



## Background & Purpose

**Animal Assisted Intervention** (AAI) “is a broad term now commonly used to describe the utilization of various species of animals in diverse manners beneficial to humans” (American Veterinary Medical Association, 2016). It is commonly “a goal-directed intervention designed to promote improvement in physical, social, emotional and/or cognitive functioning of the person(s) involved....[It] can also be less goal-directed, more casual or spontaneous” (Animal Assisted Intervention International, 2016).

A 2013 systematic review of equine specific AAIs suggested that they “hold much promise, particularly in terms of child/adolescent social and behavioural issues, and perhaps adult affective disorders. However, the

current state of the literature does not allow us to conclude that equine-assisted interventions are efficacious” (Kendall et al., 2015, p. 57).

*This empirical fact sheet shares the history and findings of a pilot study of the Cartier Farms Equine Assisted Learning Program with the clients from the White Buffalo Youth Inhalant Treatment Centre.*

The Cartier Farms EAL program is designed in a Building Block (™) style. Horses serve as barometers, and facilitators are the guides that encourage self examination. The objectives of the Cartier Farms EAL program are to: 1) provide an opportunity to build positive relationships in therapeutic activities, 2) facilitate clients’ learning about themselves, 3) promote the development of a positive self concept, and 4) support client life skill de-

velopment such as: appropriate assertiveness, building healthy relationships, confidence & self esteem, creativity & adaptability, goal setting, leadership & team building, listening skills, negotiation, respect & trust, and self control (Equine Assisted Growth and Learning Association, 2010).

As part of a multi-site project, the aim of this pilot study is to identify the outcomes/effects of the EAL program during the EAL session.

Drawing from the AAI literature, the concepts of love and support are examined for if and how clients experience them, and key outcomes from past studies are measured. This study was not designed to measure the objectives of the EAL program, although insight is offered from the findings. Feedback is collected from the EAL clients and program facilitators and volunteers.

## Equine Assisted Learning, Cartier Farms & White Buffalo

### Equine Assisted Learning

(EAL) is a non-riding program in the field of equine assisted interventions. Generally, EAL is an education program facilitated in a group format that focuses on ground activities. In EAL, participants engage in structured, facilitator-led sessions with constant feedback related to the participants’ experiences. The horse is generally considered the teacher and a human facilitator guides the participants on a journey of experiential learning and understanding. The group sessions provide opportunities for participants to become engaged in situations that require interaction with the horse and group members, and to reflect on these experiences.

**Cartier Farms** specializes in EAL, offering and sharing in the original creation of the award-winning Equine Assisted Learning Building Block (™) Certification Program. It is the only program of its type recognized by the provincial governing body, the Saskatchewan Horse Federation. Cartier Farm’s EAL Youth Program consists of a 12 week curriculum to develop the life skills of its participants. The curriculum, commonly referred to as the ‘EAL Formula’, is considerably different from almost any other equine guided program because of its comprehensive and progressive approach to skill development.

### White Buffalo Youth Inhalant Treatment Centre

is a four-month residential treatment program for female, First Nations youth involved with volatile substance misuse. The program is based on the concept of living therapy, which integrates four cornerstones of treatment that parallel teachings of the medicine wheel—spiritual, emotional, mental, and physical. With the understanding that EAL complements its approach, White Buffalo expanded its treatment to include Cartier’s EAL program. Cartier’s program compliments White Buffalo’s culture-based treatment model of resiliency, and is hypothesized to aid the healing of youth from volatile substance misuse.

Name of horse	Breed of horse	Age of horse	Horse in EAL program	How often does the horse work?
Doc	Quarter Horse	13	7 years	3 days/week
Rebel	Quarter Horse/ Thoroughbred	20	10 years	5 days/week
Frosty	Draft/Cross	25	10 years	5 days/week
Fastpine	Quarter Horse	24	5 years	5 days/week
Charley	Quarter Horse	21	7 years	5 days/week
Maverick	Quarter Horse/ Thoroughbred	23	7 years	3 days/week
Slick	Quarter Horse	10	3 years	3 days/week
Dundee	Quarter Horse	13	2 years	4 days/week

## Research Methods

This pilot study was designed on a limited scale to gain insight into the session outcomes for the Program and to develop a future robust study.

The data collection was two-fold via a questionnaire. Qualitative, open-ended inquiry documented participant, facilitator and volunteers' subjective experiences, meanings and processes (Denzin & Lincoln, 2008). This approach recognizes that others' perspectives lend to the co-creation of individuals' stories such that they can collaboratively unfold (i.e., clients and facilitators/volunteers) (Creswell, 2013). Quantitative, Likert scales documented outcomes in areas identified from the literature.

The data was collected from August to November, 2014. A total of 106 client encounters were analyzed, with 106 client, 21 volunteer and 43 facilitator questionnaires completed. Eight horses were involved in the data collection with ten youth that filled out questionnaires. Between two to seven individuals were in each session, ranging in age from 12 to 17. Client demographics do not take into account that clients may have attended more than one session.

The clients were presented with a questionnaire at the completion of each session, and filled it in on-site and out of the presence of the facilitators and volunteers. Facilitators and volunteers completed questionnaires immediately after the session.

Client Demographics (N = 106 responses)			
Gender	Female	106	100%
Ethnicity	Aboriginal	106	100%
Age	12	2	2%
	13	23	22%
	14	39	37%
	15	15	14%
	16	22	20%
	17	5	5%

Facilitator & Volunteer Demographics (N=8)			
Education	Master EAL Certified	2	25%
	Certified EAL	6	75%
Years in	Average 15		
	Average 8		
Expertise	Equine Studies	1	50%
	Horses	2	100%
	Children	2	100%
	Occupational Therapy	1	17%
	Horses	5	83%
	Children	4	67%

## Data Analysis

The data collected using the Likert scale were analyzed quantitatively for descriptive statistics (i.e., mean and frequency). Means and frequencies were compared to provide an indication of highest means and largest proportion of agreement on items. T-test mean comparisons were conducted on how a client felt before and after spending time with the horse.

The qualitative data was analyzed through an inductive thematic analysis. Such an analysis seeks to identify recurrent patterns, or themes, in textual data. These themes were compared with others and clustered based on similarity in meaning (Saldana, 2010). The frequencies presented here may not sum to the sample size because sentences can be thematically coded more than once. All data was reviewed and interpreted by our multi-disciplinary team.



## Partnership & Ethics

This pilot study was initiated through a Canadian Research Initiative in Substance Misuse (CRISM) grant, funded by the Canadian Institutes of Health Research to researchers Dr. Colleen Anne Dell at the University of Saskatchewan, Department of Sociology & School of Public Health, and Dr. Darlene Chalmers at the University of Regina, Faculty of Social Work. The study was carried out through collaboration and partnership with Gayle Cartier, Daryl Cartier, and Janice Boucher of Cartier Farms and Ernie Sauve of White Buffalo Youth Inhalant Treatment Centre.

This collaborative project builds on existing relations, extensive expertise and scholarly and practice-based experience among a multi-disciplinary team that includes researchers, Indigenous Elders, government decision makers, service providers, communications experts and individuals with lived experience.

Ethics exemption was granted from the Universities of Saskatchewan and Regina Human Research Ethics Board given the project's evaluative focus. Animal Research Ethics Board review was not required given the evaluation did not actively involve the researchers in direct animal use.

The AAI program in this Fact Sheet *cannot* be directly compared to others in the series as they vary in client presenting needs, therapeutic approaches and species (e.g., horses are prey animals and dogs are predator animals).

## EAL Program Facilitators, Horses & Participants

In the Cartier Farms Equine Assisted Learning Program all of its facilitators are certified in EAL. Occasionally, volunteers with extensive horse knowledge and experience help to maintain safety when large groups are participating in programming. All individuals interacting with clients are briefed prior to any interaction to ensure everyone has a clear understanding of the objectives and intended outcomes of the Program's curriculum. Cartier's EAL Facilitators are the main horse handlers.

The majority of horses involved in Cartier's EAL Program were initially obtained by donation. All horses are required to complete a trial period of up to 3 months before being accepted as an EAL horse. All horses accepted into the Program are evaluated. This includes consideration of the horses' life experiences (i.e. age, prior living environment, prior training), and the horses' mental stability (i.e. how they react to situations). The aim of this evaluation is to ensure the EAL program operates at the

highest level of safety possible. More information is available at: [www.cartierfarms.ca](http://www.cartierfarms.ca)

The White Buffalo Youth Inhalant Treatment Centre participants are primarily from Saskatchewan, but youth from anywhere in Canada can attend the 10 bed residential facility. Some youth will have had exposure to horses but many will have had none. Some youth are also not familiar with the richness and strength of their cultural backgrounds. More information is available at: [www.ysac.info](http://www.ysac.info)

# Findings

## Client: Rated Items

The ten clients (all female youth) were asked to rate ten items, using a 5-point Likert scale ('Not at all' to 'Yes, a lot' OR Smiley/Sad Faces).

In response to whether they liked spending time with the horse, 68% responded 'Yes, a lot', 15% responded "Yes, a little", with an overall average of 4.4.

Clients strongly rated how they felt in the time they spent with the horse. However, they were least positive about their being comforted/loved by the horse (average 3.8 with 34% responding 'Yes a lot' and 36% unsure). Most clients were in strong agreement about their time spent with the Facilitator (average 4.4 and 72% indicating "Yes, a lot").

1='Not at all' and 5='Yes, a lot'	All Average
Liked spending time with horse	4.4
Comfy around horse	4.2
Horse loves me	3.8
Instructors were nice to me	4.4

The clients had positive feelings about spending time with the horse, and a large majority rated feeling calm, with an average of 4.0 and 75% in agreement. The rating for feeling in better control of their feelings is slightly lower, with an average of 3.7, and with 53% in agreement and 43% unsure. Only a few clients rated feeling unhappy (average of 2.0 and 19% unsure) after spending time with the horse. The rating for feeling anxious is slightly higher with an average of 2.3 and 31% unsure.

1='Not at all' and 5='Yes, a lot'	All Average
Feeling anxious	2.3
Feeling calm	4.0
Better control of feelings	3.7
Unhappy	2.0

Of the 105 client responses to the final two questionnaire items, on average, clients rated their feelings as about one face happier after being with the horse (3.9 to 4.4), which was statistically significantly higher ( $p < .001$ ).

1='Very Sad Face' and 5='Very Happy Face'	All Average
How felt before with horse	3.9
How felt after with horse	4.4*

\*significant at  $p < .001$

## Client: Qualitative

**Question:** Did you like spending time with the horse today?

**Who responded:** Client: 88 of 106 (83%)

**Themed frequency:**

- Enjoyment/fun (42, 48%)
- New experience (8, 9%)
- Like horses (7, 8%)
- Love horses (7, 8%)
- Not sure (5, 6%)
- No, scared (14, 16%)



**Question:** How did spending time with the horse make you feel?

**Who responded:** Client: 101 of 106 (95%)

**Themed frequency:**

- Enjoyment/happy/good (75, 74%)
- De-stressed/calm (3, 3%)
- Tired (6, 6%)
- Did not like/scared/bored (13, 13%)

**Question:** Other comments

**Who responded:** Client: 17 of 106 (16%)

**Themed frequency:**

- Enjoy (awesome, fun, great) (11, 65%)
- Loved/miss horses (4, 24%)
- Thanks (1, 6%)

## Facilitator & Volunteer: Rated Items

The 43 Facilitator and 21 Volunteer responses included rating observations of their client(s) on three items using a 3-point Likert scale (Yes, Unsure, No).

3= 'Yes'	Volunteer Average	Facilitator Average
Loved by horse	2.95	2.72
Supported by horse	2.95	2.93
Supported by handler	2.95	3.00

Overall, on all three items, the facilitator and volunteer responses were in almost unanimous agreement that the clients felt loved and supported by the horse, as well as received handler support (average between 2.7 to 3). In addition, the 21 volunteers rated their observations of the clients on six items using a 5-point Likert scale (Strongly Disagree, Disagree, Unsure, Agree, Strongly Agree). On

average, the strongest agreement was that the clients' smiled more/showed positive affect (average of 4.4 with 91% strongly agreed/agreed). The ratings on the other five items were similar, with slightly lower averages.

5= 'Strongly Agree'	Volunteer Average Rating
Client... talked more openly	4.3
increased participation	4.3
smiled more	4.4
less agitated	4.2
more relaxed	4.2
increased compliance	4.3

## Volunteer: Qualitative

**Question:** What did you see or experience that made you think that spending time with the horse made the client feel loved?

**Who responded:** Volunteers: 20 of 21 (95%)

**Themed frequency:**

- Connection to horse (comfort, trust, cared for horse) (11, 55%)
- Positive reaction to horse (happy, excited, had missed horse) (3, 15%)
- Expressed loved horses (3, 30%)

**Question:** Do you think that spending time with the horse made your client feel supported?

**Who responded:** Volunteers: 18 of 21 (86%)

**Themed frequency:**

- Positive relationship with horse (interacting with horse, identifying/favorite horse, horses calm) (6, 33%)
- Support (involved, comfort, patience) (5, 28%)
- Client positive (happy, hug, working together) (4, 22%)



**Question:** Do you think that spending time with the horse handler made your client feel supported?

**Who responded:** Volunteer: 18 of 21 (86%)

**Themed frequency:**

- Amazing interaction with client (assuring, talk through activities) (8, 44%)
- Make clients laugh/fun/entertaining (6, 33%)
- Patient/helpful (5, 28%)
- Encourage all to be involved/teamwork (4, 22%)
- Gain client respect (3, 17%)



# Discussion

The outcomes/effects of the EAL Program as an option for female, First Nations youth involved with volatile substance misuse are discussed within the four objectives of the Cartier Farms Equine Assisted Learning program.

Support for each of the program's reviewed objectives was identified, as follows:

## 1. To provide an opportunity to build positive relationships in therapeutic activities

### Clients

The vast majority of clients very much enjoyed the time they spent with the horses and felt better because of it. Clients did report feeling least positive about being comforted and/or loved by the horses, but it was still overwhelmingly a positive experience.

The clients' most common reason for liking the time they spent with the horse was that they found the experience enjoyable, and they had fun.

*"I had a lot of fun, and I love horses".* (Client)

### Facilitator & Volunteer

The facilitators and volunteers near unanimously agreed that the clients felt loved and supported by the horses, and supported by the handlers. This finding is supported by the clients, who reported feeling very positive about their experience with the horses and handlers.

*"The girls show and treat the [[facilitators]] with respect and look to them for guidance and reassurance".* (Volunteer)

The horse-human relationship is based on the development of mutual respect and trust, and opportunities to interact with animals provide a starting place to explore and develop trust and a relationship with another living being (Latella, 2003; Wilkes, 2009). McNicholas and Cage (2006) explain, for example, that "[s]ocial signals from animals are less complex than from humans, and the reduced processing load may permit a greater degree of social understanding and social interaction than would be otherwise possible" (2006, p. 69).

According to the available literature, a strong intimacy/nurturing bond can form between humans and horses (Yorke et al., 2008), whereby animals provide an empathic space (Ashbrooke in Wilkes, 2009, p. 103). Contributing to this empathic space is the horse facilitator. Research in Ontario with First Nations youth participating in an EAL program, and healing from volatile substance misuse, identified the important relationship that can and does develop between the youth and horse facilitators (Dell et al., 2011).

## 2. To facilitate clients' learning about themselves

### Facilitator & Volunteer

The facilitators and volunteers reported witnessing growth in their clients via observations and working with them. The insightful experiences clients had was due to the opportunities for leaning and insights provided through the EAL curriculum and the guidance of the facilitators. These opportunities contributed to the clients' personal growth.

*"A client's body language was very loud and quick, and the horse was getting very scared. In the debriefing, the clients' peers identified that the horse was scared by the fast body language. We discussed how another horse may not be affected, but this horse was very sensitive. Then, the clients discussed parallels to people; every person reacts differently depending on how sensitive they are".* (Facilitator)

An EAL horse's behaviour can most often be attributed to its sensitivity to subtle changes in body language, whether intended or not on the part of humans (Feh, 2005; Goodwin, 2002). Individuals are often unaware of their behaviour and can begin to understand it through the way in which a horse reflects back to them. The individual will learn that for the horse to behave in a different way, they will have to act differently toward the horse (Gibbons et al 2016; Trotter, Chandler, Goodwin-Bond & Casey, 2012).

The perceived reciprocity that surfaces between human participants and horses, regardless of the type of involvement (i.e. therapeutic or recreational riding program) has been identified in the equine-assisted interventions literature. As a consequence, positive contributions have been attributed to youths' self-perception, self-esteem and overall wellbeing by learning about themselves (Toukonen Cuffari, 2011). Self-identity and self-esteem are key areas of concern for First Nations youth in Canada given the historic and destructive impacts of colonization (Rowan et al., 2015).



## 3. To promote the development of a positive self concept

### Facilitator & Volunteer

The volunteers reported the strongest agreement that the client smiled more and/or showed positive affect during the visits with the horses.

*"The girls are becoming more excited and happy to be with the horses. [They] are becoming more independent and willing to try and do things with the horses".* (Volunteer)

Equine assisted interventions have demonstrated an increase in feelings of unconditional love and acceptance among participants (Iannone, 2003). This social support has been referred to as "information leading the subject to believe he is cared for and loved, esteemed, and a member of a network of mutual obligations (Cobb, as cited in Kruger & Serpell, 2010, p. 27). A sense of belonging and community is key to the identity and wellbeing of First Nations youth in Canada (Honouring Our Strengths: Indigenous Culture as Intervention in Addictions Treatment, 2014).

## 4. To support client life skill development

### Clients

The clients rated their feelings significantly more positive after their time with the horses. A large majority of clients agreed that they felt calm after their time with the horses. Over half of clients indicated that they also felt more in control of their emotions after their time with the horses.

*"Happy because they are calm; made me think about everything".* (Client)

### Facilitator & Volunteer

The facilitators and volunteers strongly agreed that the clients talked more openly, participated more, were less agitated, were more relaxed, and were more compliant during the visits with the horses.

*"Lots of humour and more confidence showed today. Girls were willing to talk more, willing to try more".* (Facilitator)

Life skill development in EAL programming has important implications for the youth and addictions treatment and AAI literature. Development of communication skills (Toukonen Cuffari, 2011), mastery in a new experience (Dell et al., 2011; Toukonen Cuffari, 2011), behaviour change (Carlsson, Ranta, & Traeen, 2014; Trotter et al., 2008), leadership skills (Gibbons et al., 2016; Hawkins, Cummins, & Marlatt, 2004) and ability to work on a team (Roberts et al., 2001) all resonate with the equine-assisted interventions scholarship.

# Practice & Research Recommendations



The data provides a description and outcomes of the EAL program that can be used to explain how the EAL program is implemented.



Acknowledge the lack of and contribute to research in EAL, and specifically with youth who misuse volatile substances.



Recognize that the horse and First Nations culture are historically linked, and that there is room for further understanding about this in the context of EAL.



Formally acknowledge the impact of the EAL program facilitators and volunteers, because to date limited research explores their unique and essential role in assisting participants in EAL programs.



Understand that there is significant variation in how EAL is applied across programs and therefore there is a need for further exploratory research and evaluation studies designed specific to individual programs.



Undertake future research with a larger sample and ideally conduct a randomized control trial. This is highly needed in the AAI field generally (Bert et al., 2016).

## PILOT STUDY CONCLUSION

The outcomes/effects of the Equine Assisted Learning program support its four measured objectives, and this should be fully explored in a future, robust study.

This Fact Sheet is one in a series. The findings of the Facts Sheets cannot be directly compared to one another because the AAI programs vary in clients, approaches and species.

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