonia was placed in the homes of free-living elderly. A control group had no intervention. At the end of 5 months, only the group who had received the budgie had improved social attitudes, mental health, and happiness. Not only had the elderly subjects formed attachments to the birds, they had become powerful topics for conversation that could displace discussions of the past and medical ailments.

One of the most difficult losses for the elderly occurs during the loss of a spouse. Dog owners who form bonds with their dogs report fewer health problems (Bolin, 1987) and less depression (Garrity et al., 1989) after loss of a spouse than non-dog owners. All studies of the elderly during bereavement have not demonstrated beneficial outcomes, however. A slightly negative im-
The role animals play in enhancing quality of life for the elderly

Impact of pet ownership on coping levels during stressful times was reported in one study (Lund et al., 1984). Another area needing study is the effect of loss of a pet for the elderly person who already may have lost friends and family. The loss of a beloved pet may represent the last significant other.

The well-being of the elderly may or may not be related to their attachment to pets. An Australian study (Crowley-Robinson & Blackshaw, 1998) found that more than one-third of the elderly studied spend more than 8 hours per day with their pets, and that dogs were the preferred species. Dog ownership, however, did not affect either their owners’ happiness or their incidence of depression. A study conducted in the United States had similar findings in that no relationship was found between pet attachment and feelings of depression, and pet variables had relatively little impact on psychological or physical well-being (Miller & Lago, 1989). The relationship between pet ownership and happiness for the elderly may be more related to socioeconomic status than to pets alone (Ory & Goldberg, 1983).

It is possible that pet attachment positively affects the health of the elderly, thereby helping to alleviate one of the common losses experienced in the later years, that of health. Siegel (1990) studied 938 Medicare enrollees in a health maintenance organization and found that respondents who owned pets reported fewer doctor contacts than those who did not own pets. Dogs appeared to buffer their owners from the impact of a stressful life. Dog owners in comparison to owners of other pets spend more time with their pets and feel that their pets are more important to them. Pet attitudes and ownership also are significant predictors of higher levels of both health and morale (Lago et al., 1989).

Pets have lessened the impact of the loss of personal freedom for persons confined to residential centers such as nursing homes. The presence of a pet enhances the treatment milieu (Brickel, 1979; Thomas, 1994). Cats stimulate patient responsiveness, give patients pleasure, and act as forms of reality therapy (Brickel, 1979). Dogs increase interactive behaviors among nursing home residents, although the effects are somewhat short term (Buelt et al., 1985; Fick, 1993; McArthur et al., 1986; Winkler et al., 1989). Birds can decrease depression among elderly in rehabilitation settings (Jessen et al., 1996) and adult day care centers (Holcomb et al., 1997).

Among Alzheimer’s patients in the home, the presence of companion animals has resulted in fewer episodes of verbal aggression and anxiety and fewer mood disorders (Fritz et al., 1995). Among institutionalized persons with Alzheimer’s, socialization is increased in the presence of a companion animal (Batson et al., 1998; Kongable et al., 1989) and behavioral distress is decreased (Churchill et al., 1999).

In summary, considerable research has been done on the effects of companion animals in alleviating the losses common among the elderly. Nevertheless,
there still is a need to conduct studies on the long term effects of human–animal interactions. Such studies could lead to modification of some of the regulations governing institutions for the elderly that separate them from their animals.

VI. PET SELECTION

A. FREE-LIVING ELDERLY

Recommending a pet for an elderly person is a challenging opportunity. Even though a number of studies have demonstrated that pets can be beneficial to the elderly, for example in alleviating depression and increasing socialization, finding the right pet for a particular person can be difficult. The primary consideration is the health and safety of the person.

Many elderly have mobility difficulties. It is not uncommon for elderly persons to walk with canes or walkers and to be somewhat unsteady on their feet. While a young dog can provide much affection and entertainment, it may be too strong for the elderly person to walk on a leash or it might be able to cause a fall by jumping against the legs or tripping the person. The elderly may not be able to move quickly enough to get a puppy house broken. Thus, an older dog, particularly one who has been obedience trained, socialized, and housebroken, may be a good alternative. Often dog breeders, especially those who show their dogs, have adult dogs who are still young but are no longer going to be shown and whom they would like to place in loving homes. These purebred dogs usually are excellent examples of the breed, have been bred for good temperament, have been socialized to dog shows where they had to perform in front of hundreds of people and dogs, and thus make excellent pets.

Other sources of well-trained dogs are the agencies who train dogs as service dogs, for example, seeing eye, hearing, and assistant dogs for people with handicaps. At present, there is a 75% dropout rate for these dogs, that is, three-quarters of the dogs who have been specially reared do not succeed in their formal training program. Generally, they make excellent pets because they have had systematic socialization and obedience training since they were young puppies. There are, however, long lists of people waiting to adopt these dogs, and the puppy raisers generally have the first option to adopt the dog if it is rejected during the formal training program.

Many humane societies have adopt-a-pet programs, some designed specifically for the elderly. While there are many animals at Humane Society shelters who can become excellent pets, careful consideration needs to be given to the elderly person's abilities and the pet's needs. If the animal was brought to the shelter for behavior problems, an elderly person may not be able to provide
11 The Role Animals Play in Enhancing Quality of Life for the Elderly

the appropriate behavior modification. On the other hand, sometimes wonderful pet animals are available for adoption.

Elderly persons seeking to acquire a dog will have individual needs and likes and dislikes. Sometimes as individuals age their self-concept does not change as their bodies become more limited, and they may be unrealistic in assessing what they can and cannot do. Their memories of a loved dog may not include the difficulties encountered during puppyhood, and they may only remember the docile, well-behaved older dog in the last years of its life. Thus, seeking advice on the type of dog to be acquired from an experienced dog person and health care provider may be very useful in matching the individual with the right dog.

Most major cities have one or more kennel clubs and dog training clubs. Often these clubs provide public service through maintaining a telephone to assist persons with dog-related questions. Some purebred dog clubs participate in rescue programs where they take unwanted dogs of their breed, rehabilitate them if necessary, and place them in good homes. Some of these rescued dogs might make excellent pets for the elderly. Also, veterinarians can provide advice about the care requirements of various breeds. Another avenue of information on purebred dogs is the American Kennel Club, which has an excellent web site (http://www.akc.org) and can refer inquiries to the national breed clubs. In addition, there are numerous home pages on various breeds of dogs and other dog-related activities that can be accessed through one of the search engines on the Internet. Most libraries have sections on dogs.

It is a good idea for anyone, particularly the elderly, not to be impulse driven in the acquisition of a pet. Besides the monetary investment, there may be a 10- to 15-year commitment involved in the acquisition of a pet. A few weeks of investigation and planning can be a good investment in making sure that the acquisition of the pet is a positive experience. Sometimes, it is useful if an adult child partners with the elderly person in the process of pet adoption. The adult child then hopefully will have some commitment to assisting the elderly person throughout the process. The elderly need to recognize their current and potential limitations that could occur during the life of the pet. If there is a strong potential that the person will not be able to care for the pet throughout its entire life, an arrangement might be made with a family member or other responsible person to take the pet if the elderly person becomes unable to provide care either temporarily or permanently.

A few retirement homes allow elderly residents to bring their pets with them, but the elderly have to be able to care for the pet, and there may be restrictions on the size and species of the pets allowed. Hopefully, the number of institutions allowing personal pets will increase in the future. Most nursing homes do not have facilities for personal pets. One of the greatest sources of distress for the institutionalized elderly can be the loss of their beloved pets.
Many nursing homes do have regular pet visitation programs and allow individuals' pets to visit on a regular basis. Family members or friends can keep the pet and bring it to see its owner. A particularly sad occurrence is for the pet to be taken to the local Humane Society when its owner is institutionalized and then euthanized or placed with strangers so that the elderly person experiences not only the loss of personal independence, but also the loss of a real significant other.

Sometimes, the choice of a pet other than a dog is ideal for an elderly person. Cats, for example, require less personal care than dogs. Nonetheless, the elderly person needs to be mobile enough to change the litter box and responsible enough to feed and care for the cat. Eyesight needs to be good enough to avoid tripping over any pet who has access to the floor.

Sometimes, a caged animal, such as a bird, might be a better choice if the elderly person has difficulty with mobilization. Birds can be excellent companions. Most domestic birds can be hand trained thus providing physical contact but also can be kept in cages. The elderly person needs to be able to provide food and water and clean the cage regularly.

Many other small animals could provide touch and affection for elderly persons. Gerbils, Guinea pigs, mice, rats, rabbits, hamsters, turtles, and snakes are but a few of the potential small animals that could be wonderful pets. Sometimes it is not possible to predict to which animals strong bonds can develop. Physical contact with the animal is extremely important in the choice of a pet for some people but is not a strong consideration for others, for example, who may find that watching fish in a tank can provide many hours of intense enjoyment.

A major consideration in the acquisition of pets by the elderly is access to veterinarian care. Frequently, elderly persons are no longer able to drive. Finding someone to take the pet to the veterinarian's office may be problematic. Even though there are many ways for the elderly to get transportation for their own health care appointments, there are no similar services for animal health care. In addition, many elderly are living on fixed incomes and may not be able to afford the additional costs of health care for pets. A few cities provide low-cost clinics for animal health care, some particularly for animals belonging to the elderly, but again the elderly have to find transportation to the clinics. Some veterinarians practice in mobile vans. The availability of such a veterinarian for pets of the elderly would be of great assistance in allowing the elderly to maintain pets in their homes. Provision for the animal's health care needs to be a critical part of the planning that takes place prior to the acquisition of a pet. Sometimes, if it is not feasible for the elderly to have personal pets, wild animals, such as birds and squirrels, can fill the gap. The elderly can get many hours of enjoyment from watching birds and squirrels at feeders.
The Role Animals Play in Enhancing Quality of Life for the Elderly

B. INSTITUTIONALIZED ELDERLY

A variety of animals can be used in institutions either as residents or as regular visitors. The most common are dogs, cats, rabbits, small rodents, birds, and fish. Dogs, cats, and rabbits generally visit on a regular basis, although some institutions have acquired them as residents.

The success of a resident animal in an institution for the elderly depends on a number of factors. Probably the most important is careful planning prior to the acquisition of the animal. The first step is to review the regulations of review boards and accrediting organizations about resident or visiting animals. If there is no contradiction to the acquisition of an animal, the next step is to decide which animal is best for that institution.

Staff need to consider who will be responsible for the animal. It is generally overly optimistic to assume that the elderly will care for resident animals. Responsibility needs to be assigned to staff members. If some aspects of care can occasionally be done by elderly residents, that care needs to be accomplished under the supervision of staff members. Thus, staff need to be willing to assume additional duties in relation to a resident animal. The nature of the animal to be acquired, therefore, has implications for staff workload. A dog, for example, needs food, toileting, and exercise on a regular schedule 24 hours a day 7 days a week. Thus, all shifts will need to make provisions for its care. It is possible for the day shift to be excited about the acquisition of a resident animal and the night shift to resent the added responsibilities. In such an institution, a caged bird which requires less care that can be given on only one shift might be a better choice.

Part of the planning for the acquisition of an institutional pet is to consider potential allergies among residents and staff. It may be necessary to specially treat the animal to reduce the disbursement of allergens, for example, dander, that trigger allergic reactions. Also, toenails need to be kept well trimmed and blunt to prevent injury to frail skin. Likewise, a plan needs to be in place for flea and other parasite prevention.

The potential for zoonotic infections, that is, infections that can be transmitted between species, needs careful consideration. Any animal brought into an institution should be given a complete examination by a licensed veterinarian prior to introduction. There should be a plan for regular examinations to ensure that it remains free of parasites and infections, that immunizations are current, and that preventatives, such as heart worm pills, are administered appropriately.

There may be some residents who should not interact with the pet such as those who are immunocompromised or allergic. The plan for the resident animal needs to include provisions for protecting these residents.
Another consideration in acquiring a resident animal is the location of the nursing home. Residents coming primarily from rural settings often have very different views of animals than those who have been city dwellers all their lives. Even animals traditionally regarded as companions, such as dogs and cats, may be considered as appropriately living outside and performing some instrumental function. Retired farmers may prefer interactions with farm animals, such as sheep and chickens, to dogs and cats. They can get a great deal of satisfaction watching these animals through the window as opposed to petting or cuddling companion animals.

The age of the animal also is a significant factor to be considered in planning. Puppies, although cute and appealing, need housebreaking and training. Older animals have the potential to have training completed before placement. One important consideration is that the animal needs to be temperament tested to ensure that it is suitable for interaction with the residents. Most cities have animal trainers who can perform this function.

Another consideration is that the animal needs time alone away from constant interaction with humans. While staff are not expected to work 24 hours a day, neither should such “work” be expected from the resident animal. Planning for a place where the animal can be away from people for part of each day and get its proper rest is essential. Such planning requires an understanding of the behavior of the species. Dogs, for example, generally are most active in the morning and evening and sleep a great deal in between. Planning for a resident dog might include an enclosure with a shelter on the grounds where the dog can be placed in the middle of the day as well as for the night.

Some institutions have found that a more satisfactory arrangement for having a therapy animal, particularly animals such as dogs and cats, is to have the animal reside with one of the staff. Then, the animal comes to “work” with the staff member and goes home at the end of the shift to a more normal living arrangement where it can get its own needs met. Such an arrangement also negates the need for staff to provide 24-hour, 7-days-a-week care for the animal.

The need for careful planning prior to the acquisition of an animal for an institution for the elderly cannot be emphasized too much. It would be well to have a committee of stakeholders formed to consider aspects of acquisition of the animal and to generate a written set of guidelines that would become part of the institution’s policies and a budget for care of the animal. Such careful planning should result in a happy and therapeutic relationship between the animal, staff, and residents.

VII. GUIDELINES FOR ANIMAL-ASSISTED THERAPY WITH THE ELDERLY

Many institutions for the elderly have resident pets, and many have regular pet visitation programs. While many studies have demonstrated the beneficial
effects of contact with pets for a variety of persons, including the elderly, the long-term effects of resident pets and pet visitation programs have not been examined. Nonetheless, the idea of bringing pets into contact with institutionalized elderly has become quite popular in the United States and elsewhere.

There is no doubt that the presence of pets in a setting such as a nursing home where one ordinarily does not expect to see them provides a source of distraction and novelty. All one has to do is witness the attention a dog gets as it walks into a unit. Residents, staff, and visitors descend on the dog almost like it is a magnet. Yet, the question of what the long-term effects of contact with a companion animal for the institutionalized elderly are has yet to be answered.

Distraction from one's ordinary daily life in a nursing home is not without merit. Also, pets provide a source of affectionate physical contact that often is lacking in an institutional setting. Perhaps these effects are enough to justify the cost of maintaining these programs. There are important areas to consider in instituting an animal-assisted therapy program.

1. **Choice of animal.** Most pet visitation programs utilize companion animals such as dogs, cats, rabbits, and Vietnamese pot-bellied pigs. These animals can be transported easily to the institution and walked or carried to interested residents. One criterion for animals' being included as regular visitors is that they be tested for their suitability to interact with strangers. Many pet therapy groups have established their own testing programs. National organizations, such as the Delta Society (http://www.petsforum/delta), have standardized testing that can be done by a local person who is certified. Once the animal has passed the test, it receives a certificate that it can be an institutional visitor. Often, it is eligible to wear some sort of symbol of this certification so that persons who see it in the institution know that it has been tested.

2. **Orientation of pet handlers.** The persons bringing the animals to the institution need to have an orientation to that institution. They need to know in which sections of the building, generally eating areas, animals are not allowed. Also, they should be informed about the types of persons they will encounter and how to deal with problems if they should arise. The safety both of the residents and of the persons and animals visiting is of utmost importance. It is possible for cognitively impaired elders to behave in strange ways and to attempt to injure animals and their handlers. Staff members need to be aware of animals visiting an institution and to provide information on residents who might benefit from such visitation as well as those who should not be approached. Animals visiting an institution should be under the direct physical control of the handler at all times.

Many persons who participate in animal visitation programs continue to do so for many years because it is so personally rewarding for them to be part of the human–animal team. One has only to see the delight and interest on so many otherwise sad or blank elderly faces when allowed to interact with a
companion animal to be “hooked” forever and convinced that animals truly are good for the elderly!

REFERENCES


