Final Project Team Report For:

The Chimo Project

Improving Mental Health Through Animal-Assisted Therapy

Report Date: November 2003

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Executive Summary

INTRODUCTION

This report represents a summary of The Chimo Project, a 27 month project funded by the Health Innovation Fund of Alberta Health and Wellness. The Chimo Project concept was founded in 1999 by Dennis Anderson who, at that time, was the President of the Canadian Mental Health Association in Alberta. The Chimo Project is named after "Chimo" who was the animal friend of Dennis and his wife, Barb. Dennis aspired to further the use of animal-assisted therapy in Edmonton and throughout Canada. In order to do that, however, it was recognized that sound scientific data proving the benefits of animal-assisted therapy needed to first be obtained. The Chimo Project set out to do just that, after obtaining funding from the Health Innovation Fund in May 2001. The total funding received for the 27 month project was $331,000.

The Chimo Project represented an initial collaboration of the Canadian Mental Health Association, The Pet Therapy Society of Northern Alberta, and the Edmonton SPCA. Bosco Homes became another important collaborator during the initiation of the project.

PROJECT GOALS AND OBJECTIVES

The primary goal of the Chimo Project was to enhance and improve the well being of individuals with mental health concerns through animal-assisted therapy. The objectives of the project were as follows:

Preliminary Phase:

1. Develop a comprehensive database of literature on the human-animal bond and the use of animals in therapeutic settings.
2. Recruit qualified mental health professionals to participate in the project.
3. Recruit appropriate volunteer animal handlers to participate in the project.
4. Prepare an orientation manual about how mental health professionals can work with companion animals in therapeutic settings.
5. Provide orientation sessions to all project participants.
6. Develop criteria and screening procedures for the selection of clients and companion animals for participation in Phase One of the project.

Phase One:

1. Develop AAT risk management policies and procedures for both human and animal welfare.
2. Screen potential companion animals for participation in AAT.
3. Assess the impact of AAT on the mental health outcomes of individuals participating in the project.

KEY FINDINGS/RESULTS

Individuals diagnosed with either of two mental health disorders (depression and/or anxiety) were included in the project. These individuals were recruited from Private Practice offices throughout Alberta and from a Residential Treatment facility for youth located near Edmonton, Alberta. The final study sample included 22 clients who received animal-assisted therapy as an adjunct to traditional therapy (15 from Private Practice and 7 from Residential Care) and 14 control clients who received traditional therapy alone (11 from Private Practice and 3 from Residential Care). A total of 8 therapists recruited clients for the study (7 from Private Practice and 1 from Residential Care).

The key results from the Residential Care setting were as follows:

- Youths who received animal-assisted therapy overwhelmingly supported having the animal in therapy sessions.
- Therapist results clearly show that the youths had trouble concentrating with the animal in the room initially, but by the 4th session they no longer had difficulty.
- Client and therapist ratings indicate that the animal was therapeutic because youths indicated the animal was of comfort to them, made them look forward to coming to therapy, and accepted them for who they are.
- Therapy in general helps troubled youths perform better at home, school, and in the Residential Care facility, but the youths receiving animal-assisted therapy showed greater benefits.

The key results from the Private Practice setting were as follows:

- Clients were positive about the animal being in the therapy session during session 1 and these ratings remained positive throughout the study.
- Therapist ratings indicated that the animal assisted in establishing rapport with the client, that having the animal in sessions seemed to make clients more willing to come to therapy, that the animal was of comfort to the client during therapy, and that the clients touched and talked directly to the animal. These ratings increased over time (i.e. session 4 scores were higher than session 1 scores), although the differences were not statistically significant.
- In general, the results showed that animal-assisted therapy is as effective as traditional forms of therapy alone. There were no statistical differences between Control client ratings and ratings of clients receiving animal-assisted therapy.

The key unanticipated findings from the project were as follows:

- Pet ownership may have a moderating effect on a mental illness. Results from this project indicated that clients in the study who had pets at home were less depressed or anxious when they started therapy than people who did not have pets. This difference remained even after about three to four months of therapy, regardless of whether the client received animal-assisted therapy or traditional therapy alone. Further study of this phenomenon is warranted.
- Clients from the Private Practice setting who did not have pets took a little longer to respond to animal-assisted therapy (i.e. it took longer for their ratings regarding the

animal in therapy to increase) compared to clients who had pets at home. However, by session 4, the ratings of the clients were similar, regardless of whether or not they had pets.

CONCLUSIONS: IMPLICATIONS OF FINDINGS FOR THE OVERALL HEALTH SYSTEM

Participants in the Chimo Project not only enjoyed having the animals in therapy, but felt that the animals helped them therapeutically. The following excerpt taken from a letter that was written to one of the therapists participating in the Chimo Project may help to illustrate this point:

> …*I am most anxious at the beginning of a therapy session, but I found I could relax by talking about Lucy* [the therapist's canine co-therapist]. *It is very difficult for me to talk about deep emotional feelings, but through Lucy, I began to feel comfortable doing this. Lucy's most endearing charm is her ability to make you feel special, and that was a great source of comfort and encouragement as I tried to face the painful aspects of my past. Initially, I couldn't understand why Lucy would want to see me, but over time, I realized that she gives her love unconditionally and unselfishly. What a beautiful way to learn to trust and to acknowledge my own self worth!*
>
> [Provided by Ruth Shell, a collaborating therapist with the Chimo Project].

The results of the Chimo Project show that therapists believe their clients were helped by the use of an animal in therapy, that the clients believed that the animal assisted them in recovery, and that clients made progress while in animal-assisted therapy. In particular, youth in residential treatment for mental health challenges received great benefit from animal-assisted therapy.

It is our belief that the results of this project, together with information from previous studies, support the use of animals in mental health therapy. Thus, the following recommendations have been made to the Alberta Government:

1. That the government consider immediately making funding and information resources available to Alberta child and youth programs, to help them introduce animal-assisted therapy.
2. That at a provincial level, the government consider establishing a program to help the regional health authorities introduce animal-assisted therapy in mental health facilities and programs.
3. That the government consider supporting further results-based demonstration research to determine practical ways in which animals may aid citizens suffering from other illnesses.
4. That the government consider supporting an initiative to help establish policies and standards of practice for animal-assisted therapy programs.
5. That standard training and screening processes be established for volunteer animal owners who could work with therapists where required.

6. That Alberta Learning, together with Alberta universities and colleges, consider educating faculty and staff in animal-assisted therapy and develop courses on this topic for health-related disciplines, continuing education credits, and certificate programs.
7. That the Community Development Department consider proposing amended legislation to give persons with medical authorization the right to be accompanied by an animal in public places in the same way that a service dog (i.e. seeing-eye-dog) accompanies the blind.
8. That the government review social support programs with the view of allowing for animal costs, particularly where a doctor or therapist believes the animal-human relationship to be beneficial.
9. That the government review public housing, or public subsidized housing programs, and encourage regulations that allow animals in such accommodation.
10. That the Alberta government utilize the results of the Chimo Project, and all other known material on animal-assisted therapy, in implementing the preceding recommendations.

Acknowledgements

The Chimo Project gratefully acknowledges the contributions of the following individuals/organizations for their role in making the Chimo Project a success. Although the list is not exhaustive, it is believed to represent the major project partners, contributors and collaborators.

Project Participants	**Position and Role or Background**	**Project Delivery Location**
Principle Investigators and Project Team Members		
Dennis Anderson	Project Director and founder – former Alberta cabinet minister, Honorary consul for Thailand	Where needed
Liana Urichuk, PhD	Project Coordinator, principle investigator – research scientist, Assistant Clinical Professor in the Department of Psychiatry (U of Alberta)	Throughout Alberta, where needed
Sylvia Imbealut	Administrative Assistant (Apr 2001 – Jun 2002) – provided an extensive variety of project support functions	Edmonton
Sherryl Husereau	Administrative Assistant (Jul 2002 – Nov 2002) - provided an extensive variety of project support functions	Edmonton
Anne Nield	Administrative Assistant (Dec 2002 – Jul 2003) - provided an extensive variety of project support functions	Edmonton
Independent Project Evaluator		
Bonnie Dobbs, PhD	Independent Evaluator, principle investigator – Associate Director of the Rehabilitation Research Centre and Assistant Professor in the Faculty of Rehabilitation Medicine (U of Alberta)	Edmonton
General and/or Professional Advisory Committee Members		
Earl Mansfield, PhD	Chair, Chimo Advisory Committees – Past President of the Canadian Mental Health Association-Alberta Division	Edmonton
George Lucki	Member – Past President of the Psychologist's Association	Edmonton
Stephanie McDonald	Member – Executive Director, Edmonton SPCA	Edmonton
Beverly Edwards-Sawatzky, PhD, CPsych	Member – Psychologist	Edmonton
Paul Arnold-Schutta, MA	Member – Psychologist, Manager of Psychological and Assessment Services, Bosco Homes	Edmonton
Steven Marsden, DVM	Member – Veterinarian	Edmonton

Project Participants	**Position and Role or Background**	**Project Delivery Location**
Patricia Gay	Member – Barrister and Solicitor	Edmonton
Nancy Kiss	Member – Pet Therapy Society of Northern Alberta	Edmonton
Darlene McDonnell	Member – Pet Therapy Society of Northern Alberta	Edmonton
Partnering Therapists		
Donella Scott (and canine Charlie)	Psychologist – provided client and therapist data for the project	Lethbridge
Betty Hodnefield (and canine Bernard)	Psychiatric nurse - provided client and therapist data for the project	Grande Cache
Bonnie Rude-Weisman (and canine Georgie)	Psychologist - provided client and therapist data for the project	Medicine Hat
JoAnne Dulaney (and canine PauKat)	Social Worker - provided client and therapist data for the project	Didsbury, Three Hills, and area
Terrence Wilton (and canine Bishop)	Psychologist - provided client and therapist data for the project	Camrose and area
Pamela Thompson	Psychologist - provided client and therapist data for the project	Edmonton
Judi Malone	Psychologist - provided client and therapist data for the project	St. Paul, Athabasca, and area
Wanda Polzin (and canine Jake)	Social Worker - provided client and therapist data for the project	Bosco Homes
Volunteers		
Marian Kadatz (and canines Peanut and Miss Vicky)	Animal handler – worked with therapist in animal-assisted therapy sessions	Bosco Homes
Nanette Spraggins (and canine Mahubba)	Animal handler – worked with therapist in animal-assisted therapy sessions	Bosco Homes
Katharine Balbar (and canine Ike)	Animal behaviorist – participated in media event.	Edmonton
Rhonda Benson (and canine Dezzie)	Animal handler – trains search and rescue dogs	Edmonton
Michelle Kropp (and canine Abbey)	Animal handler – worked with therapist in animal-assisted therapy sessions	Bosco Homes
Adele Collings (and canine Brady)	Animal handler, supervisor at Bosco Homes – worked with therapist in animal-assisted therapy sessions	Bosco Homes
Stephanie Bicari (and canine Furbie)	Animal handler and groomer – participated in media events and in creation of demonstration video.	Edmonton

Project Participants	**Position and Role or Background**	**Project Delivery Location**
Marilyn Melnychuk (and canine Kelsey)	Participated in the creation of a demonstration video.	Edmonton
Kevin Smith (and canine Lady)	Animal handler – recreation therapist at Bosco Homes	Bosco Homes
Collaborators		
Shauna Attewell	Animal trainer – helped screen and assess animals according to project criteria	Edmonton
Peggy Mayes	Social Worker – provided advice and information to the Chimo Project, reviewed the Chimo manual.	Calgary
Sue MacIntosh	Therapist – provided advice and information to the Chimo Project, reviewed the Chimo manual.	Calgary and area
Ruth Shell	Clinical counsellor – provided advice and information to the Chimo Project, reviewed the Chimo manual.	Vancouver, BC
Liz Sliwa (and canine Daisy)	Occupational Therapist – participated in media events.	Edmonton
Robert Smith	Grief and Bereavement Counsellor – provided advice and information to the Chimo Project.	Grande Prairie
Philip Wright	Therapist – provided advice and information to the Chimo Project.	Grande Prairie
Jim Chalmers	Therapist – provided advice and information to the Chimo Project.	Bosco Homes
Lena Petryga	Therapist – provided advice and information to the Chimo Project.	Bosco Homes
Eileen Bona	Counsellor – sought advice and exchanged information on the project.	Bona Comp., Ardrossan
Funders/Sponsors		
Health Innovation Fund	Provided core funding for an 18 month demonstration project.	Edmonton
Federal Department of Health	Provided an additional 8-10 months of funding through the Health Innovation Fund to allow for a project extension.	Edmonton
Canadian Mental Health Association	Sponsoring organization for the first 20 months of the project.	Edmonton
Bosco Homes	Sponsoring organization for the last 7 months of the project.	Edmonton

Project Participants	**Position and Role or Background**	**Project Delivery Location**
Other Partnering Agencies/Organizations		
Pet Therapy Society of Northern Alberta	Helped develop the initial proposal for funding and provided ongoing consultation for the duration of the project.	Edmonton
Edmonton SPCA	Participated in initial project planning discussions and provided ongoing advice, as needed.	Edmonton

Project Background

Recognition of the human-animal bond in the scientific and academic community is increasing. Growing evidence suggests that animal companionship makes people healthier and happier. These benefits are enjoyed by all of us who have animal friends, but for individuals affected by physical, emotional or mental illness, animal companionship can have special therapeutic value.

Incorporating companion animals into therapy or activity programs can provide positive benefits for individuals with mental health concerns. A companion animal can make the difference between a person living with loneliness, fear, grief or depression and a person experiencing companionship, comfort, purpose and special moments of joy. Unfortunately, however, there is a lack of training available in schools for mental health professionals to learn how they can employ animals in their work. There are also many barriers to animal ownership for numerous people with mental health concerns.

Chimo Project Overview

The Chimo Project is a unique and innovative project that was founded in 1999 by Dennis Anderson who, at that time, was the President of the Canadian Mental Health Association in Alberta. The Chimo Project is named after Dennis's late animal friend "Chimo," a Blue Heeler/Labrador cross. Because Dennis has personally experienced the psychological benefits of human-animal interactions, he aspired to first obtain evidence that animals may be beneficial in the treatment of persons with mental health concerns and then use this evidence to convince organizations and governments to extensively introduce, or provide support to, Animal-Assisted Therapy (AAT).

Three organizations formed the original Chimo Advisory committee: 1) The Canadian Mental Health Association; 2) The Edmonton Society for the Prevention of Cruelty to Animals; and 3) The Pet Therapy Society of Northern Alberta. Through a series of meetings and with the advice of therapists, the committee developed the backbone for the project. Discussions also revolved around a potential second project that would concentrate on reducing barriers to pet ownership for persons with mental health problems. Bosco Homes became another important collaborator after the project was developed.

In early 2001, an application was made to the Alberta Health and Wellness' Health Innovation Fund for financial support. This application was approved and the project began in May of the same year. The initial funding period for the project was 18 months, but additional funding later received through the Health Innovation Fund allowed the project to be extended to 27 months.

Throughout the project, a professional advisory committee (with various therapists, animal experts, and a lawyer) and a general advisory committee (with various representatives from the founding organizations) provided useful insight for the small staff of the project. During different time periods, the Canadian Mental Health Association and Bosco Homes sponsored the Chimo Project, meaning that they were generally responsible for administering the project funds received through the Health Innovation Fund.

The project was divided into two phases: 1) Preliminary Phase – consisted of a literature review and recruitment of potential project participants, and 2) Phase One – the introduction of AAT into client treatment sessions. Mental health therapists in private practice and from a residential treatment facility for troubled youths participated in the Chimo Project. The therapists involved clients in the project who meet diagnostic criteria for either depression or an anxiety disorder. Therapists involved both AAT clients and control clients (i.e. clients who did not receive AAT) in the project. Prior to starting data collection, the project was reviewed and approved by the Health Research Ethics Board at the University of Alberta.

Purpose

The primary purpose of the Chimo Project was to enhance and improve the well being of individuals with mental health concerns through AAT.

Goals and Objectives

The objectives of the project were as follows:

Preliminary Phase:

7. Develop a comprehensive database of literature on the human-animal bond and the use of animals in therapeutic settings.
8. Recruit qualified mental health professionals to participate in the project.
9. Recruit appropriate volunteer animal handlers to participate in the project.
10. Prepare an orientation manual about how mental health professionals can work with companion animals in therapeutic settings.
11. Provide orientation sessions to all project participants.
12. Develop criteria and screening procedures for the selection of clients and companion animals for participation in Phase One of the project.

Phase One:

4. Develop AAT risk management policies and procedures for both human and animal welfare.
5. Screen potential companion animals for participation in AAT.
6. Assess the impact of AAT on the mental health outcomes of individuals participating in the project.

Principle Research Questions

In order to assess the effectiveness of AAT in improving mental health, the following questions were asked:

1. Does AAT offer a new approach to the delivery of health services in the treatment of individuals diagnosed with mental health disorders?
2. Does AAT influence the quality of therapy received by clients diagnosed with depression and/or an anxiety disorder?
3. Does AAT have a positive influence on mental health outcomes?

4. Does AAT result in improved efficiencies in the treatment of depression and or anxiety-related disorders?
5. Does AAT facilitate collaboration /integration with other parts of the health system?

Assessment of Need for the Project

The concept of involving animals in therapy has only been investigated academically since the mid-1960s. Although AAT was pioneered by explorative and descriptive work (Levinson, 1965), the field has grown in size and depth and does include some studies of an experimental nature. Investigators have attempted to link animal interaction with a number of health benefits, including survival rates (Freidmann, Katcher, Lynch, & Thomas, 1980). Researchers have measured changes in indicators of physiological arousal (Baun, Bergstrom, Langston, & Thoma, 1984; Katcher, Segal, & Beck, 1984; Harris, Rinehart, & Gerstman, 1993; Wilson, 1991), levels of neuroendocrine chemicals that correlate with bonding behaviour and improved mood (Odendaal, 2000), and have also found some support for transient, yet significant, physical effects of interaction with animals.

Several experimental studies have also examined the effects of AAT in mental health settings. However, critical reviews of the field of AAT have indicated that most of the experimental studies conducted to date have lacked appropriate scientific rigour and sample sizes to support the use of animals in therapy with psychiatric patients. In their review of AAT literature, Beck and Katcher (1984) noted a distinct lack of reliable experimental studies examining the effectiveness of AAT with clients in therapy. In fact, despite the fact that several researchers have highlighted the need for scientific research on AAT, there has been little experimental exploration in this field. Thus, from the project outset, it was determined that there was a need for well-designed studies on AAT to build a scientific foundation to support the use of this innovative therapeutic technique. The Chimo Project was designed to meet that need.

Furthermore, despite the overwhelming anecdotal support for AAT, animals have not been integrated throughout our health care systems. The Chimo Project was committed to making all aspects of the project as practical as possible, so that other organizations might be inspired to incorporate animals into their service provision.

Population Targeted for Inclusion

Individuals with a diagnosis of depression or an anxiety-related disorder (e.g. generalized anxiety disorder, social phobia, panic disorder) were targeted for inclusion in the project because: 1) both are common mental health problems, with an incidence of approximately 5% and 10%, respectively, in the general population, and 2) individuals who meet diagnostic criteria for at least one of these disorders are common in both private practice and residential treatment settings.

Therapists in private practice throughout Alberta were recruited for the project and asked to select appropriate clients with whom they would use AAT to augment their therapy. Where possible, the same therapists were asked to select appropriate clients from their practice who

could serve as the non-equivalent client control group (i.e. the clients would receive therapy without AAT as a component). Because of the nature of their practices, some therapists provide only AAT clients, while some provided only control clients.

Bosco Homes, located east of Edmonton, is a residential treatment facility for troubled youths. The therapist at Bosco who participated in the Chimo Project recruited appropriate female adolescents from her unit/house to participate as either AAT or control clients.

A graphic overview of study participants is provided in Figure 1.

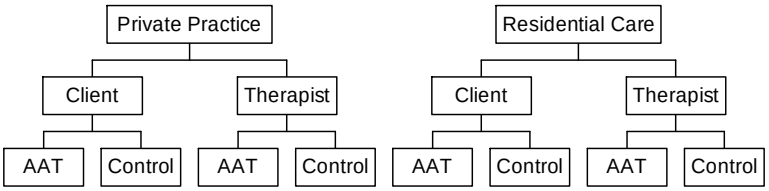


Figure 1. An overview of the study including source of recruitment (Private Practice or Residential Treatment), role of participant (Client or Therapist), and type of participant (AAT or Control).

Methods

Study Design

A case-non-equivalent control group repeated measures design was used in both the private practice setting and the residential treatment setting. In this design, data was collected for individuals who received AAT and also for Control clients [Controls are individuals who were similar (e.g., age, diagnosis, severity of illness, illness duration, etc.) to the AAT intervention group, but who did not receive AAT as a component of their therapy]. In this way, the AAT group could be compared with the control group to determine differences between groups that may, or may not, be attributable to working with the animal in therapy.

Prior to recruitment or data collection, the project protocol was reviewed by the Health Research Ethics Board-Panel B at the University of Alberta and received ethical approval.

Research Procedures

According to the Delta Society, an organization devoted to the human-animal bond and health connection, animal-assisted therapy (AAT) is a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. Thus, AAT is not just the mere presence of an animal in the session. Therapists involved in the study created specific goals for each client on a session-by-session basis.

Upon recruitment to the study, and following consent, demographic and social support information was obtained from both therapists (profession, age, gender, years of practice) and clients (age, gender, marital status, physical health, pet ownership, number of people to talk to when down). The clients were also asked to complete a standardized psychological test to provide baseline data on the severity of their depression or anxiety. These instruments were the Beck Depression Inventory (or the Beck Depression Inventory for Youth) for clients with depression or the Beck Anxiety Inventory (or the Beck Anxiety Inventory for Youth) for clients with an anxiety-related disorder. The clients were asked to re-do these psychological tests during the course of therapy, and again either upon discharge from therapy or at the end of the project. This provided quantitative pre-post data that could be used to determine the effects of therapy on mental health outcomes.

At the end of each individual therapy session, the therapist and the client each filled out a self-administered questionnaire that was developed specifically for the project. The therapist's questionnaire addressed specific information to be answered with regards to that particular session. In addition, the therapist indicated what the goals of the session were and, in their opinion, if the goals were attained. The client's questionnaire asked specific questions about the therapy they received in the session and, if an animal was present, their feelings about working with the animal. Although these questionnaires do not have established psychometric properties, the questionnaires were designed to quantify subjective information provided from the therapists and clients in order to help determine the efficacy of AAT.

The above measures provided useful information that helped to assess the mental health outcomes of the clients enrolled in the project. However, there were a number of limitations to this methodology. First, there were difficulties in obtaining completed self-administered questionnaires for every session. A number of clients did not complete the questionnaires on a regular basis and this severely restricted the amount of data that could be analyzed, as well as the ability to compare therapeutic progress after longer-term therapy (i.e. only the first 4 therapy sessions were included because that was the most complete data set, even though some clients attended as many as 13 therapy sessions). Second, the use of other standardized psychological measures, as well as a standard clinical interview, pre and post would have allowed a better assessment of mental health outcomes. Third, information on personal characteristics and attitudes of the clients would have allowed an initial assessment of what type of people may be more likely to favourably respond to AAT (and, alternatively, the types of people who are likely to not respond to AAT).

Inclusion and Exclusion Criteria

Clients and therapists were recruited for the study based on the following inclusion/exclusion criteria:

<u>Clients</u>

Inclusion Criteria

1. Clients must currently meet the DSM-IV criteria for depression (Major Depressive Episode) or for Anxiety/Panic Disorder.

Note: Initially, the project inclusion criteria indicated that the clients' primary diagnosis was to be depression or an anxiety disorder. However, due to difficulty recruiting clients for the project, the protocol was expanded to include clients with other mental health disorders as the primary diagnosis (e.g., Post Traumatic Stress Disorder, Fetal Alcohol Spectrum Disorder), as long as the client had co-morbid depression or anxiety that met the diagnositic criteria. The expanded protocol had the effect of increasing the size of the recruitment population, while also increasing the generalizability of the study.

Other notable changes in the protocol included: 1) allowing therapists who did not have AAT clients enrolled in the study to recruit Control clients, and 2) allowing ongoing therapy clients to enrol in the project. Initially, the protocol indicated that, for comparison purposes, all participating therapists should recruit both AAT clients and Control clients from their practice. Furthermore, the protocol stated that only new clients could be recruited into the project, in order to better capture the well-documented and substantial changes that occur during the development of the therapeutic relationship (e.g. increased rapport, trust, comfort). However, due to the low enrolment of both AAT and Control clients in the early stages of the study, it was necessary to expand the protocol. Thus, In August of 2002, recruitment procedures were changed such that Controls were recruited from therapists who did not have AAT clients enrolled in the study and ongoing clients (AAT or Control) were entered into the project. These changes increased notably the number of clients participating in the study.

Approval for the above changes was received from the Health Research Ethics Board-Panel B at the University of Alberta before they were implemented.

Exclusion Criteria

1. History of allergies to animals
2. Fear or dislike of animals
3. A history of abuse of dogs
4. Immune suppression

<u>Therapists</u>

Inclusion Criteria

1. Therapists must meet the credentials and be licensed in their profession, as specified within the professions jurisdiction (e.g., if a psychologist, must be chartered and licensed with the College of Alberta Psychologists).
2. Documentation of current and valid credentials and/or licensure must be available upon request.

3. Therapists will practice within the scope of their profession.
4. Therapist will demonstrate commitment and willingness to participate in the project.
5. Therapists will attend a seminar on animal and risk management practices and demonstrate knowledge of animal and risk management practices.
6. Therapists will set goals for AAT on an individual client basis.
7. Practice includes clientele meeting the inclusionary criteria for clients listed below.
8. Therapists will be willing to complete study questionnaires at regular intervals and be interviewed at project completion with regard to the use of AAT.

Exclusion Criteria

1. History of allergies to animals.
2. Dislike of animals

Animals used in the AAT sessions were required to meet the following inclusionary/exclusionary criteria:

Inclusion Criteria

1. Successful completion of the Canadian Canine Good Citizen (CCGC) Test or a modification thereof.

Note: This criterion was changed approximately half way through the study to a requirement that animals who had previously worked in a therapy environment with their qualified owner pass a Canine Aptitude Test. In the course of the study, it was found that the CCGC Test criterion was a major barrier to recruiting therapists. For example, a number of therapists expressed interest in participating in the study, but were unable to do so because their animals did not pass all of the items on the CCGC Test even though they had worked with their animal in their practice for a minimum of 2 years. A contributing factor to these failures was the environment in which the test was administered (i.e., a large open space in an unfamiliar building, set-up similar to an obedience ring). The majority of therapists and animals screened for the project were not familiar with this setting because they normally worked in an office environment. Unfortunately, the CCGC Test cannot be administered in an office environment because of the space requirements. As a result, these teams often failed one or more of the skills that were tested.

In the preliminary stages of the project, however, The Pet Therapy Society of Northern Alberta developed a Canine Aptitude Test to help screen animals for the Chimo Project to ensure they were suitable for working in a mental health setting. This test is easily administered in an office setting where the animal and therapist are more comfortable. All of the therapy

dogs (i.e. dogs that are currently used by therapists during client sessions) involved in the Chimo project passed the Canine Aptitude Test and there were no untoward incidences involving use of the animals for AAT over the entire course of the project.

2. Documentation of annual vaccinations and other screening tests that are advised by the facilities risk management policies must be available.
3. Animals will be groomed appropriately (e.g., nails short and smooth, paws and coat clean)
4. The animal handler will demonstrate that the animal has appropriate reaction to different social situations and incidents that may directly or indirectly affect public health and/or safety.
5. The animal will demonstrate its obedience during assessment and the handler will demonstrate the animal can be engaged and disengaged from activities or interactions easily.
6. The animal will demonstrate acceptable behavior during task-appropriate simulations of AAT situations.

Exclusion Criteria
1. 12 months of age or younger

Project History – Major Milestones

As previously noted, the project consisted of two major developmental phases:

1. The Preliminary Phase included the following primary components:

- A review of the literature related to the human-animal bond and the use of companion animals in therapeutic settings.
- The recruitment and orientation of qualified mental health professionals to the project.

2. Phase One included the following primary components:
- The introduction of AAT into the treatment plans of individuals participating in the project.
- Evaluation of the effects of AAT on mental health outcomes.

The major milestones accomplished in the initial stages of the project consisted of retaining an independent evaluator and outlining an evaluation plan, developing informational brochures and a website for the Chimo Project (see Appendix B), establishing a professional Advisory Committee to provide ongoing project advice and guidance, developing project forms (information letters, consent forms, confidentiality agreements), developing data collection tools (client and therapist questionnaires), developing recruitment criteria (clients, therapists, and animals), applying for ethics approval (Health Research Ethics Board-Panel

B, University of Alberta), developing training and orientation sessions (for therapists, volunteer animal handlers, and their dogs), finding partnering organizations, and recruiting therapists throughout Alberta.

A number of techniques were used to recruit therapists into the study, including:

- Using existing networks, therapists in Alberta were identified and contacted by the Project Coordinator regarding participation in the study.
- Sending recruitment notices out to mental health therapists using email distributed by the Psychologists' Association of Alberta.
- Posting advertisements at Veterinary Clinics in the Edmonton region
- Posting recruitment aids at Breeding Clubs
- Mailing form letters to trainers, veterinarians, and psychiatrists

The major milestones accomplished in Phase One of the project consisted of recruiting and orienting animal handlers; screening and assessing animals to ensure they met project criteria; preparing a training video in conjunction with the Pet Therapy Society to provide examples of some techniques that can be used to incorporate animals into therapy sessions; developing an aptitude test for dogs to help assess if they have a suitable aptitude to work in a mental health setting (prepared by the Pet Therapy Society); providing a number of local, national, and international presentations about the Chimo Project; holding three media events and a volunteer appreciation day; receiving funding to allow for a project extension of eight to ten months; receiving an agreement in principle for sponsorship of a joint initiative in Edmonton Schools with the Riverview Rotary Club; obtaining an International Standard Book Number (ISBN) and National Library of Canada Cataloguing in Publication (CIP) Number for the 280-page manual produced by Chimo Project staff, printing the publication, and distributing it to therapists and organizations in Alberta and North America; and analysing and releasing the final project results.

Successes, Challenges, and Barriers to Implementation

Successes

There are a number of notable successes in this project including, but not limited to, the following:

- The identification and establishment of practical goals and objectives for AAT that were used for the research study and also incorporated into the project-produced manual (*Improving Mental Health Through Animal-Assisted Therapy*). This provided the framework for the project, which the Project Director, Mr. Dennis Anderson, strove to make as practical as possible.

- Conducting the most comprehensive and well-designed study known on using AAT in mental health settings. A key contributor to this success was the knowledge and skill of the independent evaluator of the project, Dr. Bonnie Dobbs. The previous research experience of Dobbs, in addition to her experience

as an external evaluator on other projects, was a tremendous asset. Her role in this project was instrumental to its success.

- Obtaining sufficient data in the private practice setting to allow for statistical analysis of the results. This success can largely be attributed to the additional funding received that allowed for an extension of the project. This funding was secured through the initiation of Anderson. If the project had not received additional funding, there would not have been sufficient data in either the residential treatment setting or the private practice setting to allow for proper analysis of the results. Anderson's political background and personal contacts proved to be tremendous assets, not only in meeting with appropriate decision-makers, but also in ensuring that the project results were as widely disseminated as possible.

- Developing a book-length manual that can be used as a guide for individuals or organizations who want to introduce AAT into their programs. The primary author of the Chimo manual entitled *Improving Mental Health Through Animal-Assisted Therapy* was the Project Coordinator, Dr. Liana Urichuk. The research and organization skills of Urichuk played a key role in producing this manual, in addition to the editing skills of Colleen Anderson and Administrative Assistant, Anne Nield. In fact, each of the three Administrative Assistants the project has had were instrumental in facilitating the completion of this manual (e.g. typing, formatting, obtaining ISBN and CIP numbers, facilitating printing). The manual also includes a comprehensive review of the experimental literature on AAT written by Dobbs and her summer student (Ms. Andrea Gardiner).

- Peaking the interest of numerous groups and media, nation-wide, and widely disseminating the project findings. As mentioned, the extensive local, national and international interest in the Chimo Project can largely be attributed to Anderson. His talent at organizing media events was instrumental for this success. Once again, however, these events could not have occurred without the extensive administrative support that is necessary to prepare for the events and to coordinate feedback and requests that result from the events.

- Developing collaborative linkages that may encourage the implementation, or ongoing use, of AAT into several programs throughout Edmonton (e.g. Bosco Homes, Bona Comp., Child and Adolescent Services Association). The successful development of collaborations has truly been a joint effort between Anderson and Urichuk. Both are continually receiving requests for information about the project and are open to providing as much help and advice as they can to encourage AAT program development.

- Producing specific government recommendations based on the project outcomes. These recommendations were developed with the assistance of members of the Chimo Advisory Committee. The Advisory Committee members have a diverse

array of backgrounds and expertise, and each individual contributes something different to the project. Anderson was instrumental in identifying and recruiting individuals to sit on the project advisory committees.

Of course, the real champions of the Chimo Project are the therapists who provided mental health services (with or without AAT as a component); the clients who received mental health therapy and who agreed to complete study questionnaires for the project; the volunteers who took their animals to therapy sessions, who used their valuable time to attend planning and/or advisory committee meetings, who helped produce informational materials and videos for the project (including those who participated in media shoots, articles), who helped screen and assess the animals in the project, who provided information for the Chimo manual, and the list goes on. Without these wonderful individuals, this project could not have proceeded!

Challenges and Barriers to Implementation

As is the case with any project, the Chimo Project was also fraught with numerous challenges. The following are some of the most notable:

- The initial recruitment of therapists was more difficult than originally anticipated due to the need for therapy animals that had passed the CCGC Test. Therapists were provided with the option of working with a volunteer animal handler and his/her animal in therapy sessions. Initially the Ethics Board was concerned about confidentiality issues that may result from having a third human party in the room during therapy, but after providing information about the stringent criteria that the volunteer animal handlers would have to pass prior to participating, the ethics board approved the use of volunteer animal handlers in the project. Despite receiving ethical approval, many therapists, themselves, were not comfortable with the idea of a volunteer being present during their therapy sessions. The result was that only 2 therapists worked with volunteer animal handlers, and one of these therapists decided not to collect data for the Chimo Project.

  Due to recruitment difficulties, a change was made to the protocol that allowed for the use of animals that passed the Aptitude Test for Dogs in Mental Health Settings, rather than the CCGC test. This change facilitated recruitment of more therapists.

  In addition, changes in government funding to various organizations also impacted the ability of four therapists (two private practice and two residential) to participate in the project, even though they had attended orientation sessions, and had already indicated that they wanted to participate in the project. There were also many therapists who were interested in participating in the project, but did not because they did not have the time to commit to it. These barriers remained to the end of the project, despite the therapists remaining interest and desire to participate in the project (expressed in ongoing personal communications with the Project Coordinator).

- Obtaining ethics approval for the project took longer than anticipated, even though the Health Research Ethics Board was generally very supportive of the project and did not require substantive changes to the original protocol. Despite this, however, uncontrollable time demands on the Ethics Board resulted in a three-month delay in obtaining final approval. This, together with scheduling difficulties for orientation sessions, resulted in a delay of client recruitment procedures.

- The recruitment of clients, particularly Control clients, was a major challenge. Enrolment of Control clients was low in the early stages of the study, due in part to restricting recruitment of Controls only from therapists who also had AAT clients. In August of 2002, recruitment procedures were changed to allow Controls to be recruited from therapists that did not have AAT clients enrolled in the study.

  In addition, to facilitate recruitment of clients (both AAT and Control), the protocol was expanded to include clients with other mental health disorders (e.g., Post Traumatic Stress Disorder) as their primary diagnosis, providing that they had co-morbid depression or anxiety that met diagnostic criteria. This change expanded the size of the recruitment population and increased the generalizability of the study.

  Furthermore, the protocol was changed to allow for ongoing therapy clients to be enrolled in the project. Initially, the protocol called for new clients only to be enrolled in the project, but this turned out to be a major barrier. All of the above changes were approved by the Ethics Board and allowed more clients to be enrolled in the project.

- Locating animal handlers with animals that met project criteria and who were willing to travel to rural parts of Edmonton to participate in therapy was challenging. In addition, unanticipated organizational requirements for volunteers occurred (e.g. all volunteers were required to have current TB testing, and there was a 6-week waiting period to be tested, followed by another 2 weeks to get the results). This meant lengthy delays for volunteers who were otherwise ready to start volunteering at the residential treatment facility.

- Another challenge related to data collection. Although the Project Coordinator worked diligently with therapists, a number of questionnaires were returned with data missing. The non-return of questionnaires from clients was particularly problematic (some therapists provided the clients with the questionnaires, and allowed them to complete the questionnaires at home. However, more often than not, the questionnaires were not returned to the therapist or to the Chimo Project). Although therapists were counselled regarding a change in this practice (e.g., to

have clients complete the questionnaires in the clinical setting), this did not translate into alterations in practice from some therapists.

Furthermore, it was difficult to place extra demands on the therapists' time. All the therapists were involved in active practices and agreed to participate in the project purely on the basis of their belief in the potential benefits that their clients might experience by working with an animal. The therapists were offered a small monetary honorarium to acknowledge the time and dedication they had given to the project, but the majority of them donated the honorarium back to the project. Thus, it was difficult to place demands on the therapists' involvement.

The major lesson learned during the implementation of this project is to never underestimate the amount of time it will take to get a project in place. Initially, it was estimated that the preliminary phase of the current project would require approximately six months to complete. In fact, it took double that time before therapy was actually initiated. This substantially reduced the length of time the project had for data collection, which was further threatened by the length of time it was taking to recruit clients. Thus, the advice we would give to other projects is to allow more than enough time up-front for development and initial implementation. If things go better than expected, it may be possible to expand the project, or to spend more time disseminating the findings at the end.

Key Findings/Results

Although 45 clients with mental health problems and 8 therapists participated in the Chimo Project, information was only available from 36 clients (9 clients were deleted from the study because they attended two or fewer sessions or because they failed to complete the questionnaires). Thus, data from 36 clients were available for analyses.

Of the 36 clients participating in the study, 26 clients were from private practice and 10 were from a residential group home. The average age for the private practice clients was 37 years, compared with 14 years for residential care. In the Private Practice setting, 15 clients received AAT in conjunction with traditional therapy (e.g., cognitive behavioral therapy, psychotherapy) and 11 received traditional therapy alone. In the Residential Care setting, 7 clients received AAT in conjunction with traditional therapy and 3 received traditional therapy alone.

The following are merely highlights of the results, and are by no means a complete summary of the findings. For a detailed report on the project results, please refer to the Final Independent Evaluation Report produced by Dr. Bonnie Dobbs.

Residential Care

There were 10 youths overall who participated in the study:

- 7 youths received AAT.
- 3 youths received traditional forms of therapy alone (i.e., Control clients).

The youth were diagnosed with clinically significant depression or an anxiety-related disorder. That is, their mental health disorder affected their ability to function normally on a day-to-day basis.

The age, gender, marital status, and ratings of physical health for the residential care clients are provided in Table 1 below. Due to the small sample size, statistical analyses were not conducted. The results indicate that at baseline the groups were similar in terms of age and physical health, and were identical for gender and marital status. The trend was for the AAT clients to score higher (more depressed) on the Beck Depression Inventory-Youth than clients receiving traditional forms of therapy (Control clients).

Table 1: Demographic results of Residential Care clients (average and standard deviation).

	AAT	**Control**
Age	13.00 (1.63)	15.00 (1.00)
Gender	Female=7	Female=3
Marital Status	Single=7	Single=3
Physical Health	2.40 (.53)	2.00 (1.0)
BDI–Youth* (baseline)	71.33 (12.92)	56.00 (8.48)
BAI-Youth+ (baseline)	56 (--)	68 (--)

Physical health was rated on a scale of 1 to 5, with 5 being excellent.
*= Beck Depression Inventory for Youth, AAT clients were in the "severely depressed" range, while Controls were in the "mildly depressed" range.
+= Beck Anxiety Inventory for Youth, AAT clients were in the "mildly anxious" range, while Controls were in the "moderately anxious" range.

In addition to demographic information, Residential Care clients also were asked to provide information on pet ownership, and the degree of informal support available to them. The results are shown below.

Pet Ownership

Fifty-seven percent (57%) of the AAT clients and 67% of the Control clients owned a pet.

People That They Can Count on to Listen

On average, both AAT and Control clients indicated that they had two or more people that they could count on to listen when they needed to talk to someone.

People That Are There to Help Them Feel Better

Both AAT and Control clients also had two or more people that helped them feel better when they were generally feeling 'down in the dumps'.

All clients and their therapists were asked to fill out questionnaires at the end of each therapy session. For many of the questions, clients were asked to provide a rating based on a scale from 1 to 10.

For example,

Having the animal in the room makes me want to stay in the therapy session longer.

| _____ |
Not at all To a great extent
0 **10**

As shown on the rating scale, a higher score means that the client agrees to the statement to a greater extent.

The following results are client's ratings using this scale.

A. Residential Care Clients Receiving Animal-Assisted Therapy

Figure 2 provides the ratings from clients receiving AAT for the first and the fourth therapy session. The red line represents ratings for Session 1. These ratings are all very positive, meaning that the youths feel that:

- the animal helps them to feel comfortable (item 1)
- the animal is of comfort during the therapy session (item 3)
- the animal makes them want to come to the therapy session (item 4)
- the animal accepts them for who they are (item 8)

At Session 4 (the blue line), the ratings remain high, except for the last item. This items deals with whether the youth has trouble concentrating with the animal in the room. The results clearly show that, initially, the youths did have trouble concentrating with the animal in the room, but by the 4th session they no longer had difficulty (i.e., the rating had dropped to almost 0).

The data also indicate that the youth did not display aggressive behaviors toward the animal during therapy sessions (data not shown). This is important to note because handlers have to feel confident that their animals' well-being will not be threatened before they agree to include their animals in therapy. The fact that there was no aggression towards the animals is a very encouraging outcome, considering that this project had animals in therapy with some of the hardest to treat youth, with acting-out behaviors,

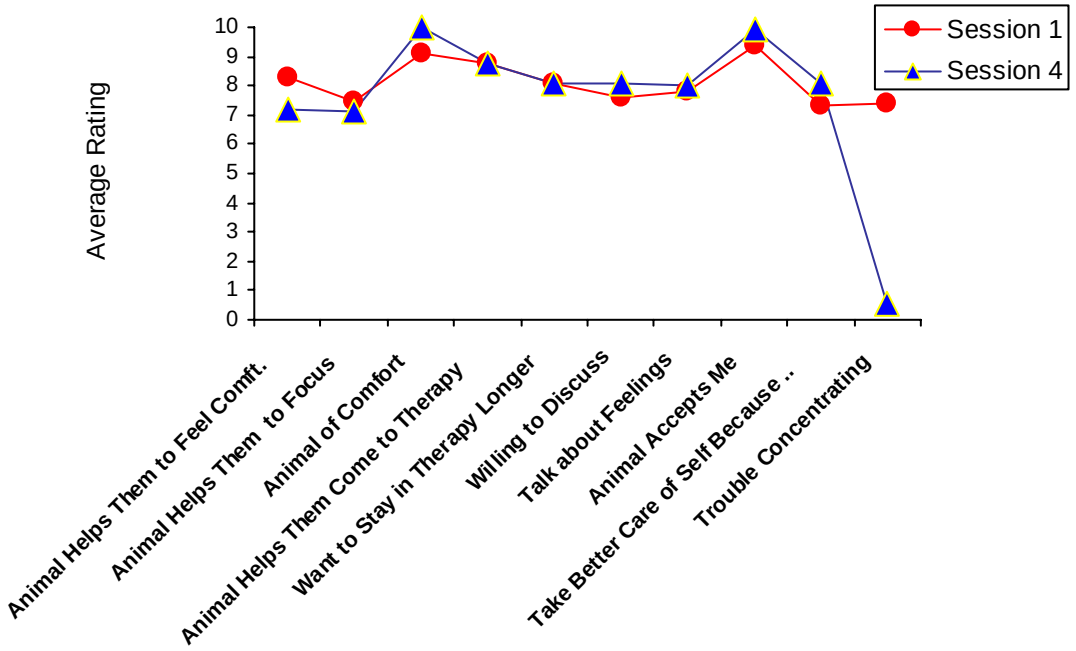


Figure 2: Residential Care: Ratings from clients receiving Animal-Assisted Therapy (first and fourth therapy session).

One way of determining if therapy is effective is to see if it has an impact on everyday functioning. Both youths and their therapists' were asked to rate whether therapy helped them at home, school, and in the residential care setting.

The results are as follows:

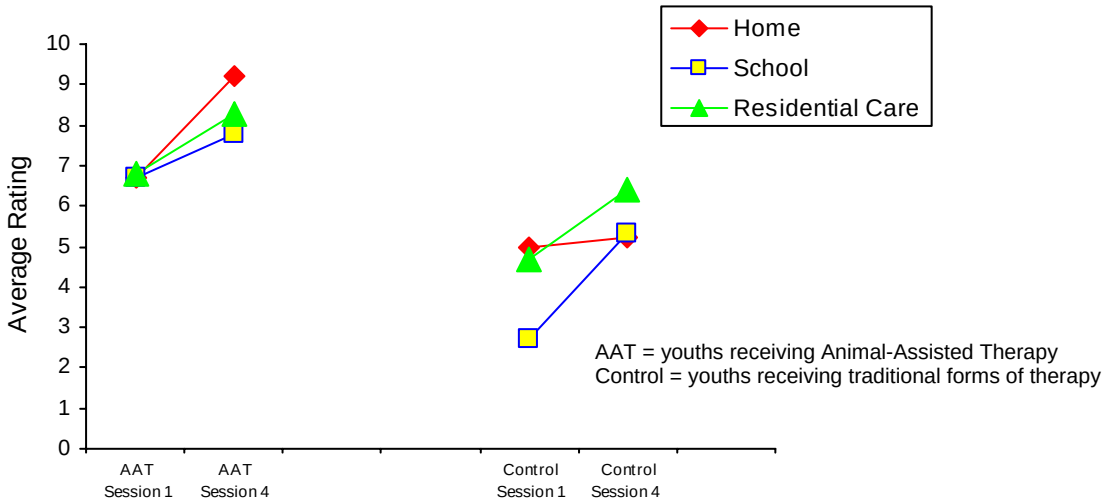


Figure 3: Residential Care: youths' ratings for performance at home, school, and in the Residential Care setting.

The results in Figure 3 indicate that youths receiving AAT thought that therapy helped them at home, at school, and in the Residential Care setting to a greater extent than did the youths who received traditional forms of therapy alone (Controls).

Importantly, the therapist in the Residential Care setting agreed with the youths. That is, the therapist thought that therapy helped both groups perform better at home, in school, and at the Residential Care facility, but that the youths receiving AAT were helped the most. In fact, the therapist's ratings for the same areas are remarkably similar to the youth ratings (Figure 4).

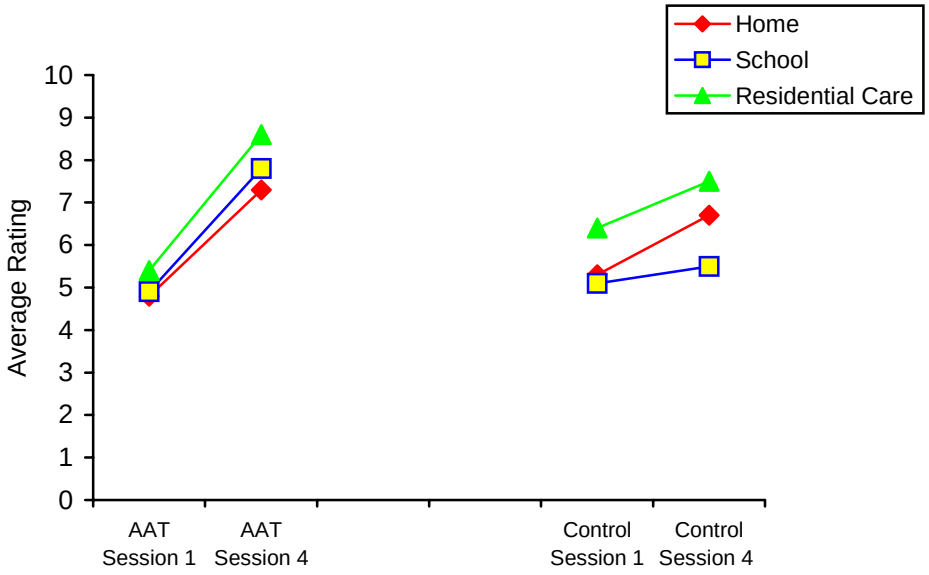


Figure 4: Residential Care: Therapists' ratings for client's performance at home, school, and in the Residential Care setting.

The results from this section of the questionnaire, together with other client and therapist ratings that are not shown, indicate that:

- AAT is an effective form of therapy, particularly for youths in a Residential Care facility.
- Clients feel positive about having the animal in therapy.
- The animal can be perceived as therapeutic because youths indicated that the animal is of comfort to them, the animal makes them look forward to coming to therapy, and that the animal accepts them for who they are.
- Therapy in general helps troubled youths perform better at home, school, and in a Residential Care facility, but youths receiving AAT show a greater benefit.

B. Private Practice Clients Receiving Animal-Assisted Therapy

As mentioned, this study also included clients and therapists from private practice settings throughout Alberta. There were 26 adults who received therapy from mental health therapists in the community:

- 15 of those adults received AAT.
- 11 received traditional forms of therapy alone (i.e., Control clients).

The age, gender, marital status, and ratings of physical health for the Private Practice clients are provided in Table 2 below. At baseline, there were no statistically significant differences between the two groups for age, gender, marital status, physical health, or level of depression or anxiety ($p > .05$). It is important to note, however, that the differences in the levels of depression and anxiety between AAT and Control clients would be considered to be clinically significant (i.e., AAT clients were more clinically depressed and more clinically anxious than the Control clients). Furthermore, the majority of the Control clients (n=7 out of 11) were all members of an anxiety group that was conducted by the same therapist. The impact of this reality on the study results is not known.

Table 2: Demographic results for Private Practice clients (AAT and Control)

	AAT	**Control**	**p-value**
Private Practice			
Age	34.40 (15.89)	40.20 (9.81)	>.05 (NS)
Gender	Male=4 Female=11	Male=1 Female=10	>.05 (NS)
Marital Status	Single=7 Married=5 Other=3	Single=1 Married=8 Other=1	>.05 (NS)
Physical Health	2.79 (.89)	3.10 (.74)	>.05 (NS)
BDI–II* (baseline)	31.40 (17.86)	25.44 (10.10)	>.05 (NS)
BAI+ (baseline)	28.71 (19.52)	22.44 (14.81)	> .05 (NS)

Physical health was rated on a scale of 1 to 5, with 5 being excellent.
* = Beck Depression Inventory-II, AAT clients had scores in the "severely depressed" range, while Control scores were in the "moderately depressed" range.
+ = Beck Anxiety Inventory, AAT clients had scores in the "severely anxious" range, while Control scores were in the "moderately anxious" range
NS = Not significant

In addition to demographic information, clients were asked to provide information on pet ownership, and the degree of informal support available to them. The results are shown below.

Pet Ownership

Sixty-four percent (64%) of the AAT clients and 90% of the Control clients owned a pet. The length of pet ownership was 3.6 years for the AAT group and 8.4 years for the Control group. The difference for length of pet ownership was statistically significant ($p < .04$).

Clients also were asked to provide information on availability of support.

People That They Can Count on to Listen

On average, both AAT and Control clients indicated that they had two or more people that they could count on to listen when they needed to talk to someone.

People That Are There to Help Them Feel Better

Both AAT and Control clients also had two or more people that are there that help them feel better when they were generally feeling 'down in the dumps'.

The clients and therapists completed questionnaires after each therapy session, using the same rating scale as shown in the previous section.

The results from adults regarding the use of animals in therapy are shown in Figure 5. The ratings were primarily positive at the start of the study (Session 1) and those ratings stayed positive (Session 4). Notice the high ratings for "The animal accepts me for who I am" and "The animal was of comfort to me". In addition, similar to the results from the youths in Residential Care, the adults did not have trouble concentrating with the animal in the room.

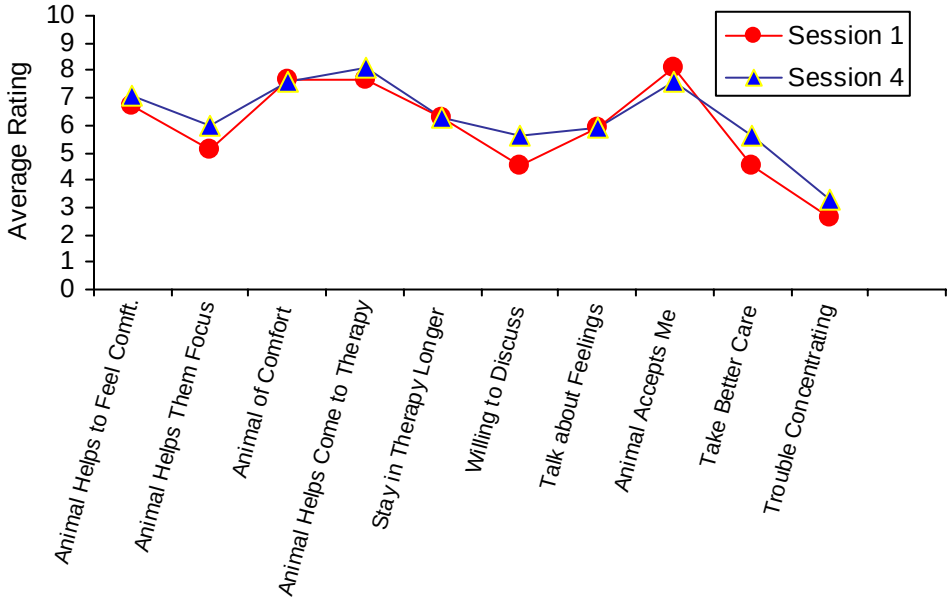


Figure 5: Private Practice-ratings from clients receiving Animal-Assisted Therapy for the first and the fourth therapy session.

The results from adults in private practice who received AAT were compared to those from Control clients. In general, the results showed that AAT is as effective as traditional forms of therapy alone.

The therapists were also asked to complete ratings on how they thought the animal was of assistance to the client during therapy. Those ratings are shown in Figure 6, below. As seen from the figure, the ratings improved over time and by Session 4, the ratings were higher for all items.

The therapists thought that:

- The animal assisted, to a great extent, in establishing rapport with the client, and that this happened more quickly than in sessions where the animal was absent (item 1)
- Having the animal present during therapy seemed to make the client more willing to come to therapy (item 2).
- The animal was of comfort to the client during therapy (item 3).
- They observed the client touching the animal more by session 4 (item 9).
- The clients talked directly to the animal more (item 10) by session 4.

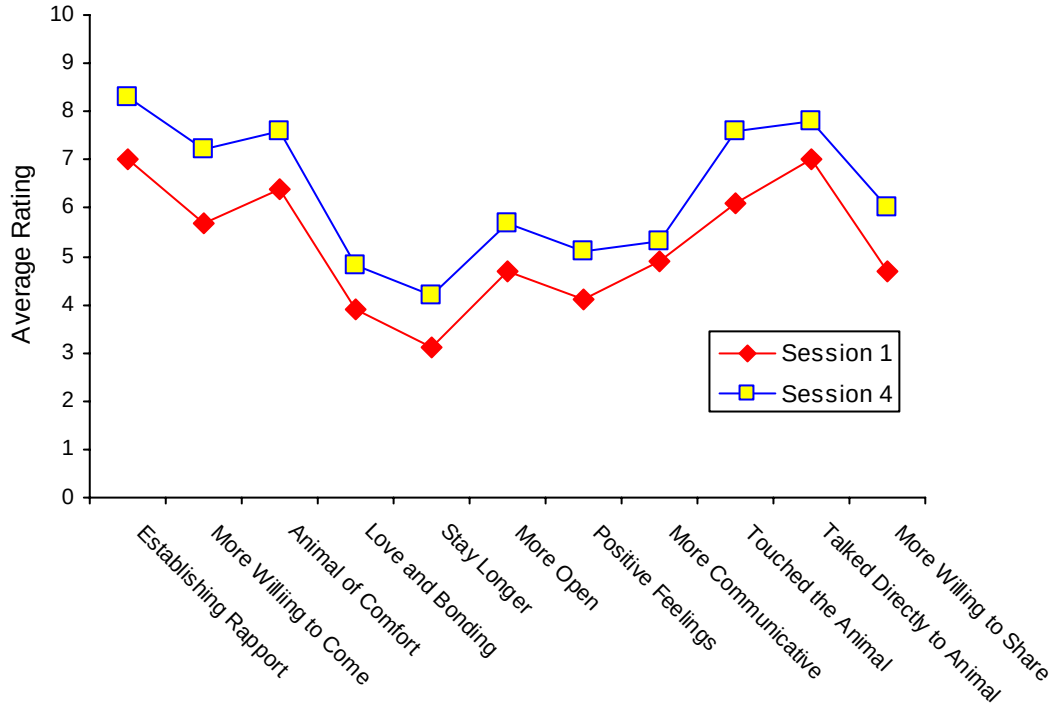


Figure 6: Private Practice-therapists' ratings on clients receiving Animal-Assisted Therapy for the first and the fourth therapy session.

It is important to note that therapists did not think that the client paid more attention to the animal than to the therapist, that the client was distracted by the animal, or that the client was unable to focus on clinically relevant issues with the animal in the room (data not shown). Furthermore, there were no aggressive behaviors directed at the animal.

C. Comparison of Therapist Ratings From Residential Care Setting and Private Practice

The age, gender, professional affiliation, and length of time in practice for the therapists are provided in Table 3 below. As mentioned, 8 therapists from across Alberta recruited clients for the project:

- 1 was from the Residential Care setting and she provided both AAT and Control clients from that setting.
- 7 were from the Private Practice Setting (2 provided only AAT clients, 2 provided only Control clients, and 3 provided both AAT and Control clients).

Table 3: Demographic results for participating Therapists.

	Residential Care	**Private Practice**	
		AAT	**Control**
Age	31	49.88 (10.93)	43.45 (6.87)
Gender	1 female	6 female 1 male	5 female
Professional Affiliation			
Clinical Psychologist	--	62%	10%
Counselling Psychologist	--	--	20%
Social Worker	100%	19%	70%
Other	--	19%	--
Years in Practice	4	15.87 (8.87)	3.73 (2.15)
Years Practising AAT	4	4.5 (2.61)*	N/A
Formal Education in AAT	Yes	No	No

Results are presented as: mean (Standard Deviation)
*This ranged from bringing the animal into therapy sessions a few times over the year to involving the animal in sessions every day.

When the results from the therapist in the Residential Care setting are compared to the results from the Private Practice therapists, it is interesting to note the following differences:

- Compared to Private Practice therapist ratings, the therapist from the Residential Care setting indicated that, initially, AAT clients were more distracted by the animal, paid more attention to the animal than to the therapist in the initial stages of therapy, and had a harder time focussing with the animal in the room. These results are not surprising for a number of reasons. For example:
    - There is a large age difference between clients from Residential Care and Private Practice (average of 14 years *vs.* 37 y). It is not surprising that younger individuals may be more distracted by an animal, or any novel stimulus.

- There is quite a difference in the nature of mental health problems which are treated in residential *vs.* private practice settings. Generally speaking, the youth in the Residential Care setting have severe emotional and behavioural difficulties that result in difficult-to-control or acting-out behaviors which are classified as "externalizing" symptoms. The behavior of these youth is problematic in schools and in the community, resulting in treatment in a more controlled environment (i.e. residential care). In comparison, individuals who receive treatment for mental health difficulties in an outpatient or private practice setting, usually have more "internalizing" symptoms. This means that, even though the individuals may experience severe emotional or other difficulties, their symptoms are not as much of a public issue because the symptoms are somewhat contained or hidden. Again, it is not surprising that youth with prevalent externalizing symptoms would have some initial difficulty focussing when a novel stimulus, such as an animal, was present in the session.

It is important to note, however, that by session 4, the younger clients in the residential setting were no longer distracted by the animal and had less difficulty focussing in therapy. Thus, younger clients may be more easily distracted by the animal early in therapy, but do seem to adapt very quickly (within a few sessions) to the animal in the room.

- The Residential Care therapist and the Private Practice therapists indicated that the animal assisted in establishing rapport, motivated the clients to come to therapy, served as a source of comfort for the client, and interacted with the client (e.g. client touched and talked to the animal). In general, however, the ratings for AAT from the therapist at the Residential Care setting are more positive than the ratings from therapists in Private Practice. There are several factors that may have affected the ratings, including but not limited to, differences in education and experience of the therapists, differences in treatment intensity and philosophy between residential care and private practice settings, differences in personal characteristics of the clients, and differences in demeanour and level of participation of the therapy animals, themselves.

D. Unanticipated Results

An interesting, and unanticipated, finding from this study is the effect of pet ownership on depression and anxiety. For the private practice setting, the ratings of depression and anxiety upon entry to the study (i.e., pre) were analyzed in terms of whether or not the client owned a pet. Then, the ratings obtained after about 3-4 months of therapy (i.e., post) were analyzed in the same way. The results are as follows:

1. Depression Scores

The depression scores of AAT and Control clients are shown in Graphs A and B, below.

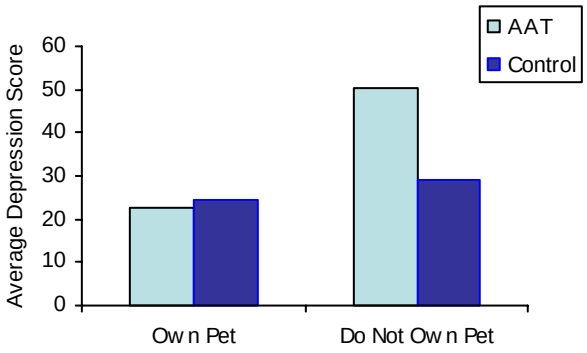
For each graph, the first two bars on the left are clients **who own pets** (the light blue bar represents clients who received AAT, the dark blue bar represents Control clients).

The two bars on the right side of each graph are clients **who do not own pets**. Again, the light blue bar represents clients who received AAT; the dark blue bar represents Control clients).

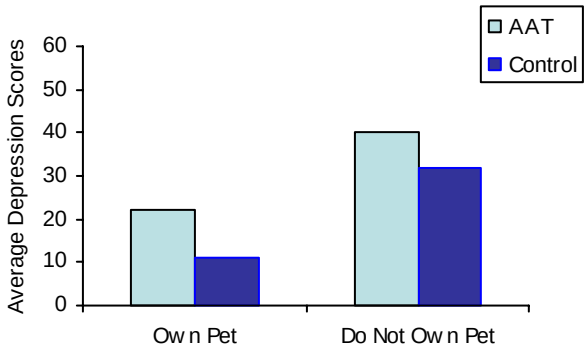
Results:

It is important to note here that **higher scores mean a greater degree of depression.** The results in Graph A indicate that clients who own pets are less depressed than those who do not own pets. This is true for both clients who received AAT and for Control clients who received traditional forms of therapy alone.

Interestingly, this same pattern of results holds over time. After about 3 to 4 months of therapy, the depression scores had decreased for all clients (that is, clients were less depressed), but clients who did not own pets were still more depressed than clients who did own pets.



Graph A: Depression scores upon entry to the study.



Graph B: Depression scores about 3-4 months following therapy.

2. Anxiety scores

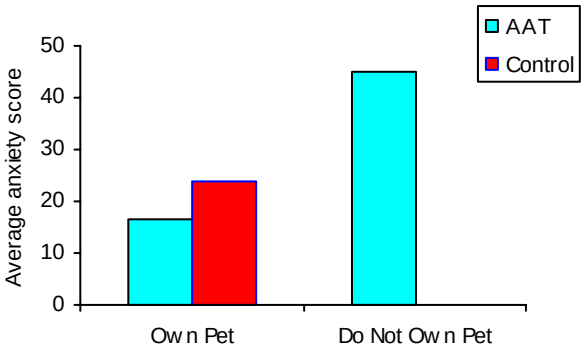
The anxiety scores of AAT and Control clients are shown in Graphs C and D, below.

The graphs for clients with an anxiety-related disorder are arranged exactly the same as the graphs for clients with depression. Graph C shows clients' anxiety ratings upon entry to the study. Graph D has ratings after about 3 to 4 months of therapy.

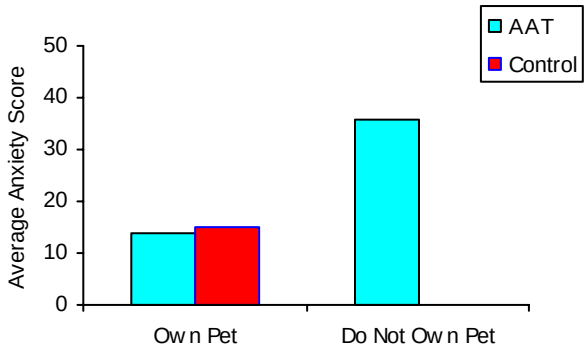
The results in Graph C indicate that clients with anxiety who **do not own pets** have higher levels of anxiety than clients who do own pets. (Note: on Graphs C and D, there is no bar for Control clients who do not own pets because there were no Control clients diagnosed with anxiety who did not own a pet).

In Graph D, clients who owned pets were again less anxious than clients who did not own pets.

As with the depression scores, the anxiety scores do decrease with therapy (lower scores on Graph D than on Graph C).



Graph C: Anxiety scores upon entry to the study.



Graph D: Anxiety scores about 3-4 months following therapy.

These results indicate that clients who did not own pets were either more severely depressed or more severely anxious than those who did own pets. This is true upon entry to the study and after about 3 to 4 months of therapy.

Thus, these results suggest that pet ownership appears to have a moderating effect on a mental illness. That is, people with a mental illness who own a pet are less depressed or anxious when they enter therapy than people who do not own pets. This difference remains even after about three to four months of therapy. Importantly, the pattern is the same for clients receiving either AAT or traditional forms of therapy alone. Further study of this phenomenon is warranted.

The other interesting finding about pet ownership in this study is that the clients in Private Practice who did not own pets took a little longer to respond to AAT (i.e. it took longer for their ratings regarding the animal in therapy to increase) compared to clients who had pets at home. However, by session 4, the ratings of the clients were similar, regardless of whether or not they had pets.

Project Budget

The Chimo Project was completed within budget. The funds provided for the project were appropriate and the flexibility in the budget allowed for under-expenditures in one category to be used to cover over-expenditures in other categories. This is important given that the initial projections were simply best estimates.

The main problem noted with the budget was obtaining expenditure reports from the sponsoring agency within a suitable timeframe to meet Health Innovation Fund reporting deadlines for quarterly reports. This was also a hindrance at the end of the project when trying to settle all remaining invoices without knowing the exact status of the budget.

This may not be an issue with other projects that have an overlying foundation and are administered as part of an organizational initiative. The Chimo Project differs because it was developed outside of an organization as an independent project, and thus had to "borrow" the administrative/accounting talents from its sponsoring organizations. The sponsoring organizations received all Chimo Project funds and were responsible for administering these funds.

Next Steps – Sustainability

In several instances, the work of the Chimo Project will be sustained throughout Alberta after Health Innovation Funding ends. For example, almost all of the therapists who participated in the project have indicated that they will continue to use AAT as an adjunct to the mental health therapy they provide. In fact, even one of the therapists who provided only Control clients in the project because she did not have an animal that met project criteria, is in the process of training a new puppy with the hope that it will work as her co-therapist in the future. Other therapists have communicated that, having participated in the project, they are now able to increase their use of AAT within their organization (i.e., the project helped open doors for them to continue, such as the creation of risk management policies and procedures).

Bosco Homes has recently announced that they wish to include AAT as a part of their educational and treatment services, and they are starting the process of integrating AAT throughout their programs. In addition, Bosco Homes is collaborating with the Chimo Project to conduct a pilot study on the effects of AAT on the treatment of Fetal Alcohol Spectrum Disorder and Brain Injury. Children's Services has committed to 3 months of interim funding to support this initiative pending the outcome of the Fetal Alcohol Syndrome Committee discussion on long-term funding.

Other organizations have also used information provided by the Chimo Project to help set up programs in the Edmonton area. For example, Bona Comp is a counselling service that will utilize outdoor wilderness therapy and animal-assisted therapy in its programs. This is a new service that is being offered on a ranch by Ardrossan. The founder of this organization, Eileen Bona, has extensively consulted with the Chimo Project while setting up the

programs. Several of the programs at Child and Adolescent Services Association have also expressed interest in incorporating AAT into their services and proposals are being developed to support these initiatives.

Administrators from Lakeland College recently approached the Chimo Project and requested project staff and interested therapists to participate in designing and implementing curricula for an Animal-Assisted Therapy Program. This program would potentially be offered at a new campus currently under development in Sherwood Park, Alberta. The implementation of an Animal-Assisted Therapy Program at Lakeland College would represent the first of its kind in Canada.

Another small project will be initiated and funded by the Riverview Rotary Club in the near future, and will entail providing information about AAT to Edmonton-area schools, including information about the use of animals to facilitate learning.

The Capital Health Authority has agreed that AAT programs should be introduced in all psychiatric wards and mental health facilities. And discussions about a wide variety of other initiatives (from changing animal legislation to incorporating animals into inner city schools) have occurred with health authorities and governments, but there is no word on funding for these initiatives at this time.

Despite the difficulties obtaining funding to support other projects and/or initiatives in AAT, several local, national, and international organizations or individuals have expressed interest in the Chimo Project. Some examples include:

- Health researchers throughout North America have requested copies of the project results, and information on the project implementation.
- Students in mental health-related disciplines throughout Canada have requested copies of the manual produced by the project, and have enquired about where to get training in AAT.
- A wide variety of organizations in Alberta and Canada have requested advice and consultation with the Chimo Project that will help them set up AAT programs. This varies from mental health organizations, to primary schools, to the Department of Fisheries and Oceans.
- A large number of individuals (local, national, and international) have requested information about the project, and requested copies of the manual. These individuals have a diverse array of backgrounds, from educators, to speech-language therapists, to volunteer animal handlers.

Much of this interest can be traced back to the extensive local and national media coverage that the project has received, and also to the project website.

Dissemination

Throughout the project, findings have been disseminated at every opportunity. The following provides an example of some of the dissemination that occurred during the project:

- A Chimo Project Presentation was made at the 21st Annual Conference of the Delta Society, an organization devoted to the human-animal health connection (Seattle, Washington, 2002).
- Presentations were made to Grant MacEwan Community College journalism classes (2002-2003).
- Presentations were made for staff of mental health units at the University of Alberta Hospital (2002)
- A presentation was made at the World Federation of Mental Health Congress (Melbourne, Australia, 2003).
- A presentation was made at the Alberta Alliance on Mental Illness and Mental Health Conference (Edmonton, 2003).
- Presentations were made to Graduate students in the Department of Psychology at the University of Calgary, 2002.
- Presentations were made at Canadian Mental Health Association conferences (Newfoundland-2001, Ottawa-2002).
- Three media events were hosted, in addition to a volunteer appreciation day (examples of the publicity received from these events are provided in Appendix B).
- Presentations have been provided to a number of decision-makers and funding agencies within the Capital Region (2001-2003).
- A presentation was made to Capital Region psychiatrists, 2003.
- Presentations were made to a number of Rotary Clubs in the Edmonton area (2002-2003).

In conjunction with the independent evaluator, two papers are being prepared for publication in peer-reviewed scientific journals: 1) an experimental paper that will include the results of the project, and 2) a literature review of previous research conducted in the field of AAT. Another article is being prepared for Psymposium, the official newsletter of the Alberta Psychologist's Association.

To date, articles about the project have been published in Schizophrenia Digest and Prevention magazine, and an abstract about the project has been published in the proceedings of the 21st Annual Meeting of the Delta Society (see Appendix B). In addition to this, the manual produced by Chimo Project staff was self-published.

Conclusions/Recommendations

The results of the Chimo Project show that therapists believe their clients were helped by the use of an animal in therapy, that the clients believed that the animal assisted them in recovery, and that clients made progress while in animal-assisted therapy. In particular, youth with mental health challenges receive great benefit from animal-assisted therapy.

The project made substantial steps forward in answering the research questions set out at the beginning of the project. The following are brief summaries of the results that help to answer the research questions.

1. Does AAT offer a new approach to the delivery of health services in the treatment of individuals diagnosed with mental health disorders?

   Summary of Results:
   - Ratings toward the use of animals in therapy were very positive for clients receiving AAT. Overwhelmingly, the clients supported the use of animals in therapy.
   - The therapist's ratings for use of the animal in therapy were, overall, positive. Therapists indicated that the animal was beneficial in establishing rapport more quickly, making the client more willing to come to therapy, and that the animal was of comfort to the client.

2. Does AAT influence the quality of therapy received by clients diagnosed with depression and/or an anxiety disorder?

   Summary of Results:
   - The ratings for AAT in the Residential Care setting were more positive overall than those for Private Practice.
   - In comparison to the Private Practice setting, at the beginning of treatment clients in Residential Care were more attentive to the animal, more distracted by the animal, and had more trouble focussing with the animal in the room. These issues seemed to disappear by the 4th therapy session, and may be reflective of the younger age of the clients in Residential Care (i.e., average age of 14 y versus 37 y in Private Practice) or the nature of their mental health disorder (i.e. externalizing versus internalizing symptoms).
   - Compared to Control clients, the clients receiving AAT indicated that they were more comfortable talking with the therapist, and found it easier to focus on important problems when talking with the therapist. They also looked forward to coming to therapy to a greater degree, and indicated that they wanted sessions to last longer at session 4. They were more willing, at Session 4, to discuss what was happening to important people in their lives and were more willing to talk about their feelings during therapy sessions. There was,

however, no change in their ratings of hopefulness, for improvements in mood, or feelings of anxiousness between the first and fourth sessions.

- In private practice, overall therapists ratings for Control clients were more positive than for clients receiving AAT. Specifically, therapists with Control clients thought their clients improved more across sessions in terms of focusing on important problems, and that the clients looked forward to coming to therapy more so at Session 1 than 4, compared to therapists with clients receiving AAT.

3. Does AAT have a positive influence on mental health outcomes?

   Summary of Results:

   - In general, AAT is as effective a form of therapy as traditional forms of therapy (e.g., cognitive behavioral therapy, psychotherapy) for individuals diagnosed with depression and/or anxiety/panic disorders in the Private Practice setting and in Residential Care.
   - In Private Practice both AAT therapists and Control therapists indicated that the clients performed better at home and at work as a result of therapy.
   - In Residential Care, the therapist thought that therapy in general helped clients to perform better at home, at school, and in the Residential Care setting. However, the ratings indicated that the therapist thought AAT clients improved to a greater extent than Control clients.
   - Similarly, AAT clients thought that therapy helped them to perform at home, school, and in the Residential Care setting to a greater extent than did Control clients.

4. Does AAT result in improved efficiencies in the treatment of depression and or anxiety-related disorders?

   Summary of Results:

   - Over time (e.g., between Session 1 and 4), the trend was for greater differences for AAT clients compared to Control clients. That is, according to the therapist, AAT clients showed a greater 'improvement' on ratings related to therapy (comfort level, ability to focus, willingness to come to therapy, willingness to talk about feelings, etc.) compared to Control clients.
   - AAT appears to be particularly suited for clients with depression and/or anxiety/panic disorders in the Private Practice setting who own pets. Clients who do not own pets may not do as well with AAT as those who do, particularly in the beginning stages of therapy.

5. Does AAT facilitate collaboration /integration with other parts of the health system?

Summary of Results:

- The ongoing use of AAT by therapists across Alberta and the integration of AAT into programs in the Capital Region since the inception of the Chimo Project indicates that AAT does, indeed, facilitate integration with other parts of the health system.
- The positive response to the project and the interest it has generated from a diverse array of individuals and organizations at local, national, and international levels, indicates that AAT also facilitates collaboration with other parts of the health system.

Recommendations to the Government of Alberta

It is our belief that the results of this project, together with information from previous studies, support the use of animals in mental health therapy. Thus, the following recommendations are made - in keeping with the first goal of the Alberta Health and Wellness Department.

In order to "sustain and improve the delivery of accessible, effective quality health care for Albertans", it is proposed:

1. That the government consider immediately making funding and information resources available to Alberta child and youth programs, to help them introduce animal-assisted therapy.

   Rational: Youth in general, including youth with significant behavioral and mental health problems, seem to respond well to animals. Indeed, when animals were incorporated into therapy sessions, youth indicated they felt better about going to therapy, found it easier to talk to their therapists, and wanted to stay in therapy.

   According to their survey scores, youth in the Chimo Project who received animal-assisted therapy were more willing to talk about their problems, more willing to share information with key people in their lives, felt better about themselves, and were more able to handle home and school challenges. These same youth had improved ratings on the Beck Depression and/or Anxiety Inventories, indicating decreased levels of depression or anxiety.

   Information, seminars, and standards for making animal-assisted therapy available to youth assistance programs throughout Alberta would make agencies feel more comfortable about incorporating animal-assisted therapy into their programs. The Alberta Child and Youth Initiative (ACYI) may serve as an excellent vehicle to promote the implementation of animal-assisted therapy in child and youth programs, and to allocate resources for training. Some seed funding to pay for kennels and daily care of animals in residential settings would also be of assistance.

2. That at a provincial level, the government consider establishing a program to help to regional health authorities introduce animal-assisted therapy in mental health facilities and programs.

   Rational: Results from private practice settings in all corners of Alberta reported that animals helped therapy clients make substantial progress towards recovery from depression and anxiety.

   While initial results indicated that control clients receiving traditional therapy did equally well, further evaluation of the results indicated that the majority of these clients were not as depressed or anxious at the beginning of the study. Interestingly, those clients who owned pets were less depressed or anxious than clients who did not have pets. Thus, it is proposed that specific programs which incorporate animals into the treatment plans of appropriate mental health consumers may ultimately reduce the length of hospital stays and possibly the amount of medications required.

   A project or initiative that allows for ongoing seminars, development of standards and policies, and information dissemination could assist greatly in establishing animal-assisted therapy throughout Alberta (note: psychiatrists at Alberta Hospital Edmonton and officials at the Capital Health Authority have already expressed interest in such an initiative). This initiative could possibly be funded by the Alberta Mental Health Board and administered by a health authority.

   If accepted, this recommendation could be combined with the first recommendation of making assistance available to Alberta child and youth programs, which is seen as the priority.

3. That the government consider supporting further results-based demonstration research, to determine practical ways in which animals may aid citizens suffering from other illnesses.

   Rational: Despite an overwhelming number of positive anecdotal or qualitative studies in the literature that support the use of animal-assisted therapy, there is an obvious lack of well-conducted scientific studies to add to the evidence base. Because of this, animal-assisted therapy is not yet a well-known (or extensively taught) therapeutic option. In addition, the lack of convincing evidence creates a barrier for finding funding to support research on animal-assisted therapy, or for publishing animal-assisted therapy research in peer-reviewed journals.

   Government support for research that extends the findings of the Chimo project to other illnesses, may lead to the discovery of practical ways in which animals can support individuals with health or mental health concerns of a wide variety.

4. That the government consider supporting an initiative to help establish policies and standards of practice for animal-assisted therapy programs.

   Rational: Policies and standards of practice for animal-assisted therapy programs are not readily available to mental health professionals in Alberta who wish to employ animals in therapy. This does not allow agencies or professionals who want to use animal-assisted therapy the option of proceeding without taking on a significant amount of work to establish policies and procedures to safely incorporate animals into their practice. Therefore, it is imperative that the background work is minimized by providing professionals and animal handlers with easy access to standards-based and safety-focused resources provided by credible sources.

   It is recommended that the government support the development of policies for animal-assisted therapy programs and standards of practice by building on the work already done by the Chimo Project, the Delta Society, the Pet Therapy Society of Northern Alberta, the Centers for Disease Control and Prevention, and others.

5. That standard training and screening processes be established for volunteer animal owners who could work with therapists where required.

   Rational: Many professionals who are interested in using animal-assisted therapy may not feel they have the time it takes to sufficiently train a therapy animal. These professionals may want to work with an animal handler who already has an appropriately trained animal. However, locating an appropriate person and animal can be a challenge when implementing a new animal-assisted therapy program.

   By modifying or adopting the training and screening processes already established by credible projects and organizations, including the Chimo Project, animals and handlers will be better prepared to work safely in healthcare settings. Furthermore, ongoing training programs would also allow for continual screening and identification of teams that are available to assist professionals with their clinical interventions, when needed.

6. That Alberta Learning, together with Alberta universities and colleges, consider educating faculty and staff in animal-assisted therapy and develop courses on this topic for health-related disciplines, continuing education credits, and certificate programs.

   Rational: A major barrier that limits the availability of animal-assisted therapy is the small number of professionals who have been exposed to the theory, documented effectiveness, and scope of animal-assisted therapy treatment techniques. In fact, the vast majority of mental health professionals are not familiar with how animal-assisted therapy techniques can be used as an adjunct to traditional therapy. This lack of education in animal-assisted therapy needs to be addressed at all educational levels, but is especially important for students in the early stages of training in their health-related discipline. Early awareness of, and skill development in, animal-assisted therapy is essential to its long-term success in traditional healthcare settings.

Because most of our current mental health professionals did not learn about animal-assisted therapy during their education and training, it is also important to develop curricula on animal-assisted therapy for post-graduation continuing education. This is an integral step towards increasing the acceptance of animal-assisted therapy as a viable treatment intervention.

Information from the Chimo Project, as well as established training programs in animal-assisted therapy throughout the world, could be used to develop appropriate curricula in Alberta and Canada.

7. That the Community Development Department consider proposing amended legislation to give persons with medical authorization the right to be accompanied by an animal in public places in the same way that a service dog (i.e. seeing-eye-dog) accompanies the blind.

   Rational: Service animals are being employed with increasing frequency to help individuals who have physical or mental impairments that substantially limit one or more major life activities. This is because service animals are portable, multi-tasking, and cost-effective healthcare interventions. In fact, studies have shown that significant healthcare dollars can be saved when service dogs replace paid caregivers for individuals with disabilities. An additional benefit to society is that some individuals who previously were not able to work due to their disability, may be able to do so if accompanied by a service dog.

   Service animals provide persons with disabilities a dignified way to remain integrated in their communities. In the 80 years that service animals have been trained and employed in North America, there is no appreciable evidence to suggest that healthy, vaccinated, and well-trained service dogs pose any threat to public health and safety that is significantly greater than the risks posed by the general public. Thus, it is proposed that therapy animals be given the same rights as service animals and that, where warranted, individuals may receive medical authorization to obtain a therapy animal.

8. That the government review social support programs with the view of allowing for animal costs, particularly were a doctor or therapists believes the animal-human relationship to be beneficial.

   Rational: Many persons suffering from mental illness have few financial means as a result of their illness. Current social programs do not provide support for the animal(s) that a person has (or is “prescribed” to have) to improve their mental health. A review of these programs with an aim of making animals available, or supported (e.g. food, basic supplies or training, and medical coverage), may prove to be an inexpensive way to mitigate the effects of the person’s illness.

In cases where the mental illness is episodic or requires periodic hospitalization, volunteer animal organizations such as the Society for the Prevention of Cruelty to Animals (SPCA) or the Northern Alberta Society for Animal Protection (NASAP) may play a role. For example, theses agencies may be able to periodically house and care for animals while their owner is unable. It is likely that organizations such as these would find this a preferable method to animal abandonment or loss. These services would be of great benefit to the animal owner.

9. That the government review public housing, or public subsidized housing programs, and encourage regulations that allow animals in such accommodation.

   Rational: There are currently few places where low income sufferers of mental illness can live while keeping a pet. The government should immediately declare that social hosing be required to make some accommodation for animals and explore other ways to improve this situation with the private sector. Our society should take this step to recognize the benefit of animal supports and work towards easy access to animals, when it could be of benefit.

10. That the Alberta government utilize the results of the Chimo Project, and all other known material on animal-assisted therapy, in implementing the preceding recommendations.

    Rational: The Chimo project staff have had more than two years to study animal-assisted therapy programs throughout the world. The project entails the most extensive practical study on animal-assisted therapy known in North America. Project staff do not claim to know all aspects of animal-assisted therapy or its effects on mental illness, but do have access to an extensive array of resources that can provide information that is not easily available. The project staff has also started to create standards, policies, and criteria for all aspects of animal-assisted therapy programs. Because the public of Alberta has paid for this information through the tax-base, it is believed that they should now benefit from the results of the project and the work that has been done.

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