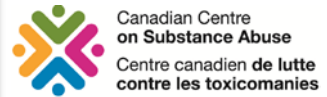
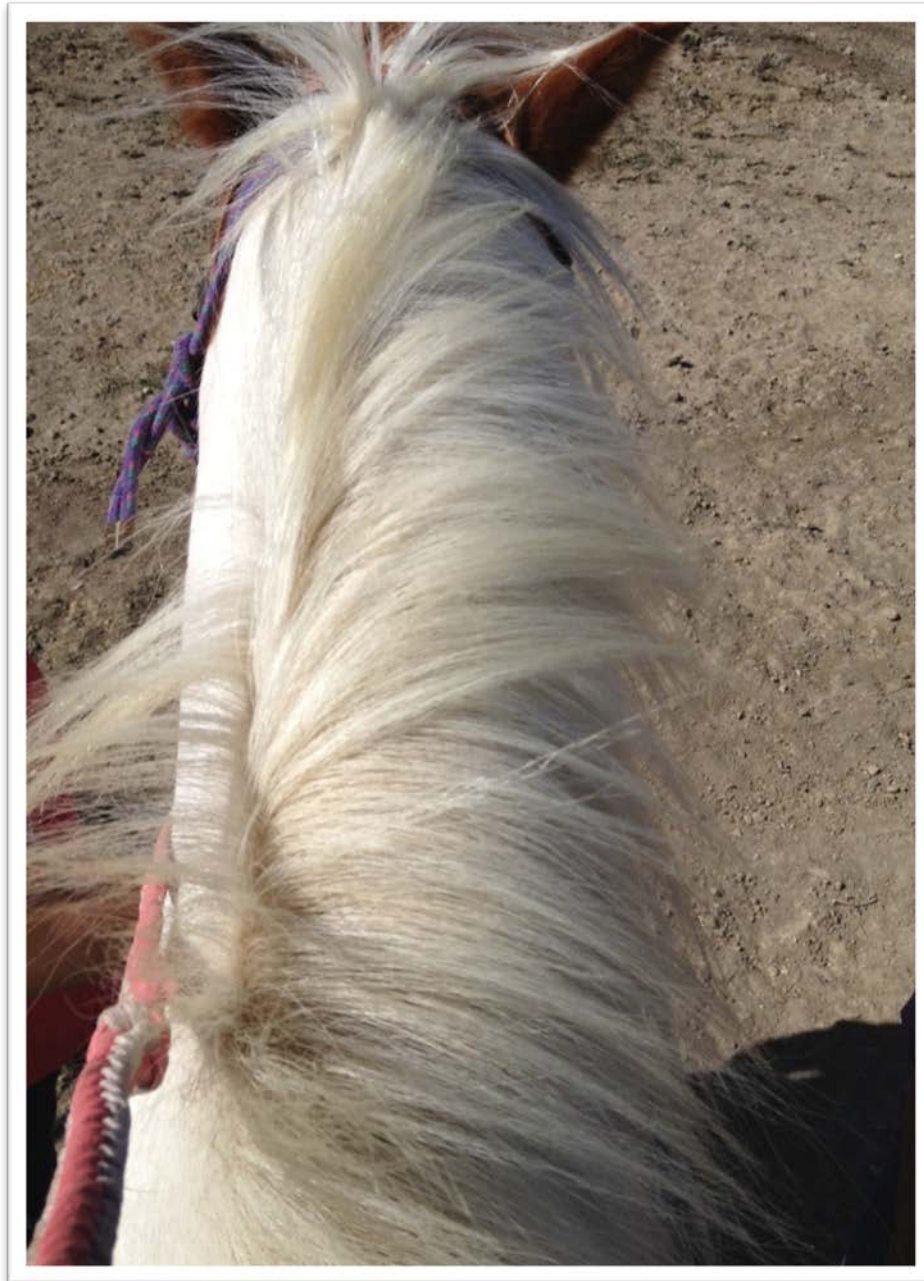
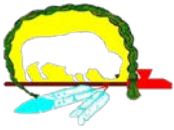


# The Helping Horse: How Equine Assisted Learning Contributes to the Wellbeing of First Nations Youth in Treatment for Volatile Substance Misuse



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Cover photo: Jesse the horse

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This community-based research project has been a journey that, fortunately, is one without a foreseeable conclusion. The partnerships developed throughout it will carry on to positively influence the personal and professional lives of our research and advisory teams involved and the Equine Assisted Learning (EAL) field.

There is so much to be learned from the horses, and possibly that is the greatest finding or perhaps a gentle reminder from this study.

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## **1. CONTEXT**

There has been growing interest in Canada about the association between what is commonly referred to as 'horse therapy' or equine assisted interventions and treating individuals who problematically misuse volatile substances. There has been limited scientific documentation, however, of the benefit of the horse in contributing to individuals' wellbeing. Similarly, the treatment of volatile substance misuse (VSM) among First Nations youth suffers from an absence of research attention. Our team's multi-disciplinary, community-based, exploratory study brought these two areas together in an attempt to better understand through the richness of a case study design **if and how equine assisted learning contributes to the wellbeing of First Nations youth who misuse solvents**. This was specifically examined through the question of – **how do youth experience wellbeing based on their participation in the EAL program?** From this understanding, implications for both policy and practice are made.

Volatile substances, frequently referred to as solvents, are often the first mood-altering substance used by children and youth because they are readily available, inexpensive and easily concealed (Dell, Gust and McClain 2012). Solvents are a large and diverse group of chemical compounds located in hundreds of household and industrial products, including paint thinner, glue, gasoline, and correctional fluid. Canadian research indicates that the majority of misusers of volatile substances are between the ages of 10 and 17, with peak use between 12 and 15 (Adlaf and Paglia 2003; Youth Solvent Addiction Committee 2004). There are higher rates of misuse among youth experiencing disenfranchised life conditions. This has been documented among street youth, inner city youth, and some First Nations and Inuit youth living in select rural and remote areas of Canada. Volatile substance misuse among First Nations youth has been linked to high rates of poverty, boredom, loss of self-respect, unemployment, family breakdown and poor social and economic structures (Research Group on Drug Use 2004; Manitoba Office of the Children's Advocate 2003, Dell 2003). These issues are connected to the historic impact of residential schooling, systemic racism and discrimination, and multi-generational losses of land, language and culture. In 1996, a major response to VSM was undertaken on the part of First Nations people and Health Canada's First Nations and Inuit Health Branch; eight residential youth solvent treatment centres were established. Canada is now considered an international leader in providing residential treatment to First Nations youth who misuse volatile substances (Dell & Hopkins, 20112).

The scholarship on the role of horses in contributing to human wellbeing is nearly non-existent and has received limited attention in the literature on the area of Animal Assisted Interventions (AAI) (Bachi, 2012). AAI has mainly focussed on understanding small companion animals within the context of therapy and therapeutic relationships between animals and humans. The horse, however, has unique characteristics which can contribute to a distinct human-animal interaction. Equine Assisted Learning (EAL) is a relatively new field within the area of equine guided programs and draws primarily on the tenets of experiential or ‘hands-on’ learning. While resonating with some of the “core values” (MacKinnon 2007:1) found within other equine guided interventions (e.g. Equine Assisted Psychotherapy, Therapeutic Riding), in general EAL is an educational program that is facilitated within a group format and focuses on ground activities rather than horseback riding. In EAL, program participants engage in structured, facilitator-led sessions with constant feedback related to participants’ experiences (EAGALA 2008; MacKinnon 2007; PATH Intl 2011; Trotter 2012). The sessions provide opportunities for participants to become involved in situations that require interaction with the horse and the group, and to reflect on these experiences. The overall intent is to create opportunities for participant self development and to internalize this awareness within the sessions and generalize it to other life situations (EAGALA 2008; MacKinnon 2007; PATH Intl 2011). Although there is growing attention to EAL, and animal assisted interventions generally, there remains little empirical literature that has documented and evaluated EAL program processes and outcomes.

In 2008, members of our team published a peer-reviewed article titled *Horse as Healer: An Examination of Equine Assisted Learning in the Healing of First Nations Youth from Solvent Abuse*. This article assessed the theoretical intersections between the White Buffalo Youth Inhalant Treatment Centre program (WBYITC) and the Cartier Equine Learning Centre (CELC) Equine Assisted Learning (EAL) program. We were able to illustrate that the culture-based model of resiliency underlying White Buffalo’s program – which accounts for an individual’s inner spirit and relations with their collective community – is complementary to Carter’s EAL program. Both support a holistic bio-psycho-social-spiritual framework of healing.

With this understanding, in 2011 members of our team published a second peer-reviewed article titled *Creating Healing Spaces: The Experiences of First Nations and Inuit Youth with Equine-Assisted Learning* and in it explored the benefit of EAL to First Nations youths' healing from volatile substance misuse at the Nimkee NupiGawagan Healing Centre in Ontario. We concluded that the youths' healing was aided through the availability of a culturally-relevant *space*, comprised of spiritual exchange (i.e., between the youth, horses and sometimes EAL facilitators), complementary communication (i.e., relaying upon intuition with the horses and sometimes transferring this to humans) and authentic occurrence (i.e., overcoming barriers to understanding imposed by Western ways of knowing).

Our team also undertook a scoping review in 2011 of 13 EAL studies and we found that Western epistemologies or ways of knowing guided the limited existing research through post-positivism (which suggests that a shifting truth can be located outwardly) and constructivism (which claims that knowledge is co-created by those experiencing it) and to the exclusion of Aboriginal epistemology (which asserts that knowledge is ever-present and internal to the self and external in relation to others). Knowledge in this sense is understood to be a way of life and is grounded in a history of cultural practices and traditional understanding (Chalmers and Dell 2011:72). Recognizing this, we identified the Western-derived participatory paradigm as a potential bridging guide for future EAL research. As a method for constructing knowledge, the participatory paradigm is emancipatory in its focus on bringing about change through action, initiated by community identification, direction, and owning of the research process (Davis & Reid, 1999; Narayan, 2004).

Developing upon these three key pieces of work, our current Alberta Centre for Child, Family and Community Research (ACCFRC) funded study implemented a large-scale community-based, exploratory, case study design with the WBYITC program and the Cartier EAL program. Our study is framed within the culture-based model of resiliency applied by the WBYITC and which is complementary with Cartier's EAL program. Key to this understanding is that the health of an individual is comprised of their subjective and relational interactions within four inter-related quadrants: biological, psychological, social and spiritual. This coincides with Indigenous knowledge and understandings of health that focuses on a balance of mental,

physical, social and spiritual wellbeing (YSAC, 2008). We also account in our current study design for an understanding of space, as described above, being significant to individual and communal wellbeing.

## **2. IMPLICATIONS**

Today's global economy is placing unparalleled value on knowledge. The creation of new knowledge and its transference into practice is especially required in the substance abuse field (Simpson 2002; Torjman et al. 2001). This is likewise true in the Equine Assisted Learning area (MacKinnon 2007). In the context of Aboriginal health, unique consideration must be given to the development of understanding through multiple perspectives and its transference within specific social and political contexts (Estey, Kmetis and Reading 2008).

By designing our study with these key points in mind, rapid uptake of our findings is already taking place amongst our knowledge using practice-oriented team members, including the White Buffalo Youth Inhalant Treatment Centre, Cartier Equine Learning Centre's EAL program, the Youth Solvent Addiction Committee, the Canadian Centre on Substance Abuse and the National Native Addictions Partnership Foundation. The collaborative partnership underlying our research team provided the expertise required to navigate interests in the various fields when relaying our findings generally, and with key audiences. The following decision makers will be interested in the findings of our study because they help to address needs within the field:

- *Volatile substance misuse treatment providers*: ... there is a gap in documented research on VSM treatment approaches and effectiveness. What exists is largely dated, deficit based and erroneously shares that treatment is ineffective because of VSM-induces permanent brain damage.
- *General substance abuse treatment providers*: ...non-conventional and 'complimentary' approaches to treatment are receiving increased attention in the addictions field, ranging from yoga to gardening to naturopathic medicine.
- *EAL program facilitators*: ...the impact of the EAL program facilitator, up to this point in the literature, has not received due credit for their unique and essential role in assisting clients in EAL programs.
- *Equine professional community*: ...EAL has not received research attention to the same extent as other equine guided programs.
- *Researchers*: ... multi-disciplinary, community-based, case-study designs have not been conducted and so there is limited contextual understanding of EAL.

- *Health policy makers*: ... there is significant variation in how EAL is applied across programs and therefore there is a need for studies that explore individual programs.
- *First Nations communities*: ...recognition of the growing importance of practicing traditional First Nations ceremony to ensure a ‘good’ and respectful research process.
- *Health Canada & First Nations and Inuit Health Branch officials*: ...there is also an increasing recognition of the importance of traditional culture as an intervention in addiction treatment.

### 3. APPROACH

Our team’s collective experience and expertise with VSM treatment for First Nations youth and EAL guided our research approach. Our necessary beginning point was an agreed upon understanding of wellbeing, the horse in First Nations culture, and working in collaboration.

#### **Understanding wellbeing**

With this study situated in a holistic bio-psycho-social-spiritual framework of healing, as applied by the WBYITC and in congruence with Cartier’s EAL program, the beginning point for our consequent understanding of wellbeing, as explored in this study, is based on this framework alongside our team’s peer-reviewed work, the existing literature and experiential expertise.

**Biological healing** refers generally to physical health and the physiological requirements to have a healthy body. This can include, for example, food, water, fresh air, exercise, and connection to and respect for the land. In this study we focus on three exploratory measures of biological healing, defined as *physical wellbeing* and is identified through (a) physical status, (b) importance of physical touch with the horse, and (c) acknowledging the role of the land in healthy being. (see Appendix A for supporting literature). **Psychological healing** refers generally to mental status.

This can include mood/feelings, cognition, perception, thoughts, self, intellect, emotion, judgement and identity. In this study we apply the most common measure of psychological healing used within the equine literature, and so it is defined as *mental wellbeing* and is identified through (a) perceptions of self. **Social healing** generally refers to an individual’s relationships or associations with friends, family, community and the universe. We focus on social healing for First Nations in this study, with it defined as *community involvement and relations with others* and is identified through (a) quantity and quality of interactions with fellow clients and staff in the residential treatment program and family members. And last, **spiritual healing** refers to an individual’s



inner system of beliefs (e.g., purpose, meaning, value, higher power) and their essence, being or inner spirit. We focus on two exploratory measures of spiritual healing, defined as *development of an equine-human relationship (trust) and spiritual bond* and is identified through (a) development of respect and trust with horses, (b) spiritual bond to horses, and (c) increased spiritual functioning. It important to have this understanding as our approach to the study is detailed.

### **Understanding the cultural significance of the horse**

Within an Aboriginal worldview and the treatment centre's culture-based model of resiliency the inter-connectedness of all living things, as a community of beings, is viewed essential to an individual's sense of wellbeing. Within some First Nations communities, the role of other beings, including horses, holds significance as a part of identity, culture and spirit. Since the introduction of the horse to some First Nations peoples and communities, it has had significant working (e.g., hunting and gathering) and ceremonial (e.g., Horse Dance) roles in the culture and lives of First Nations. The horse has historically been viewed by some with a profound sacredness, just as there is sacredness believed to be in all living things (Bastien, 2004; Dell et al. 2008; Lawrence, 1998). The horse is identified as having a strong spiritual power, and is seen to be a 'teller of truth' who desires to 'do the right thing'. It is believed that a horse's spirit will lead individuals in the 'right direction' and will assist them in understanding their place in the circle of life (Dell et al. 2008).

### **Working in collabortation with decision makers**

The make-up of our research and advisory teams (See Appendix B), facilitated our approach to the research as "by, for and in balance with" the research population and not "on" it (Kirby and McKenna, 1989). Our study is a collaborative effort of front line workers, community leaders and Elders, researchers and decision makers, including the White Buffalo Youth Inhalant Treatment Centre (provides residential treatment to First Nations youth who abuse solvents), the Cartier Equine Learning Centre (offers EAL to the youth in White Buffalo's residential treatment program), the Youth Solvent Addiction Committee (YSAC) (provides theorteical direction to Canada's solvent abuse treatment centres, based upon a culture-based model of resiliency), the National Native Addictions Partnership Foundation (guides the First Nations and Inuit Addictions System in Canada towards holistic, culturally-relevant and seamless community-

driven addiction services), the Canadian Centre on Substance Abuse (Canada's non-governmental addictions agency), and researchers at the University of Calgary (Faculty of Veterinary Medicine), the University of Saskatchewan (Research Chair in Substance Abuse) and the University of Regina (Faculty of Social Work). This highly skilled, multi-disciplinary group used a team approach for directing both our: (a) chosen method and (b) plans for dissemination.

### **A. Chosen Method**

To answer our research question it was collectively decided that the most appropriate research method was a case study design guided by community-based research (CBR) principles (Stoecker 2003; Institute of Medicine 1998). CBR focuses on relationship building and process, is inclusive of all stakeholders, and is in harmony with prioritizing Indigenous knowledge (Smith 1999). CBR also supports decision-making power being shared by all partners in all stages of the study (Martial, Macaulay, Freeman 2003:7), that the research study be relevant and of use to everyone involved (Scott 1992:21), and Aboriginal self-determination in research, such as Aboriginal jurisdiction over the data and research at all times and directing the research to serve Aboriginal interests (Schnarch 2004:81). This is key given that the history of research with Aboriginal communities is fraught with disrespect and the appropriation of power, reflective of the history of colonization of Aboriginal peoples in Canada (Smith 1999; Christ 1997). As a method for constructing knowledge, this approach also parallels principles found within the aforementioned participatory paradigm.

### **Case study design**

Case study research is used to explore topics in their context using detailed and in-depth data gathered through multiple sources (Baxter & Jack, 2008; Creswell, 2013; Merriam, 1998; Stake, 1995, 2000; Yin, 2003). This design is particularly useful when questions pertaining to “how” and “why” are explored; when a detailed account of the context is needed to fully comprehend the topic; when the stories of the research participants are crucial to understanding; and when a collaborative approach to the research process and knowledge building is essential (Creswell, 2013; Stake, 2000). As shared by Hodkinson and Hodkinson (2001), key strengths of a case study design are that they are useful for understanding complex inter-relationships (e.g., between WBYITC and CELC), are grounded in lived reality (e.g., youths' experiences with EAL),

facilitate exploration of the unusual and unexpected (e.g., we are undertaking an exploratory study with a limited empirical base), use multiple cases that allows for focussing on the ideosyncratic (that is, accounting for different experiences as well as similar), and can facilitate rich conceptual and theoretical development. And possibly most important, the openness of a case study allowed our team to adapt the design to account for our research approach – applying community-based research principles that facilitate the prioritizing of Indigenous knowledge.

Specific to our study’s focus, we chose a case study design for several additional reasons. Central to all of them is that a case study focuses on description by building upon multiple and unique voices, perspectives, contexts, and nuances. First, there is a lack of literature that explores EAL programs generally and specifically with First Nations youth as an adjunct to their treatment for VSM. Second, although horses are included in a number of youth VSM programs in Canada, a major gap exists for understanding First Nations culturally relevant treatment practices that incorporate animals. Third, there is generally limited research detailing insight into First Nations youth wellbeing. Understanding the contextual nature of the EAL program including the activities, facilitators and horses offered insight into how they contributed to wellbeing and were experienced and perceived by the youth and others (i.e., the treatment centre staff, the EAL program facilitators and the horses). Of particular importance was gaining a sense of the human-horse interactive environment. And finally, we applied a case study design because case studies are premised on narrative storytelling that draws on the perceptions of the study area as described by the stakeholders (i.e., participants, researchers and others). Richness of understanding is obtained through the methods of data collection, analysis and write-up. Thus, “the case story is itself the result. It is a “virtual reality” so to speak” (Flyvbjerg, 2006, p. 238, quotations in original source). And last, storytelling naturally reflects a First Nations cultural approach to knowing.

### **Type of case study and sampling**

Considering the purpose of our study, our case study design is both intrinsic and instrumental. An instrumental case study is undertaken when an understanding of a particular issue is of interest (Stake, 2000). Intrinsic case studies explore cases where description and detail is required for a full understanding of the topic area and how the case is unique (Creswell, 2013;

Stake, 1995). Our study is instrumental in that it focuses on understanding how participation in an EAL program contributes to the wellbeing of First Nations youth in treatment for misusing volatile substances, and it is intrinsic because gaining this insight requires an in-depth understanding of the EAL program itself; the context within which the phenomenon of youth wellbeing occurs.

A single case, the Cartier EAL program, was identified based on several factors. First, the Cartier EAL program (i.e., the case) has an established curriculum and is nationally recognized for offering EAL training certification and is distinct from other EAL programs. Second, the program has provided EAL to youth in treatment for VSM over the past 6 years, and as such has a long standing established relationship with WBYITC. As a result, purposeful sampling was used to access a group of ‘information rich’ participants based on the commonality of their experiences with EAL and VSM. Third, with the instrumental focus of our case study, we looked exclusively at Cartier’s EAL program within a specified time period (each cohort of youth attends the EAL program for 16 weeks) and within a specified population (First Nations, female youth, 12-18 years of age). Lastly, the EAL and VSM programs are in close geographic proximity to each other and the majority of the researchers’ institutions. It was important for our team to be clear from the study outset about the case sample and design. Establishing boundaries around the individual unit of study was necessary as this delineated the case (Cartier EAL program) and the case context (the horse, the facilitators, the program activities and First Nations’ youth in treatment for volatile solvent misuse), even though “phenomenon and context are not always distinguishable” (Yin, 2003, p. 13). In keeping with the case study design, this step provided clarity and direction for our data collection strategies and analyses.

### **Data sources and collection**

In our study we explored contextual units of analysis within the case that included the horse, the facilitators, the program content and wellbeing. We gathered data from multiple sources, including *interviews with the youth* to gain a detailed account of their general perceptions and experiences and understanding of the four identified components of healing; *client journalling* about their experiences each week on the day following the EAL program and during classroom time for approximately 20 minutes; *interviews with the Cartier EAL program facilitators* to gain

a detailed account of their understandings; *Cartier EAL program facilitator field notes* on clients in the Cartier program areas of curriculum, objectives, and intended outcomes and responses; *interviews with White Buffalo staff* to gain a detailed account of their insights and observations on the youths' encounters with the EAL program; *White Buffalo staff recordings in client files* to document observations of youths' attitudes and behaviours; *physiological measures*; *psychological measures*; and *spiritual measures*. (See Appendix C for complete listing of data measures).

Four residential solvent abuse program intakes of a maximum of 12 female youth, each in treatment for a 6 month period, participated in the study. The youth participated in the Cartier EAL program a maximum of two times a week for two hours and for 20 weeks total. Data was collected for four cohorts, from June 2010 through to June 2012. A number of differences were experienced within and between the youth cohorts that posed challenges in the collection of data. For example, the treatment intake and drop-out rate for each cohort fluctuated and occurred at various points during the EAL program. A number of additional factors contributed to a range of intrapersonal and interpersonal dynamics. These included the youths having to leave their families and home communities for treatment and their adaptation to the treatment centre environment, staff, other youth, routines, and their own detoxification upon entering treatment. (see Appendix D for more complete client descriptions). These factors often unravelled in the EAL program, especially during the initial few weeks. The following quote by a treatment centre staff captures how these challenges were experienced:

*“The first couple times were a little bit, you know, they were still testy because they’re new to the centre and to people and they don’t see a lot of outside people. So I think the first couple weeks might have been a little bit, you know, iffy at first, to start. And then they got into it and got used to people, because for our girl’s that’s a lot, that’s a big thing is meeting people away from the centre. And you know they’d show their boundaries. And um, I know of an example where one of our girls one morning was having a really rough day and she was throwing her stuff around and [said] I’m not going to the horse program and I just said to her, you know that’s part of our program and it’s, you know, really good for us to try and go all the time. And she was just grouchy all the way there” (WB01).*

(see Appendix E for an anonymous listing of the EAL youth program participants and the data sources collected for each.

The four cohorts consisted of:

Cohort 32 (July – December 2012) included 16 girls initially with 9 completing the program. The majority were from Saskatchewan (8), with 5 from Manitoba, 2 from Labrador and 1 from Ontario. For those that did not stay in the program, the duration was 2 girls for 2 weeks, 4 girls for 5 weeks, and 2 girls for 3 months. The average age of the girls was 14.68 years. Eight of the girls could speak Cree and two Innu.

Cohort 33 (January – June 2011) included 15 girls with 5 completing the program. The majority were from Saskatchewan (11), with 2 from Manitoba and 2 from Labrador. For those that did not stay in the program, the duration was 1 girl for 1 week, 2 girls for 2 weeks, 1 girl for 3 weeks, 2 for 1 month, 1 for 2 months, and 3 for 4 months. The average age of the girls was 15.26 years. Six of the girls could speak Cree, 1 Dene and 1 Sauteaux.

Cohort 34 (July – December 2011) included 16 girls with 7 completing the program. The majority were from Saskatchewan (8), with 6 from Manitoba and 2 from Alberta. For those that did not stay in the program, the duration was less than a month for 5 girls, 1 girl for 6 weeks, 2 girls for 2 months, and 1 girl for 4 months. The average age of the girls was 15.06 years. Six of the girls could speak Cree and 2 Dene.

Cohort 35 (January – June 2012) included 19 girls with 5 completing the program. The majority were from Saskatchewan (13), with 4 from Manitoba and 2 from Ontario. For those that did not stay in the program, the duration was less than a month for 10 girls, 3 girls for 3 months, 1 girl for 4 months. The average age of the girls was 15.38 years. Four of the girls could speak Cree and 1 Sauteaux.

Collecting data over time allowed us to gain an in-depth and isolate picture of the EAL program during the first cohort and apply what was learned to the remainder of the data collection. It ample information on contextual factors and research process issues for our team to consider that were unknown prior to the start of the study. For example, it was quickly learned that having both community-based researchers (from WBYITC and CELC) involved in the pre-interviews

with the girls was helpful in establishing rapport with them. We revised and honed our data collection techniques based on such experiences. Consistent with a case study approach, while we were collecting data we were also revising our data collection process. It is also important to note that we recognized that the multi-month span of time between the measures (e.g., pre-post interviews) helped us to avoid a testing effect.

### **Data analysis**

In case study research “the analysis is rich in the context of the case or setting in which the case presents itself” (Merriam, 1988). Through the data analysis process we detailed aspects of the history of the case, the chronology of events, and day-by-day rendering of the activities of the case (Stake, 1998). Following this description, we focused on key issues for understanding the complexity of the case (Creswell, 2013). We used categorical aggregation as proposed by Stake (1995). We examined a collection of instances from the data that revealed issue-relevant meanings. We used a process of data reduction, that is, the identification of themes, and we cross-compared between cohorts (Yin, 2003). We arrived at a meaning for the case in terms of learning about the EAL program in its totality and its contributions to the wellbeing of First Nations youth in treatment for VSM. Practically, this resulted in the identification of key themes in answer to our research question and the development of narratives of and about each youth’s experience of the EAL program for sharing our case’s information-rich context.

To arrive at these results, our team followed an integrated data analysis process. We developed our initial coding tree based on the theorizing of others and our own prior conceptualizations, including the holistic bio-psycho-social-spiritual framework of healing applied by the White Buffalo Youth Inhalant Treatment Centre. The participatory paradigm continued to frame our approach to the study – and was especially paramount with our data analysis. Basically, we began with our Indigenous understanding of wellbeing (deductive) and added detail to it (inductive), verifying themes and generating themes and explanations for each of the four components of wellbeing. As Stake (1995) articulates, analysis tends to translate to “a search for patterns, for consistency, for consistency with certain conditions, which we call correspondence” (p. 78). Our community-based researchers from WBYITC and the Cartier EAL program were the leads on this work. What emerged from the analysis of the first cohort data was the development

of a coding/theme tree or a correspondence table (Stake, 1995). These pre-established codes served as a guide to return to while subsequent data collection and analyses occurred. Interview transcripts, observer recordings, WBYITC staff reflections and CELC facilitator reflections and EAL session debriefing notes were analyzed and searched for patterns and possible new codes. Data analysis was an iterative process. The WBYITC and CELC researchers and the larger research group continually revisited the coding/theme tree. As such, all perspectives and insights were shared, discussed and agreements arrived upon. This process helped to not only trim and refine our themes but also served three other important functions. First, by returning to the team members vis-à-vis research participants (WBYITC staff, EAL facilitators, and the youth) member-checking occurred. Second, the process ensured attention to inter-rater reliability as several of the team members were involved in both the data collection and analyses. And finally, these steps contributed to the overall validity of our findings.

Cohort one served as a pilot test for the themes. Consistent with a case study approach, and as stated above, as we were collecting and revising our data collection process, we were also analyzing the first cohort for greater insight. We applied a simultaneous deductive (based on prior work) and inductive (emerge from the data) approach to theme identification. Table 1 identifies the resulting 28 themes in the four areas of wellbeing, plus the addition of a category termed culture. Thirteen of the themes originated from our pre-existing work and the remaining 15 were newly identified within this study. The addition of the culture category was in response to the youth speaking specifically to culture in their wellbeing.

**Table 1: Coding Tree of Youth Wellbeing** \* Originally defined

Culture	Biological/Physical	Social	Psychological Mental/Emotional	Spiritual
-Knowledge	-Physical health*	-Get along*	-Identity*	-Just being*
-Moontime	-Touch*	-Develop relationships*	-Self-esteem*	-Bond*
	-Nature*	-Importance of community*	-Nurturing	-Cultural activities
	-Anatomy	-Importance of family*	-Feelings/Mood	-Spiritual functioning*
		-Importance of friends*	-Problem solving	
		-Behavior change	-Attitude	
		-Team player	-Participation	
		-Communication		
		-Leader		
		-Experience		



Although all themes were identified to a notable extent in the multiple data sources collected, and are therefore considered findings, our team also undertook a process in which each theme was identified for saturation, and demarcated as low, medium or high. The two community-based researchers undertook this categorizing based on their in-depth experiences of coding the data sources and as a validation check, an independent researcher on our team did the same with a careful review of the coded data. Whenever there was disagreement, a discussion was held between all three and a decision arrived at (this took place for three themes – touch (decided upon high), nurturing (decided upon low) and spiritual functioning (decided upon low)).

Drawing on all of our data sources, including what was learned from the coding tree, a comprehensive case file was created for each youth and a narrative written. Although the cohorts are documented separately above to introduce them, the case narratives are combined for presentation (that is, our entire sample serves as our ‘case). We specifically answered the question of how the youth experience wellbeing based on their participation in the EAL program, and specific to the EAL (a) horses, (b) facilitators, and (c) learning activities in Cartier’s EAL program (see Diagram A). We also looked at the added category of culture (noting it is only relevant to the horse) and challenges the youth identified with the program and if they were consistent throughout.

This detailed and time intensive process resulted in the creation of xxx case files (SERENE ADD IN); a file was not developed if only limited data was available on a youth (e.g, youth left program early). The file included a scoring and interpretation of the standardized measurements. It is important to note that the Western-based equine measures applied in this study were not tested for cultural relevance, however, they are of a very general nature and were therefore determined applicable as only one piece of information adding to the girls’ case file.

Diagram A: **Case File Components**



It is important to note that although the EAL program takes place at the Cartier Equine Learning Centre, the lessons learned during the program activities are reinforced at the WBYITC by staff who participate alongside the girls in the EAL and other programs. It is not possible, therefore, to examine the effect of the EAL program without accounting for the confounding influence of the White Buffalo treatment centre context. This would characteristically be considered a limitation in Western science research methodology, but in our exploratory case study design we recognize it as beneficial to fully describing what is taking place for the youth in the EAL program.

### **B. Plans for Dissemination**

Time has been identified as one of the foremost challenges to effective partnerships between Aboriginal communities and health researchers (Lantz et al. 2001:503). Based on the need for time to develop trust between our study partners, before our team received funding from the Alberta Centre for Child, Family and Community Research our partners over a period of 18 months to determine the study focus and develop the proposal. Next, to kickoff the project when funding was granted, we began with a full-day EAL team building workshop with all our partners

who were available and a partnership signing ceremony, drawing on the World Health Organization (2008) *Indigenous Peoples and Participatory Health Research* template. Traditional ceremony ensured the incorporation of the horse in the project. It was imperative that all partners, including the WBYITC staff and the CELC facilitators, be knowledgeable and comfortable with the study given that they would have data collection roles. This workshop was also used to address staff concerns and discuss feedback related to the study. Throughout our project we returned to our partnership agreement for guidance.

Dissemination of our project process and findings to date include the following. We will also continue to work to disseminate our work in these and additional ways as we capitalize on presenting opportunities.

- Academic and treatment community oral and poster presentations, provincially, nationally and internationally, including at the New Directions in Population Health Research conference, First Nations and Inuit Health Branch research conference, World Psychiatric Association conference, Alternative Medicine Grand Round at the University of Saskatchewan, Youth Solvent Addiction Committee conference, the University of Saskatchewan Engaged Scholar Day, and the National Institute on Drug Abuse International Program.
- Annual First Nations traditional ceremonial horse dance (final of four annual dances held in June, 2013 to disseminate and celebrate the project findings);
- WBYITC graduation attendance
- Linkages in Saskatchewan with One Arrow First Nation I.D.E.A.L. (Inspire Direction Equine Assisted Learning) program and Leading Thunderbird Lodge Youth Inhalant Treatment Centre's cultural equine program offered through Twisted Wire Ranch at Fort Qu'Appelle
- Media distribution
- Website placement
- Report and summary distribution

#### **4. RESULTS**

##### **A. How the Youth Experience Wellbeing Based on their Participation in the EAL Program**

###### **Thematic analysis**

As relayed, our application of a simultaneous deductive (based on prior work) and inductive (emergent from the data) approach to theme identification resulted in 28 themes in five

categories. Thirteen of the themes originated from our pre-existing work and the remaining themes were identified through analysis of the data collected. To identify their demarcation a saturation color code is applied as either low (yellow), medium (green) or high (pink). This was included because it is important for policy makers and researchers to have this information when contemplating decisions in this exploratory area of research. This was not without its challenges though. Our White Buffalo community researcher reflected, for example, that “[w]hen I was first asked the question, what do you think is the most important, the horse, the facilitators, or the program, I would look up towards the sky, and say that’s so hard to answer, they are all so equally important, you can’t have one without the other. You still can’t have one without the other but there were themes that stuck out.” To gain a deeper understanding of the meaning of each theme, quotations from the girls’ pre and post EAL program interviews are shared in the tables below. We chose to focus on the girls’ interviews as a way to highlight their voices. It is worth pointing out that our initial definition of wellbeing was verified through our data analysis process and corresponding results presented herein (i.e., findings ‘fit’ within the categories presented, with the addition of culture that crosses the bio-psycho-social-spiritual dimensions).

Overall, the horse is a helper in the girls’ journeys toward better wellbeing – the horse helps through its very nature as a highly instinctive animal, it helps the facilitators do their jobs, and it also helps put the program activities into practice. The horse is also a spiritual being for many First Nations, and thus has a cultural helping role.

*Originally defined
<b><i>Biological wellbeing focuses on the body and is comprised of:</i></b>
<ul style="list-style-type: none"> <li>           experiencing healthy or safe touch (while grooming i.e., brushing their body, braiding the mane, petting the horse, hugging the horse, standing close allowing for body contact)*  <i>“touching him [horse] made me feel like I owned him” (C1, Y11)</i>  <i>“proud that I could brush the horses. Not brushing her as hard respect” (C1, Y12)</i>  <i>“scared sometimes, but I am used to it now” (C1, Y13)</i>  <i>“whenever he would do something that is right he would put his head on my chest and wait for me to hug him” (C2, Y3)</i>  <i>“they are soft and they don’t get grouchy when you are combing them” (C2, Y10)</i>  <i>“the horses know they feel appreciated when you do that [brushing] and tell them they did a good job and petting them they will know” (C3, Y4)</i>  <i>“certain horse I liked brushing [because] I felt calm” (C3, Y11)</i> </li> </ul>

- improved physical health (taking part in other physical activities because of EAL participation, the youth feeling better about themselves physically)\*  
*"it made me feel better about myself, I can do stuff without people judging me" (C1, Y5)*  
*"it made me feel more active" (C1, Y13)*  
*"I can actually run around now" (C2, Y10)*  
*"I thought that if I could do that [horse program] I could do anything" (C2, Y3)*  
*"I never used to like volleyball and I never used to play it" (C4, Y11)*

- learning about anatomy/how the body works (for horses, humans and the youth)\*  
*"I know horses don't puke and [I know] their reaction to people" (C1, Y3)*  
*"they lift up their tail to poop [and] their body language, when you are getting close their ears go back, when they go straight up they are looking around wondering" (C1, Y5)*  
*"yeah, when a horse is mad their ears pin back, their eyes go big, their muscles tighten up and their tails start swishing. It's pretty interesting. I never knew that" (C3, Y2)*  
*"I learned that a horse's heart beats way faster than a human and they can like run really fast and that they are really strong and they can carry babies and all that" (C3, Y4)*

- connecting with the EAL setting (being at the farm)\*  
*"sometimes I ask myself what would I be doing if I wasn't here" (C1, Y3)*  
*"when you go in the door and you are in there [the arena] it smells like a million bucks" (C1, Y5)*  
*"I just like it over there because there are horses over there" C1, Y11)*  
*"it's interesting, it's fun, it's cool to be around the horses and I am proud of myself" (C1, Y12)*  
*"it [being at the farm]turned my day around and I loved to go to the horse program to see the horses" (C2, Y9)*  
*"peaceful" (C3, Y11)*

**Social wellbeing focuses on interpersonal relationships and is comprised of:**

- developing relationships (connection with the horse facilitators)\*  
*"good helpers" (C1, Y3)*  
*"they pronounce everything right that I can understand" (C1, Y11)*  
*"I like their personalities" (C2, Y3)*  
*"I like them talking to me" (C2, Y6)*  
*"I feel awesome around them" (C2, Y7)*  
*"they are like my parents" (C2, Y9)*  
*"they are energetic, happy and funny. They are nice to all the peers that are there with us"(C2, Y10)*

- better communiator (understanding of space, body language, and dialogue)  
*"um, I don't know, it is like talking Cree, but they [horses] have body language" (C1, Y11)*  
*"peer pressure and stuff like that [works the same for humans] because horses have their own space (C2, Y6)*  
*"when I first met (another youth) I didn't really like her and then we went to the horse program and then we started talking more often because we were teammates" (C2, Y10)*  
*"yeah, they are like humans, they know when you are feeling scared and they know when you are feeling open with them" (C3, Y10)*

<ul style="list-style-type: none"> <li>getting along better with others (girls, White Buffalo staff, horse facilitators)*  <i>"at Cartier's we worked together and I got to know some of my peers" (C1, Y3)</i>  <i>"when I first got here I didn't know those girls and then I got paired up with other girls and got to know them and the horses" (C1, Y12)</i>  <i>"when I first met [name of youth] we were partnered up and I taught her some things and we were relationship building and from there we started talking" (C3, Y2)</i></li> </ul>
<ul style="list-style-type: none"> <li>important new experience (new activities, roles, meeting others)  <i>"something [work with the horses] I wouldn't do at home [it] was something new" (C1, Y3)</i>  <i>"it was scary at first when I got there, the horses didn't know me and they were pushing me around cause I was new" (C1, Y11)</i>  <i>"I felt like it was a waste of time but I enjoyed it and I am able to actually stand near them [the horses] now" (C2, Y3)</i>  <i>"because I have never gone up to a horse before and it was exciting. I felt kind of scared and happy at the same time" (C2, Y10)</i>  <i>"someone once told me to step out of your comfort zone and so I did and I tried something [horse program]"(C3, Y2)</i>  <i>"I felt, I really didn't want to go to it at first. I just felt, I don't know. Now there is this horse Maverick, and when you take the halter off him and the lead rope he just follows me everywhere" (C3, Y11)</i></li> </ul>
<ul style="list-style-type: none"> <li>positive change in behaviour (increased awareness of self, others and own learning)  <i>"like a horse has boundaries, where they want a person to be. The distance and their reaction when you cross those boundaries, so I look for those things in people too. Where their boundaries are" (C1, Y3)</i>  <i>"well I used to hug a lot now I have to respect peoples own privacy and boundaries, so I stopped doing that. I don't go too close to them, they are probably not comfortable with that, so I sit a bit farther away" (C1, Y5)</i>  <i>I learned to use boundaries with my peers not to enter, not going near there" (C1, Y13)</i>  <i>I learned about trust and creativity and those kinds of things" (C2, Y6)</i>  <i>I learned about boundaries and other lessons, leadership, teamwork, active listening" (C2, Y10)</i>  <i>"how to get along with horses and how to do stuff with them" (C3, Y10)</i></li> </ul>
<ul style="list-style-type: none"> <li>increased acknowledgement of the importance of friends (what having a friend means)*  <i>"someone who is just there for you" (C1, Y3)</i>  <i>"I used to think a friend doesn't care what you do, but now when I am with the horses they want us to be thinking positive about ourselves and not doing anything bad" (C1, Y12)</i>  <i>"that you just don't get a friend by talking to them, you have to respect them" (C2, Y6)</i>  <i>"I trust, I listen to them, it helps me more by going to the horse program" (C2, Y9)</i></li> </ul>
<ul style="list-style-type: none"> <li>increased acknowledgement of the importance of family (what family means)*  <i>"I will respect my mom more after participating in this treatment" (C1, Y12)</i>  <i>"I need to show them more respect" (C2, Y3)</i>  <i>"when I disrespected my family, I hope when I go back [home] I don't do that again" (C2, Y10)</i>  <i>"well, my little sister works with, she has foster parents who have horses and when she has to visit she works with them. And my uncle was thinking when we move back to our reserve he was going to get us horses and my little sister was like I can't wait to teach you and I told her the things I learned" (C3, Y2)</i></li> </ul>

- increased acknowledgement of the importance of community (think differently about what their home community means to them)\*  
*“there is no horses where I live, and in school in field trips we go horseback riding once in awhile but I never learned anything about them” (C1, Y3)*  
*“hmm, it got me to think about like all the, when I took a look at the horses and my friends here, everybodoy was like stressed out when they came and then now they are just bonding and just all stressed out again and I am scared to go back too [to home community]” (C1, Y5)*  
*“my home community isn’t really good for people, that is what I realized” (C2, Y3)*  
*“I don’t think about my home community” (C2, Y6)*

- better team player (working out team dynamics)  
*“when I first got here [another youth] started talking to me, then she stopped talking to me and I stopped talking to her, and then she was my teammate at the Cartier farm, and then we had to talk” (C1, Y11)*  
*“when we were working together, when we were in teams, we had to work together” (C2, Y7)*  
*“yeah, when you support each other, for example, say if one of us got on each other’s bad side then we had to be partnered up, we had to put our differences aside and work together” (C3, Y2)*  
*“we learned stuff about the horses like pressure and release and we learned how to work as a team and get along” (C3, Y11)*

- better leader (showing initiative and being a positive influence)  
*“me and [another participant] weren’t getting along that one time but they put us together so we got to know each other on our good sides, so then we brought it back to the [treatment] centre and the next thing we were playing catch outside and talking” C1, Y5)*  
*“like when someone needs help with something I can help them, like finishing a project or something. I can help my grandma out and stuff when she needs help” (C2, Y10)*  
*I learned a lot about the horse, and you know how you say to be a role model here? An then we did an exercise how to be a leader, well I gained confidence there” (C3, Y2)*

**Psychological wellbeing focuses on the mind/thinking and feeling and is comprised of:**

- increased self-identity (horse helps them to see themselves differently, learn about who they are)\*  
*“[the horse program] makes me feel better about myself and it turns my day around” (C2, Y9)*  
*“I can actually show my real me when I am at the horse program. It [horse program] made me think smartly, helped with courage and stuff like that” (C2, Y10)*  
*“I think I am getting more matrue than I was before. I don’t know if my parents see it but I can see it and gained a lot of confidence and I am starting to be a better role model”(C3, Y2)*

- increased self-esteem/self-worth\*  
*“ yeah, the teacher once said the horses know how you feel. This one girl they had a few intakes ago was feeling angry and not good, and she was at Cartier and the horse wouldn’t listen to her because he knew how she felt, and she started crying and that horse hugged her. So when I go to Cartier’s I feel good about myself so the horses can feel good” (C1, Y3)*  
*“I found out that I am not, I don’t know how to put it, mean sometimes, I am actually really nice” (C2, Y3)*

<p><i>"before I went I had low self esteem and I wasn't too sure about the horse program. I can pick their hoof now because I have more, I have more self-esteem and confidence and I learned more about the horses" (C3, Y2)</i></p>
<ul style="list-style-type: none"> <li> <p>increased self awareness, positive moods/feelings  <i>"at the horse program I learned that I was actually happy inside and I didn't know that before" (C2, Y10)</i>  <i>"they are almost like human beings, they feed off our energy and like today when were put under peer pressure and all of the team's energy was put into this, the horse could feel it all and he was put under pressure, and he AWAL'ed on us"(C3, Y2)</i></p> </li> </ul>
<ul style="list-style-type: none"> <li> <p>improved ability to problem solve  <i>"I found that I didn't really have good boundaries with some people. I will use this at home with my friends and my family" (C2, Y3)</i>  <i>"[when return to home community I will] shake their hand and say hi, hug them and say I missed you guys and if they ask me anything like to drink, I will say no I am busy now" (C2, Y9)</i>  <i>"if I see someone doing a bad thing I know they will get mad at me for doing the right thing but that is the way I was taught, to do the right thing and tell the truth, not living in lies" (C3, Y2)</i></p> </li> </ul>
<ul style="list-style-type: none"> <li> <p>more positive attitude (what they are thinking)  <i>"the horse program helped me feel good cause it made me, when I am depressed it makes me happy" (C2, Y7);</i>  <i>"when I first came here I felt kind of sad but when I seen the horses it just made me happy" (C2, Y10)</i> <i>"then we did that exercise how to be a leader, well I gained confidence there" (C3, Y2)</i>  <i>"I feel happy that I worked with horses for the whole 4 months and that I was kind of pushy then I learned not to be pushy" (C3, Y4)</i></p> </li> </ul>
<ul style="list-style-type: none"> <li> <p>increased participation and effort  <i>"I didn't really respect anyone, then I got with the horses and I needed to respect them or they would kick me, and then I came back here [treatment centre] and started to respect the others" (C1, Y12)</i>  <i>"I get along with Smokey [horse] real good but other girls got to pick him so I give him that respect of meeting new people" (C1, Y5)</i>  <i>"well, we were practicing walking and he would walk in front of me and I would say whoa and I would have to back him up and put boundaries in place for him. It was a long process" (C3, Y2)</i></p> </li> </ul>
<ul style="list-style-type: none"> <li> <p>experiencing nurturing (with a pregnant mare or foal interaction)  <i>"exciting, we saw a pregnant horse and then later on saw the baby horse" (C1, Y3)</i>  <i>"we didn't get to work with her [mare] but we got to see her baby afterwards. It was pretty cute. Their legs were long like a deer and it looked like a little deer almost" (C3, Y2)</i>  <i>"I saw them in their pen and the horse was pregnant and a couple days later there was babies" (C3, Y10)</i></p> </li> </ul>
<p><b>Spiritual wellbeing focuses on the spirit and is comprised of:</b></p>
<ul style="list-style-type: none"> <li> <p>enjoying spending time with the horse/just being with the horse*</p> </li> </ul>



*“the best part of the program was getting to know the horses better and just spending time with them” (C1, Y3)*  
*“I liked doing activities like the obstacle course” (C1, Y12)*  
*“every time the other girls pick a horse I always stuck with Rebel and he is always pushing me around but I find that funny. It is funny getting pushed around but not in a mean way” (C1, Y13)*  
*“being able to work with the horses because I like animals” (C2, Y3)*  
*“the best part of the program was the horses and leading the horse” (C2, Y6)*  
*“the best part of the program was looking at the horses [because] it turned my day around” (C2, Y9)*  
*“the best part of the program was seeing the horses and getting to know them” (C2, Y10)*

- developing a relationship or special bond with the horse\*  
*“I respect [horse] and encourage him” (C1, Y13)*  
*“he listens well and pays attention and he turns my day around and when I am having a sad day he puts his nose on my shoulder and then he smells my hand” (C2, Y9)*  
*“cause he [horse] respects me, he doesn’t really do anything to me and he helps me out at the time that I need help” (C2, Y10)*  
*“I started gaining confidence and like when you have to want to clean their hooves you really have to trust them” (C3, Y2)*

- increased participation in cultural activities (or other ways)  
*“I went to a Horse Dance” (C1, Y5)*  
*“[cultural activities] are important because it’s me, part of my identity and beliefs (C1, Y10)*  
*[cultural activities] keep you busy to not go back to the way you were before” (C1, Y11)*  
*“like smudging, sweat, praying, and talking to Elders” (C2, Y10)*  
*“you know praying and you know talking to the rock in the smudge room and knowing spirits are around but they aren’t bad spirits”(C3, Y2)*

- increased spiritual functioning at a personal level (feel more connected to their spirit / spark inside themselves)\*  
*“to be healthy is to eat right, not using and living a better life” (C2, Y7)*  
*“I want to be healthy al my life and not do drugs no more. I feel good when I exercise, eat lots”(C2, Y9)*  
*“I didn’t really think lots about God at the time but when I started going to the horse program it got me thinking ltos and now I just pray every night and like I just pray that everythign goes alright with my family when they come here” (C2, Y10)*  
*“it means to be clean, to have a balanced lifesytle, clean and calm” (C3, Y4)*  
*“to be healthy, stay away from drugs and alcohol, exercise and eat right” (C3, Y10)*

**Cultural wellbeing focuses on:**

- increased cultural knowledge (such as EAL participation helping to understand what Elders and teachers share about horses; and spiritual role of the horse)  
*“they were essential to our survival. They were out friend and family” (C1, Y10)*  
*“don’t they give medicine off or something when you are near them. I learned about that. Knowing that those horses are part of my culture made me realize that I can believe in a creator”*

(C2, Y3)

*"it taught me to like stay with my family and learning about the culture that I will take back home" (C2, Y10)*

*"way back they [horses] were really useful" (C3, Y2)*

- moontime (recognizing the power of the female spirit)  
*"when I couldn't go in [with the horses] and participate when I was on my time and all I got to do was observe, that was boring" (C1, Y3)*  
*"they say you aren't supposed to go on your time so respect yourself" (C2, Y7)*

## **Narratives**

All of the youths' cases files are presented together to produce 'one narrative story' to detail our findings within their context. This story answers the question of *how* youth experience wellbeing based on their participation in the EAL program, and specific to the EAL (a) horses, (b) facilitators, and (c) learning activities. Chosen segments of the story are shared here with the goal of situating the themes of the coding tree within the context of their stories.

First however, the stories of the Cartier Equine Learning Centre EAL and WBYITC programs are shared. As background, it is important to note that given the absence of empirical research on which to draw to develop and expand VSM programming at WBYITC (Dell and Graves 2005), and the cultural significance of the horse to First Nations, when an opportunity presented itself in 2005 to integrate the Cartier Equine Assisted Learning program into residential VSM treatment, it was pursued. This decision was also based on the knowledge that it is cited in the literature that animal assisted interventions, in particular those with equines, is an increasingly popular adjunct to traditional modes of working with high need youth with histories of emotional and behavioural trauma (Brooks 2006; Ewing et. al. 2007; Lefkowitz 2005; Drawe 2001).

## **White Buffalo Youth Inhalant Treatment Centre**

The White Buffalo Youth Inhalant Treatment Centre is a six-month residential treatment program for female, First Nations adolescents. It is located on the Sturgeon Lake First Nation, on the southeast shore of Sturgeon Lake, approximately 55 kilometers north of near Prince Albert, Saskatchewan. 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. Underlying this approach is adherence to YSAC's culture-based resiliency model. This model is understood as "...a balance between the ability to cope with stress and adversity [i.e., inner spirit] and the availability of community support [i.e., relations with the collective community]" (Dell, Hopkins and Dell 2005:5). A foundational concept of the White Buffalo program is nurturing the inner spirit, which is practiced through traditional First Nations teachings and holistic healing (e.g., fasting, sweat lodge). Alongside this, through structured programming, White Buffalo attempts to realign the youths' association with and reliance on their greater community. The majority of youth who enter into YSAC programs have extensive histories of multiple forms of abuse (e.g., mental, physical) (YSAC 2008). (See Appendix F for further information).

### **Cartier Equine Learning Centre**

Located north of Prince Albert, Saskatchewan, Cartier Equine Learning Centre is noted for becoming a leader in establishing industry standards in the area of EAL certification and program development (Saskatchewan Horse Federation 2007). A private vocational school accredited by Saskatchewan Advanced Education in 2008, the Cartier EAL program is a learner based educational experience with horses that focuses on the animal's non-verbal communication as a teaching modality for cognitive and behavioural change. A fundamental guiding philosophy of the program is the understanding that "[b]y their intuitive nature and innate sensitivity, horses can provide facilitators with a window into the participant's personality creating opportunities for immediate outcomes and feedback. As such "as facilitators observe a horse's non-verbal communication, together they have the ability to walk participants through to finding [potential] life-altering change" (4). (See Appendix F for further information).

### **The Horses' Contribution to Youths' Wellbeing**

#### ***Biological/Physical:***

(Story segment for youth data) She led the horses to the field (July 29). She became familiar with the horses' body language, describing their ears and different ways they respond (Aug 3). She noticed the halters were on wrong, she observed a lot of body language. She then pointed out that the other girls should not be chasing the horses (Sept 7). Her team recognized

Kate's (a horse) body language and evaluated that Kate works better with hers (Sept 28). She describes Smokey as beautiful.

(Story segment for White Buffalo staff data) They listen to the horse's body language. Can understand when the horse is angry (June 25). Showed affection by kissing the horse (Nov 11). The horses have a calming effect on the girls. When the girls brush and play dress-up with the horses it gives them a sense of responsibility. They like caring for them. It changed their patience and understanding (April 24). Great connection between the horse and the team while they try and get a horse to do a specific task. They all watch his body language and react to it. Giving the horse a kiss showing affection (March 6).

(Story segment for Cartier staff data) They enjoy the presence of the horse. They enjoy petting and brushing them (43-50). They sometimes are pushy and lack trust of the horses at first because they don't really know what is going on (79-93). The physical horse is intimidating for the girls since this is a new experience for them (194-202). The program is effective because of the structure but the program could not be helpful if there wasn't a horse. In other words the horse is #1 (436-462). There is a sense of self-actualization when the youth didn't know she could actually have power over her destiny with the horse (720-726). Often times the youth would want to bond with the horses by brushing them after the exercise. (727-746). They learned a lot about the physical and biological aspects of horses. For instance, horses go to the bathroom any time they want. There is even a component of the program where they compare the horse to a human body. They listen to the heart rate and discuss how horses feel (978-1017). The horse has taught some the girls to be assertive leaders rather than aggressive (1063-1099). The girls learned new physical behaviours while working with the horses such as remaining calm while petting a horse (1190-1234).

***Social:***

(Story segment for youth data) There are no horses in her community (pre-interview). She took on the leadership role and guided her partner on how to brush the horse (July 27). She developed a relationship with the horse and talks to him. At first she was apprehensive around the horse. She was willing to brush and connect with Data (a horse), showing relationship building (Aug 31). She was placed in the leadership role with her peer. She explained how to

approach the horse, and how to pet and talk to the horse. She also explained how to do the pressure and release. She chose relationship building off of the achievement board because they had to build relationships with the horses (Sept 7). During an exercise she said ‘you have to respect the horse if you want them to respect you’ (Sept 14). She brushed Kate (a horse) before the exercise to build a relationship (Oct 7). She asked Janice to take a picture of her and Rebel (Oct 21). She asked for a picture with Rebel whom is her favourite horse (Nov 25). As time passed, from her client feedback forms, she was gaining more skills by checking off the ones that applied to her such as understanding body language, respecting boundaries, how to negotiate, communication, team work, respect, trust, and self-evaluate.

(Story segment for Cartier staff data) The horse is forcing them to self-evaluate. The horse does not lie, he has no reason to. Passive behaviors work instead of aggressive behavior (127-145). Working with the horse allowed the girls to develop relationships (161-189). The horse also teaches the girls about the family because they are taught that horses live similar to families as they live in a herd (1250-1266).

***Psychological or Mental/emotional:***

(Story segment for youth data) Data (a horse) followed her around, made her smile and have more confidence (Sept 23). She wanted to change the plan because she thought that King (a horse) wanted to change (Oct 14). She shared in her evaluation of Cartier that she learned not to be afraid of the horses. Wanted to see Kate (a horse), she loved Kate (Nov 2). She was scared that she would be kicked by a horse when she was blindfolded (Nov 9). She asked for help, when trying to tie up Kate (a horse). She’s still a bit afraid of horses, if they come to close to her (Nov 30).

During her pre interview, she said that she would be working with horses at the program. She feels good about horses. She says she’s worked with horses before (pre-interview). She has fun with the horses. Her favorite part of the program was spending time with Kate (a horse) (post-interview). She was more relaxed and comfortable around the horses at the end of the program compared to the beginning. She likes going to the farm because that’s where the horses are. She said she learnt about how horses communicate, said it’s like talking Cree, but they have body

language. She developed a bond with Kate (a horse) and trusts her and she shows her affection, she respects her and considers Kate her friend (post-interview).

(Story segment for White Buffalo staff data) Staff member thinks the best part of the program for the girls were the horses, because they all had a favorite horse. The horse was big part of who they were. The girls knew sometimes the horses had bad days as well, and said ‘just be calm and the horses will calm down.’ Dominique (Cartier facilitator) shared her memory of being scared by the horses when first going to the program, and found that the some of the girls probably felt the same. She knew this was the first time some of the girls were around horses. She has adjusted to the horses and thinks they have to. The most important thing at the program that contributed to the girl’s wellbeing was the horse. The girls learned from the horse; respect, boundaries, discipline, patience, the girls learned a lot. The biggest teaching was respect. Sometimes on cold days, a client would often wish she would’ve stayed at the centre their attitude would change as soon as she got to the farm. The horse is first in importance for the girls’ wellbeing. The girls showed nurturing because they loved to look after the horses. The girls always wanted to go and see the horses to make sure they were okay. And they were taught not to ride the horse too much if she was going to have a foal. The girls feel as though the time spent at the farm is never long enough, they always ask to stay longer and cut out the debriefing part to have more time to groom the horses. The girls trusted the horses, and they were never scared of them towards the end of the program. Respect was a big thing for the girls with their horses. When the facilitators would ask them what’s the biggest thing they’re taking from the program- the girls replied ‘respect’. They had to learn to be positive when around the horses.

### ***Spiritual:***

(Story segment for youth data) Her favorite horse Cali had passed, and Gayle (Cartier facilitator) gave her some of Cali’s horse hair, she was happy and thought Gayle would have forgot (July 27). She said this ‘gave her closure’. This demonstrates the bond she had with the horse, and this keepsake will hopefully be something she will treasure in the future. She created a special bond with Cali, but then she passed away and then became attached to Smokey.

(Story segment for White Buffalo staff data) What she thought the best part of the program for the youth was the connection they had with the horses. The horses were like a friend

to the girls. They had a spiritual bond, because the horses could feel how the girl's mood was when around them. The staff thinks the horse brought the best out of the girls. She thinks that's where the girl's got their boost, was from the horse. Found it odd, how the horse could change the girls spirit/attitude. If the girls were having a bad day, just being around the horse...would alter their behavior for the better. Their spirits were lifted as soon as they arrived at the farm. Each of the girls in their own way has developed a bond with the horses. All girls had a favorite horse. She heard one girl say "I am leaving and going to be very far from the horses, but that horse is my spirit now". She says that when she goes home, she wants to get her Indian name, and thinks that it will include the word horse.

(Story segment for Cartier staff data) They get to bond and create a relationship with the horse (43-50). The atmosphere in the arena when horses are there is electric. They're overwhelmed with the beauty of the horses. It's quite electrifying (146-156). The horse is a: teacher, motivator, strength and calmness (537-545).

***Culture:***

(Story segment for youth data) She identified the importance of staying away from the horses on your moom time as a safety precaution. She understands the umportance of the horse to some Native communities. The horses have a special meaning to her, she loves being around the horses.

(Story segment for White Buffalo staff data) Women were visiting the centre. She shared a story: I used to be deathly afraid of the horse. Some bad things were happening in the community, so I wanted to go and pray with the eagle feather, and tobacco. I wanted to go to the rain dance lodge, and its in the pasture with a stallion, and a gelding. The stallion was known to be very mean. I saw them far away, and it looked like they were sleeping, so I thought I could do my praying, and get out of there before they noticed me. I was half way to the rain dance lodge, and they put their heads up, and came at me full gallop. I was so afraid, I was paralyzed. I just stood there. They came up to me, and came to a stop. The gelding stood on my left, and the stallion stood on my right. They escorted me to the lodge. I spread my blanket, and offered tobacco to the four directions. I remembered they had just had a ceremony for the horse, so I put tobacco down for the horse spirit. The horse on my left put their hoof on my shoulder, I did not

feel any weight, and the horse left their hoof there until I was done. They then escorted me to the fence. I thanked them, and I said tomorrow I am going to bring you ribbons. The next day, they met me at the fence, and allowed me to fasten ribbons to their manes. From then on I am not afraid of horses.

The story of sweat stones would be the size of a horses hoof and only 14 rocks in a sweat. All brought in at once. This Elder didn't know how it got changed to what it is today. Lots of rocks are brought throughout the sweat.

(Story segment for Cartier data) The Kookum's teaching them about the horse and telling them the horse used to be our soul. Horses were the primary transportation in the past. Dominique is still learning the teachings herself and acknowledges that tis a big thing. She feels as though, the girls enjoy the teachings and eager to learn more. The elder's teaching, told them when they were young, horses were a huge part of their lives. And that the horses were a big part of the First Nation's culture. The biggest cultural teaching was not to be around the horses during their moon time. The girls now talk, and acknowledge that the horse is a spirit. Upon arrival, the girls were told they get to attend a horse dance. They asked a lot of questions regarding the ceremony. One of them, shared her teachings that her father told her. That in the past, they never used cars at funerals, that they only used horses.

### **The Facilitators' Contribution to Youths' Wellbeing**

#### ***Biological/Physcial:***

(Story segment for youth data) They taught her how to brush the horses, and various skills on how to work with the horses. One day, as she arrived at the farm, she gave Janice a big hug for a long time.

#### ***Social:***

(Story segment for youth data) She was feeling more comfortable around the facilitators; enough to ask for help from them whenever she needed it (Apr 10). They had to decorate the horses one session, but instead she chose to decorate Gayle (a facilitator). Shows that she is comfortable enough around her. She was playful and joking, she hugged the facilitator good bye when leaving the farm (Apr 14). She was laughing at Janice (a facilitator) because her helmet



was on backwards (May 24). The obstacle exercise helped her build a relationship with the facilitators (May 31).

(Story segment for White Buffalo staff data) The facilitators were engaging the girls in conversation, asking them questions. Facilitators did a good job of explaining lessons to the girls and giving them direction. The facilitators would give positive feedback to the girls. Gayle is telling the girls how Smoke is new, and he has to make a connection to the other horses just like the girls who are establishing themselves in the group. Giving them relationship education. One of the girls brought Janice a birthday gift, Janice became emotional. The girls would ask the facilitator for help if they needed it.

(Story segment for Cartier staff data) They help identify what is good and bad. They show consequences for the youths' behavior. (278-288).

***Psychological or Mental/emotional:***

(Story segment for youth data) When she was scared, the facilitator reassured her that she would stay close to help her. This gave her confidence to catch a horse. She looked so happy and gave everyone a big hug before leaving the arena. She told Gayle (a facilitator), "I'm happy because I think I'm coming back for the next intake." Then she said "I have to go tell Frosty (a horse) to wait for me." (June 7).

(Story segment for White Buffalo staff data) They liked the horses. Some of the new girls were scared of the horses; they have never had previous experience with horses before. They were thinking of the horses, and were considerate and gave them grass to eat. A new donkey arrived at Cartier, the girls were excited to go and see her. They had compassion for the horses. They paralleled the horse's body language to their lives. During the 31<sup>st</sup> session, one of the girls got frustrated, the horse was sensitive and reacted to their energy. (Staff data)

(Story segment for Cartier staff data) There is a large amount of trust involved in this program with the facilitators. They probably like knowing the process of the exercise. As in they come to the facility, they get their helmet, they come to the arena etc. They like consistency with the facilitators (245-275). It's often difficult for the youth to build a relationship with the facilitator because they are not used to being around people with blonde hair, blue eyes with

silver earrings. There is a lot of relationship building. About half way through the program they started to tell personal things about their lives. This demonstrates the trust between the facilitator and the youth (299-329).

***Spiritual:***

(Story segment for youth data) She connected with one of the facilitators.

(Story segment for Cartier staff data) Bond between the facilitator and youth very strong (1550-1567).

***Cultural:***

(Story segment for youth data) She asked Janice and Dominique (facilitators) to come to the sweat at the centre. She described what the sweat would look like (Aug 19). She asked Janice (a facilitator) why she couldn't participate with the horses during her moon time, Janice explained it to her (Sept 23). She taught Gayle how to say thank you in Cree (Oct 19). She taught Lacy how to say yes and no in Cree (Dec 2).

**The EAL Program Activities Contribution to Youths' Wellbeing**

***Biological/Physical:***

(Story segment for youth data) While tying knots, she would sometimes forget the process. She did not quit, instead she would keep trying and eventually figure it out with some assistance (Feb 21). April 12th was the first day she did not hide her face in the picture. Showed possible signs of frustration while working (April 12). During the exercise that recognized abilities instead of focusing on disabilities, she seemed to understand the difficulty of working with a disability. She said "we had to find out what to do like by being a deaf person what we could do and what we could not do."

(Story segment for White Buffalo staff data) They learning about body language of the horse and they change they body language. Major differences are noticed. The program helps the girls in aspects on their life. Physically they are getting exercise with the running and walking (Feb 28).

(Story segment for Cartier staff data) At the start the girls are tired and need a break since they are detoxing. As they get more into the program they started challenging themselves. They get physically stronger by moving around and picking up items and feeding the horses. They also started sleeping regular hours and eating more healthy (818-850). Physical appearance has changed through the program. Some dye their hair and put together outfits. They start caring about themselves (905-920). The girls showed a sense of nurturing while care for the baby kittens (1106-1131). Patients and calmness is also a common skill.

***Social:***

(Story segment for youth data) She chose kindness off the board and said her partner was kind to her. She would not stand up in front of everyone, still shy (Oct 12). There was a behavior change, she went from being happy to upset, possibly due to her partner disagreeing with her (Oct 14). She's a team player. (Oct 19) Communicated with her partner, and played rock, paper, scissors, and the winner got to pick the horse (Nov 4). Her mother and 3 siblings came to visit and watched the session. She shared with the group that she had 10 brothers and sisters and 1 adopted sibling (Nov 11). She was asking a lot of questions, and asking where someone from Cartier was. She asked someone to add her on Facebook, showing that she wants to continue the friendship (Nov 23). She chose teamwork off of the board, said the girls were all working well together. She asked about the Cartier staff again, and said to tell her hi (Nov 25). On her weekly record, she wrote under things to do this week was to be patient with peers and staff. She wrote that she will work on being nice to her peers. On her weekly record, said she was doing a good job with her partner. On her weekly record, she wrote: "I saw good listeners, good leaders, and good team work. They were all taking turns leading."

She thinks the program will help her get along better with people. She generally gets along with people but says she's shy. A friend means someone who is like a sister. She says her community feels like home (pre-interview). She learned how to be nice to everyone and would like to use this skill when she returns home. One of her goals she set for the week, was to be more patient with the staff and her peers. The program taught her how to be nice to everyone. She says the program helped her get along better with others and gave the example of her and another youth that weren't talking but once they were teamed up , they continued the friendship at the centre.

She says the program made her feel different about her community because it made her was to take care of people better (post-interview).

(Story segment for Cartier staff data) They get to learn new activities and become happy once they achieve the goals (53-57). The horse starts out by reacting to how they feel about the individual honestly and then as they change and start to grow, the horses behaviors starts to change. So those girls are learning instantaneously when their behavior is getting better, because the horses are immediately better (96-108). By understanding that your viewpoint and behaviors have an effect on the environmental around you may help with the girls wellbeing. They are beginning to realize there are choices to situations (113-119). When you control yourself you control the environment (120-125). They program allows the girls to change in drastic ways (470-482). The program is scary at first because they do not know much about the horses or exercise and in the end they learn new skills. For example, there was one particular youth who could not explain what she wanted done and the facilitator told her to try and break it down into steps. She turned out to be a great leader which reinforced her self-esteem by developing perseverance and determination (507-519). Peers became more important during the program, for example, people would ask each other questions during the exercises (622-630). The ability to reflect back on previous exercises and remember how the horse responded, learning from past behavior. Went from aggressive leader to assertive leader. Went from anti-social to social. When from self-centered to empathetic (654-686). A sense of realization while reading the body language of the horse. “The horse is not saying she really likes me - she’s being aggressive” (686-696). Teamwork and behavior change were common aspects in the program (696-701). There were relationship formed among the girls who participated in the program. Since they were required to work together during tasks they learned respect, personal growth, attitude adjustments and humour. Respect was stepping out of their comfort zone and having courage to know another person or horse (148-173). The girls also learned what it was like to be a friend and develop relationships. Had to develop listening skills while learning the exercise and working with their partner (1235-1245). Major difference during the time the girl first comes to the program and then six months later (1531-1547).

***Psychological or Mental/emotional:***

(Story segment for youth data) She describes her identity as pretty and she wasn’t

confident until she went to the program. She started realizing she can do better things in life and accomplish things and thought more better about herself. She views herself as smart but sometimes goes down the wrong path (pre-interview). The staff observations stated that she seemed happy and was willing to try (Sept 7). She was engaged and interested by asking questions (Sept 7). She was happy and smiling (Sept 14). She chose honesty off of the board, had to believe in others when blindfolded and trust them to keep you safe. During the blindfold activity, said she was scared at first, but gained confidence as she went (Sept 16). She was willing, but quiet (Sept 21). She chose problem solving off the board, because her and her partner had to figure out how to do the obstacles and talked things through (Oct 12). She focused on the tasks, planned ahead and walked around the object (Nov 2). She was asking questions when she was blindfolded to know what to do (Nov 2). She was happy, engaged, and asking lots of questions regarding the exercise (Nov 16). She was compromising with her team; she offered to be the doer (Nov 30). She was a bit frustrated with her team, they kept trying and wouldn't give up. Showing perseverance (Dec 2). She enjoyed the program, saying it was awesome and had fun. She also said it was interesting and laughed a lot. On her weekly record, said she had fun even though her partner was not participating. She thought the best part of the horse program was participating with the horses. She also views herself as a whole different person then she was prior to the program. She states 'I'm more honest, trustworthy, a great listener, and I understand what I am being told'. The staff say she has a positive attitude and is a joy to have around. One of her weekly records, she said the program was fun and had a good day.

(Story segment for Cartier staff data) The girls are disappointed if they do not get to come visit the horses on a day they were supposed to. This seems like they are anticipating the program in a positive manner. (20-27). There is a difference in participation between the morning shifts (Tuesdays) and afternoon shifts (Thursdays) (30-36). The develop the tools and ability to work as a team (212-214). Sometime the fear of the horses comes from a fear of what will happen and doing something wrong (218-234). The structure of the program allows for relationships and trust to be built over time (404-428). Developed skills though growing/nurturing self-confidence. (596-610). The girls learned other alternatives way to express what they want (936-970).

## ***Spiritual***

(Story segment for youth data) She thinks the horse program will help her spirit. (Youth data)

(Story segment for White Buffalo staff data) The girls wellbeing was met by all them as individuals, the horse and the facilitators. They are shows great respect which in turn you can see the respect the girls give back. I can see that the girls self-esteem, confidence and leadership built just in the visit (1 hour). It was incredible to watch and see the progression of each girl as individuals (Feb 28). “Spiritually I noticed the girls spirits come alive as they went through each obstacle on the course” (Feb28).

(Story segment for Cartier staff data) The structure of the program is critical to their feeling of well-being here (428). Feelings of joy and pride were demonstrated (636-640). Connection and bonding with the horse (641-647). Develop a sense of connection and bond with the horse (1334-1352). Each girl had identified a favorite horse and explained why they feel a special connection to the horse. They can name qualities they like in the horse and identify those qualities in humans as well (1361-1379). “They just start to glow.” “It’s not even something that you can measure.” “it’s a light inside them that you don’t see at the beginning” “Spiritual connection to the horses” (1447-1475).

## ***Cultural:***

(Story segment for Cartier staff data) They had kittens at the program and everybody took turns taken care of them, making it feel like a sense of community caring for one another (1111-1131). Facilitator noticed that the First Nations children have a true sense of community, and it comes out when they talk. The First Nations individuals seems to have a deeper connection to the horses most likely because of their understanding.

(Story segment for White Buffalo staff data) One youth mentioned the similarities between the horse and her parents (Feb 9). Change in the community the second time through an exercise (March 6).

## **Other Measures of Youths' Wellbeing**

(Story segment for youth data). Her general wellbeing forms answers changed dramatically. Her answers at the end of the program were more positive. Example of her response changed from 'sometimes' to 'very happy' during the past month. Her response changed from 'most of the time' to 'a little of the time' that she was low in spirits.

She spoke of the importance of friends, and that they are like sisters. When asked to draw what a good choice looked like, she drew two people, one person offering the other marijuana and the other person refusing. On another illustration, again same depiction of one person offering drugs to the other. This time the person responds 'No thanks, my mom told me not to do any drugs. I'm going to school, are you coming with me?' and the girl had a smile on her face, and word 'love' written on her shirt.

### **B. If the EAL Program Contributes to Youths' Wellbeing**

The study is framed within the holistic bio-psycho-social-spiritual framework of healing applied by the White Buffalo Youth Inhalant Treatment Centre. As established, its complementarity with Cartier Equine Learning Centre's EAL program addresses whether EAL contributes to the wellbeing of First Nations youth who misuse volatile substances; in theory it does. Nonetheless, the various data sources were reviewed to validate this.

Comments from the youth capture their perception of wellbeing: "it helped me get along with other people cause when I worked with the horse they put a different person with and me and I got along with them pretty good" (C3, Y4); "the last intake I only went in the sweat four times, this intake I go whenever I can, and the horses, I don't know [it's] the spirit or something, at the Horse Dance and the Ghost Dance, they are important to me" (C1, Y3); "I want to be healthy all my life and not do drugs no more" (C2, Y9).

The EAL facilitators and the horses are integral to the youths' experiences of wellbeing as reflected in the following passages: "anytime you involve a horse in any kind of activity it's a new learning experience, he's going to be leveling that playing field and he is going to teach you things about self-reflection" (C1, Y1); "like the horse, we [EAL facilitators] are very important

too, being able to read those girls' and figure out what they need and how to present it or provide it. So when you've built that relationship it's there forever" (C1, Y2).

Lastly, the statements by the White Buffalo staff provide both cultural and spiritual dimensions for understanding wellbeing as experienced by the youth as evidenced in these statements: "they learn more about their own feelings, um, have more awareness about themselves and it just reinforces what we're teaching about [at the treatment centre] and the skills and they get it because there [at Cartier], they're with the horse. They have, they're with another spirit. And it just makes, you know the teachings that stronger" (WB01); "it's because that horse, those horses are standing there. They're standing in there. For our culture, animals are, well we have our names, and they are, they're our guides, they are our helpers, they keep us safe, we pray to them to help us. They're our angels" (WB02).

The combined experiences, observations and reflections of the youth, EAL facilitators and treatment centre staff offer a holistic understanding unambiguously relaying that EAL contributes to the wellbeing of First Nations youth who misuse volatile substances.

### **C. Challenges**

Our team also examined the challenges youth identified with the program and if they were consistent throughout. For the most part, the challenges dissipated through the course of the program. The key challenges identified were associated with the youths attending the White Buffalo Youth Inhalant Treatment program, including most prominently: coming into a new environment, sorting out dynamics with peers, meeting new people, residing in a new community, and meeting new White Buffalo and Cartier program staff. There were also complaints associated with the equine facility, including it being cold and 'stinky like a farm'. The elements proved to be troublesome for some of the girls, and most specifically the cold; the White Buffalo staff notes shared "One girl didn't want to participate because it was too cold (Oct 27). Other notes shared: "One of the girls complained about the smell as soon as she arrived to the farm but continued on with her activity" (Sept 22). When the girls were not getting along at the centre they did not want to work with one another, but in common ended with the girls getting along during the cartier exercise. And finally, girls being on their moom



time seemed to disengage some of the girls because of required non-participation near the horses (e.g., because of the power of the female when menstruating).

The following excerpt from White Buffalo staff notes, related to psychological wellbeing, provides a snapshot of challenges oftentimes faced: “One of the girls said she was not feeling well and refused to take notes (Aug 16). One of the girls says “this horse is dumb” but doesn’t state why. The staff and facilitators noted that the girls were scattered, different that day, didn’t know what was causing the behavior (Sept 13). One girl wasn’t listening to the staff, left her partner to pick up caterpillars. She kicked gravel at the staff and walked away (Sept 22). One girl seemed to do all the work for work for her team while the other girl stood, watched and complained. She wouldn’t help her teammate groom the horse either even though her partner urged her to help because they were a team. One of the girls threw a cat at the staff before leaving the farm, which clung onto her pant leg. The girls somehow snuck a cat back to the centre without the staff knowing. This is when a girl was accused of bringing the cat back, and she started swearing and yelling at the staff member in Cree (Sept 22). Another of the girls refused to participate, just sat and watched her team (Oct 27). Another girl was being rude to the staff and not listening (Nov 3). This same girl had no patience, started throwing flower pots around. Another didn’t want to do the activity. Another girl was in a bad mood. And another was not happy, because she told staff that her Mom was not coming to the graduation. Both said their days didn’t start out good (Nov 15). One refused to choose a word from the Achievement board because Ticket (the horse) was not there that day (Nov 15).

## **5. ADDITIONAL RESOURCES**

Cartier Equine Learning Centre: <http://www.cartierequinelearningcenter.com/>

Research Chair in Substance Abuse: <http://www.addictionresearchchair.ca>

Youth Solvent Addiction Committee: <http://www.members.shaw.ca/ysac/>

## **6. FURTHER RESEARCH**

Answering our team's exploratory research question – **if and how EAL contributes to the wellbeing of First Nations youth who misuse volatile solvents** – is guiding our team's future plan to develop a longitudinal, controlled outcome evaluation study. This necessarily includes the development of culturally competent scales and measures, of which the collected information in this study can begin to inform their development.

Having a Saskatchewan Health Research Foundation-funded post-doctoral student working alongside our team during this study enabled the first steps in this process to take place. This would be of great interest to policy and management decision makers because it will serve as a definitive marker of impact and effectiveness. The **Horses Guiding Adolescent Learning Through Experiential Relationships (HALTER)** Scale is a 37-item self-report survey instrument intended to measure the benefits of participating in EAL programs. The initial target population of interest was at-risk First Nations youth who have misused volatile substances and were in residential treatment programs provided through facilities like the Youth Solvent Addiction Committee (YSAC) centres. The aim of developing the HALTER Scale was to have a standardized tool for measuring detectable improvement in at-risk First Nations youth (aged 12- to 17-years) attributable to the learning goals and objectives typical in EAL curriculums. The EAL programs utilized as nonconventional and complimentary treatment therapy for youth in residential treatment have curriculums targeted at assisting youth to acquire strength-based life skills (i.e., developmental assets) such as effective communication, enhanced problem-solving, better understanding of body language, respecting personal boundaries, among others. The EAL programs use horses because their hyper-vigilant nature makes them highly attuned to their surroundings, including others in their environment, that their body language is extremely effective in leveraging participants' self-awareness about their own behavior (Irwin 2001). Overall, the benefits to at-risk youth from participating in EAL programs are suggested to stem from an opportunity to experience empowerment leading to basic wellness and behaviour change (Trotter, 2012).

The HALTER Scale is still in the early stages of pilot testing and validating it as a tool designed to be administered at the end of EAL programs (i.e., typically ranging from 12 to 20 weeks)

toward predicting participant risk for maladaptive behaviour following treatment. The validation process includes the establishment of a cut score to delineate participants being ‘still-at-risk’ from ‘not-at-risk’ based on their acquisition (or lack thereof) of knowledge and life skills from EAL programs. The examination of good performance on the HALTER needs to be conducted relative to a more standardized distribution of youth, which means the collection of data based on both at-risk populations and normally functioning (i.e., not in treatment) populations. To date the 16 at-risk participants who have completed the HALTER Scale (i.e., eight from the White Buffalo Treatment Centre) are part of a total of 55 cases available to start examining the psychometric properties essential for a valid instrument. However, the current total of 55 cases falls well short of an adequate sample to conduct the item and scale analyses required to complete the validation process and make the HALTER available for use in the public domain.

In short, our primarily qualitative approach to examining a horse-assisted intervention is a contribution to the literature as qualitative studies are rare in the field, and we suggest this gap needs to be filled in the literature (Klontz et al. 2007; Bexson 2008; Vidrine et al. 2002; Ewing et al. 2004). Further, our blending of traditional Aboriginal knowledge and an academic approach has allowed us to premise our work on Indigenous ways of knowing. We believe this model can also help fill the gap in the literature.

## **7. REFERENCES AND BIBLIOGRAPHY**

**SERENE: References in the report need to use consecutive superscript numbering and be presented as endnotes, not in the body of the text or the foot of the page**

Adlaf, E. and Paglia, A. (2003). *Drug use among Ontario students 1977-2003. Detailed OSDUS findings*. Toronto: Centre for Addiction and Mental Health. Available at: <http://www.camh.net/pdf/OSDUS03-drugdetail-final-v4.pdf>

Albright, J.T., Lebovitz, B.L., Lipson, R., and Luft, J. (1999). Upper aero-digestive tract frostbite complicating volatile substance abuse. *International Journal of Pediatric Otorhinolaryngology*, 49(1), 63-67.

Anderson, D. C. (2006). *Assessing the human-animal bond. A compendium of actual measures*. West Lafayette, IN: Purdue University Press.

Babbie, E. (2000). *The practice of social research* (9<sup>th</sup> ed.). Wadsworth, CA: Belmon.

- Bachi, K. (2013). Application of Attachment theory to equine-facilitated psychotherapy. *Journal of Contemporary Psychotherapy*, 1-10, first published on March 14, 2013. doi: 10.1007/s10879-013-9232-1
- Bachi, K. (2012). Equine-facilitated psychotherapy: The gap between practice and knowledge. *Society & Animals*, 20, 364-380. doi: 10.1163/15685306-12341242
- Baker, T. (1999). *Doing social research* (3<sup>rd</sup> ed.). Boston: Mc-Graw Hill College.
- Ballard, M.B. (1998). Inhalant abuse: A call for attention. *Journal of Addictions and Offender Counselling*, 19(1), 28-32.
- Bastien, B. (2004). *Blackfoot ways of knowing: The worldview of the Siksikaitapi*. Calgary, AB: University of Calgary Press.
- Basu, D., Jhirwal, O.P., Singh, J., Kumar, S., and Mattoo, S.K. (2004). Inhalant abuse by adolescents: A new challenge for Indian physicians. *Indian Journal of Medical Sciences*, 58(6), 245-249.
- Berg, B. (1998). *Qualitative research methods for the social sciences*. MA: Allyn and Bacon.
- Best, D., Manning, V., Gossop, M., Witton, J., Floyd, K., Rawaf, S. and Strang, J. (2004). Adolescent psychological health problems and delinquency among volatile substance users in a school sample in South London. *Drugs: Education, Prevention and Policy*, 11(6), 473-482.
- Bizub, A.L., Joy, A., and Davidson, L. (2003). "It's like being in another world": Demonstrating The benefits of therapeutic horseback riding for individuals with psychiatric disability. *Psychiatric Rehabilitation Journal*, 26(4), 377-384.
- Bowers, M.J. and MacDonald, P. (2001). The effectiveness of equine-facilitated psychotherapy with at risk adolescents. *Journal of Psychology and Behavioral Science*, 15, 62-76.
- Brooks, S. M. (2006). Animal-assisted psychotherapy and equine-facilitated psychotherapy. In N. B. Webb (Ed.), *Helping traumatized youth in child welfare: Perspectives of mental health and children's services practitioners* (pp. 196-218). New York, NY: Guildford Press.
- Burgeon, H. (2003). Case studies of adults receiving horse-riding therapy. *Anthrozoos*, 16(30) 263-276.
- Canadian Institutes of Health research (2007). *CIHR Guidelines for Health Research Involving Aboriginal People*. Ottawa: Author.
- Carroll, A., Houghton, S. and Odgers, P. (1998). Volatile solvent use among western Australian adolescents. *Adolescence*, 33(132), 877-889.

Cartier Equine Learning Centre (2004). Program Pamphlet. Author.

Crofoot-Graham, T.L., Cellarius, K., Clothier, P., Moore, L., and Hawkins, J. (2001). *Transition programs in Indian Country*. Seattle, WA: Casey Family Programs.

Dell, C and D. Chalmers. 2011. "Equine-Assisted Therapy as an Adjunct to Solvent Abuse Treatment for First Nations Youth: A Key Consideration for Building an Empirical Knowledge Base". *Native Studies Review*. Special invitation. 20(1), 59-87.

Dell, C., D. Chalmers, D. Dell, E. Sauve and T. MacKinnon (2008). Horse as healer: Applying equine assisted learning to uncover and strengthen the spirit of first nations youth who abuse solvents. *Pimatisiwin: A Journal of Indigenous and Aboriginal Community Health*, 6(1), 81-106.

Dell, C., D. Chalmers, N. Bresette, S. Swain, D. Rankin, C. Hopkins. 2011. "Creating Healing Spaces: The Experiences of First Nations and Inuit Youth with Equine-Assisted Learning". *Child and Youth Care Forum*. 40(2), 319-336. DOI 10.1007/s10566-011-9140-z

Dell, C.A. and T. Beauchamp (2006). *Youth Volatile Solvent Abuse: Frequently Asked Questions*. Ottawa: Canadian Centre on Substance Abuse.

Dell, C.A, C. Hopkins, D.E. Dell (2005). Resiliency and holistic inhalant abuse treatment. *Journal of Aboriginal Health*. 4-12.

Dell, C.A. and G. Graves (2005). *Designing a tool to measure the impact of client length of stay on treatment outcome: Overview*. Ottawa: Canadian Centre on Substance Abuse.

Dell, C.A., Ogborne, A., P. Begin, G. Roberts, D. Ayotte, M. Blouin, and D. Dell (2003). *Youth Residential Solvent Treatment Program Design: An Examination of the Role of Program Length and Length of Client Stay*. Ottawa: Canadian Centre on Substance Abuse.

Dewey, S.L. (2002). Huffing: What parents should know about inhalant abuse. *Reclaiming Children and Youth* 11(3): 150-151.

Drawe, H. L. (2001). An animal-assisted therapy program for children and adolescents with emotional and behavioural disorders. United States—Kentucky, Spalding University.

Equine Assisted Growth and Learning Association. Available at: <http://www.eagala.org>

Etsten, D. (Summer, 2005). "Q & A: Common questions about solvent use among Aboriginal youth". *CrossCurrents: The Journal of Addiction and Mental Health*. Ontario: Centre for Addiction and Mental Health.

Ewing, C., MacDonald, P., Taylor, M., and Bowers, M. (2007). Equine-facilitated learning in youths with severe emotional disorders: A quantitative and qualitative study. *Child and Youth Care Forum* 36, 59-72.

Fleming, J. and Ledogar, R.J. (2008). Resilience, an evolving concept: A review of literature relevant to Aboriginal research. *Pimatisiwin: A Journal of Indigenous and Aboriginal Community Health*, 6(3), 7-23.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 319-345.

Frame, D. (2006). *Practices of therapists using equine facilitated/assisted psychotherapy in the treatment of adolescents diagnosed with depression: A qualitative study.* Unpublished doctoral dissertation. New York University School of Social Work.

Glaser, B. and A. Strauss (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Adline De Gruyter.

Graham, J. (2007). *An evaluation of equine-assisted wellness in those suffering from catastrophic loss and emotional fluctuations.* Unpublished doctoral dissertation, University of Utah. Salt Lake City.

Hallberg, L. (2004). *Not just horse'n around? Evaluating equine assisted psychotherapy as a therapeutic intervention in a mental health setting.* Unpublished master's project. University of Regina, Regina, Saskatchewan, Canada.

Harter, S. (2012). Susan Harter self-report instruments. Denver, CO: University of Denver, Arts, Humanities & Social Sciences. <https://portfolio.du.edu/pc/port?page=2&uid=25587>

Hayden, A. (2005). *An exploration of the experience of adolescents who participated in equine-facilitated psychotherapy: A resiliency perspective.* Unpublished doctoral dissertation. Alliant International University: San Diego.

Heimlich, K. (2001). Animal-assisted therapy and the severely disabled child: A quantitative study. *Journal of Rehabilitation*, 67(4).

Held, C.A., (2006). *Horse girl: An archetypal study of women, horses, and trauma healing.* Unpublished doctoral dissertation. Pacifica Graduate Institute: Carpinteria, California.

Howard, M.O., Balster, R., Cottler, L.B., Wu, L., and Vaughn, M. (In press). Inhalant use among incarcerated adolescents: Prevalence, characteristics, and predictors of use. *Drug and Alcohol Dependence*.

Horses and Humans Research Foundation – About EAAT. Available at:  
[http://www.horsesandhumans.org/About EAAT Terminology.html](http://www.horsesandhumans.org/About_EAAT_Terminology.html)

Iannone, V. (2003). *Evaluation of a vocational and therapeutic riding program for severely emotionally disturbed adolescents.* Unpublished doctoral dissertation. The Catholic University of America, Washington.

Institute of Medicine (1998). *Bridging the Gap Between Practice and Research. Forging Partnerships with Community-Based Drug and Alcohol Treatment*. Washington: National Academy Press.

Irwin, C. (2001). *Horses don't lie: What horses teach us about our natural capacity for awareness, confidence, courage and trust*. New York, NY: Marlow & Company.

Jackson, W. (1999). *Methods for doing social research*. Ontario: Prentice Hall Allyn and Bacon Canada.

Jacobs, A. and Ghodse, A. (1998). Delinquency and regular solvent abuse: an unfavourable combination? *British Journal of Addiction*, 83(8), 965–968.

Janezic, T.F. (1997). Burns following petrol sniffing. *Burns* 23(1): 78-80; Ho, W.S., To, E.W.H., Chan, E.S.Y., & King W.W.K. (1998). Burn injuries during paint thinner sniffing. *Burns* 24(8), 757-759.

Katcher, A., Friedmann, E., Beck, A., and Lynch, J. (1983). Looking, talking and blood pressure: The physiological consequences of interaction with the living environment. In A. Katcher and A. Beck. (Eds.). *New perspectives on our lives with companion animals*. Philadelphia, PA: University of Pennsylvania Press.

Kazdin, A. (2010). Methodological standards and strategies for establishing the evidence base of animal-assisted therapies. In A. Fine (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (3rd ed., pp. 519-546). San Diego, CA: Academic Press.

Kersten, G. and Thomas, L. (1997). Straight from the horse's mouth: The truth about equine-assisted therapy. *The Counsellor*, November/December, 25.

Kirby, S. and K. McKenna (1989). *Methods from the margins: Experience, research, social change*. Toronto, ON: Garamond Press.

Klontz, B., Bivens, A., Leinart, D., and Klontz, T. (2007). The effectiveness of equine-assisted experiential therapy: Results of an open clinical trial. *Society and Animals*, 15, 257-267.

Kurtzman, T.L. Otsuka, K.N., and Wahl, R.A. (2001). Inhalant abuse by adolescents. *Journal of Adolescent Health*, 28(3), 170-180.

Laframboise, S. and K. Sherbina. [The Medicine Wheel](http://www.dancingtoeaglespiritsociety.org/medwheel.php). Dancing to Eagle Spirit Society. Available at: <http://www.dancingtoeaglespiritsociety.org/medwheel.php>

Latella, D. (2003). *Animals as a therapeutic modality: A curriculum model for occupational therapy*. Connecticut, University of Bridgeport.

- Lawrence, E. (1998). Human and horse medicine among some Native American groups. *Agriculture and Human Values*, 15, 133-138.
- Lefkowitz, C. I., Prout, M., Bleiberg, J., Paharia, I., and Debiak, D. (2005). Animal-assisted prolonged exposure: A treatment for survivors of sexual assault suffering posttraumatic stress disorder. *Society & Animals* 13(4), 275-295.
- MacKinnon, T. (2007). *At the heart of equine-assisted learning*. Saskatchewan: M.E.S. Ltd.
- Martial, R., A. Macaulay and W. Freeman (2003). A conversation: Communities and cathedrals." *Pimatiswin: A Journal of Aboriginal and Indigenous Community Health*. Alberta: Alberta ACADRE Network.
- 2003 Pauingassi First Nation report on solvent abuse. (Manitoba Office of the Children's Advocate). Sourced in Winnipeg Free Press, Wednesday, August 24, 2005. "Manitoba's sniff crisis has given birth to a tragic trend...Babies that smell like gas". D. O'Brien. pp. A1-A2.
- McCormick, A. and McCormick, D. (1997). *Horse sense and the human heart*. Deerfield Beach, Florida: Health Communications, Inc.
- McNaughton, C. and D. Rock (2003). *Opportunities in Aboriginal Research. Results of SSHRC's Dialogue on Research and Aboriginal Peoples*. Ottawa: Social Sciences and Humanities Research Council of Canada.
- McNicholas, J. and Collis, G. (2006). Animals as social supports: Insights for understanding animal-assisted therapy. In A. Fines (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (2<sup>nd</sup> ed.) (pp. 49-71).
- Martin, G. and Pear, J. (2007). *Behavior modification: What it is and how to do it*. (8<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Merriam, S. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass Publishers.
- Monette, D., T. Sullivan and C. DeJong (1998). *Applied social research. Tools for the human services*. New York: Harcourt Brace College Publishers.
- Mosher, C., Rotolo, T., Phillips, D., Krupski, A. and Stark, K.D. (2004) Minority adolescents and substance use risk/protective factors: A focus on inhalant use. *Adolescence*. 39, 489-502.
- National Drug Abuse Information Centre (1988). Deaths due to volatile solvent abuse. *Stat Update, Number 8*.
- Neuman, W. (1997). *Social research methods. Qualitative and quantitative approaches*. Boston: Allyn and Bacon.



Odendall, J. (2000) Animal-assisted therapy—Magic or medicine? *Journal of Psychosomatic Research*, 49(4), 275-280.

Parelli, P. & Parelli, L. (2012). Looking at equine assisted counseling from the horse's perspective. In K. Trotter (ed. ). *Harnessing the Power of Equine Assisted Counseling: Adding Animal Assisted Therapy to Your Practice* (Ed.) (pp. 17-26)). New York, NY: Routledge.

Professional Association of Therapeutic Horsemanship International (PATH).  
<http://www.pathintl.org/>

Pederson, A. (2002). What counts and who's counted in women's health research? *Research Bulletin: Centres of Excellence for Women's Health*. Vol. 2, No. 3. 1-3.

Research Group on Drug Use (2004). *Drug Use in Toronto*. Ontario: Toronto Public Health.

Robin, M., and ten Bensele, R. (1985). Pets and the socialization of children. *Marriage and Family Review*, 8, 63-78.

Saskatchewan Horse Federation. Available at: <http://www.saskhorse.ca/pages/about.php>

Schnarch, B. (2004). "Ownership, Control, Access, and Possession (OCAP) or self-determination applied to research. A critical analysis of contemporary First Nations research and some options for First Nations communities. *Journal of Aboriginal Health*. 1(1), 80-95.

Schultz, B. (2005). *The effects of equine-assisted psychotherapy on the psychosocial functioning of at-risk adolescents ages 12-18*. Unpublished counselling thesis, Denver Seminar, Denver.

Scott, K. (1992). *Indigenous Canadians. A Substance Use Background Paper*. Prepared for the National Native Alcohol and Drug Abuse Program.

Singleton, R. and B. Straits (1999). *Approaches to social research*. 3<sup>rd</sup> Edition. Boston: Oxford University Press.

Smith, L. (1999). *Decolonizing methodologies: Research and Indigenous peoples*. New York, NY: St. Martin's Press.

Stake, R. (2000). Case studies. In N. Denzin and Y. Lincoln (Eds.). *Handbook of qualitative research* (2<sup>nd</sup> ed.), pp. 435-454. Thousand Oaks, CA: Sage.

Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Stoecker, R. (2003). Community-based research: From theory to practice and back again. *Michigan Journal of Community Service Learning*. 9, 35-46.

Tramutt, J. (2003). *Opening the gate: Cultivating self awareness and self acceptance through equine-facilitated psychotherapy*. Unpublished master's paper, Naropa University, Boulder, Colorado.

Trotter, K.S. (2012). Equine assisted interventions in mental health, In K. Trotter (ed. ). *Harnessing the Power of Equine Assisted Counseling: Adding Animal Assisted Therapy to Your Practice* (Ed.) pp. 1- 15). New York, NY: Routledge.

Weber, R. (1990). *Basic Content Analysis*. SAGE University Paper Services on Quantitative Applications in the Social Sciences. California: SAGE.

Wilkes, J. (2009). The role of companion animals in counseling and psychology: Discovering their use in therapeutic process. Springfield, ILL: Charles C Thomas Publisher, Ltd.

Wille, S.M.R. and Lambert, W.E.E. (2004). "Volatile substance abuse: Post mortem diagnosis." *Forensic Science International*. 142(2-3), 135-156.

World Health Organization. *Indigenous Peoples & Participatory Health Research, Planning & Management. Preparing Research Agreements*. Author.

Wright, A. (1970). Participative education and the inevitable revolution. *Journal of Creative Behaviour* 4(4), pp. 234-282.

Yorke, J, C. Adams & N. Coady (2008). Therapeutic value of equine-human bonding in recovery from trauma. *Anthrozoos*, 21(10), 17-30.

Youth Solvent Addiction Committee (2004). *Positive messages build positive minds: Inhalant abuse prevention curriculum manual. Second edition*. Youth Solvent Addiction Committee.

Youth Solvent Addiction Committee (2008). Annual Report. Author.

## **APPENDIX A:      Supporting Literature**

### **Biological healing:**

***Physical status***—There is some support that there may be an increase in physical improvements following participation in an equine program. This may be due in part to equine programs contributing to increased hand/eye coordination, balance and mobility (Cartier pamphlet).

***Physical touch***—The importance and healing quality of physical touch to human well-being is documented in the literature (Yorke et al. 2008). Given the high rate of physical and sexual abuse among First Nations youth in treatment for solvent abuse, horses can offer a ‘safe’ and ‘non-sexual’ mechanism for physical touch to occur (Held 2006). Robin and Bense’s (1985) work explains that pets can “satisfy the child’s need for physical contact and touch without the fear of the complications that accompany contact with human beings” (71).

***Connection to nature***—The work of Crofoot-Graham (2002) notes that connecting with nature is an important part of healing for Aboriginal peoples. The land is intimately related to culture, spirit and other dimensions of healthy being.

### **Psychological healing:**

***Mental status***—The Harter Self-Perception Scale, a standardized psychological scale, requires the participant to report on feelings about the self: scholastic competence, social acceptance, athletic competence, physical appearance, behavioural conduct and global self-worth (Harter, 2012).

### **Social healing:**

***Community involvement & relations with others***—Since the early 1990s, an extensive medical literature has emerged confirming a strong, positive link between social support through involvement in community activities and improved human health and survival (Kruger and Serpell 2006). Although not EAL specific but related to equine guided programs, the literature supports that there is an increase in future community involvement with participants in therapeutic horseback riding programs (Iannone 2003). Some equine assisted interventions have also demonstrated an increase in feelings of unconditional love and acceptance among participants (Iannone 2003; Bizub, Joy and Davidson 2003). One of the earliest animal assisted intervention studies (Cobb 1976) referred to this as social support, that is, “information leading the subject to

believe he is cared for and loved, esteemed, and a member of a network of mutual obligations” (in Kruger and Serpell 2006).

### Spiritual healing

***Equine-human relationship***—The horse-human relationship is based on the development of mutual respect and trust. In equine-guided activities, positive interactions with horses are most often observed when participants approach the horse, and thus the experience, from a stance of mutual respect and trust (Parelli & Parelli 2012). The literature supports that opportunities to interact with animals provides a starting place to begin to explore and develop trust and a relationship with another living being (Latella 2003; Wilkes 2009). McNicholas and Collis (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” (69). We know from trauma-related research that the “[r]estoration of the trauma victim’s capacity for recovery hinges on provision of safety and development of trust...” (Yorke, Adams and Coady 2008:22). This is of particular significance for First Nations in consideration of the traumatic effects of colonization on individuals, families and communities and resulting mistrust.

***Bonding of equine-human spirits***—The current literature identifies the need for increased research attention on the multiple dimensions of the animal-human bond (Kazdin 2010). Of the research that does exist, it refers to the availability of a secure space or “holding environment” (Bachi, 2013, p. 4) that allows for a bond to develop with animals and specifically with with horses. Some refer the meeting of spirits within this context. Individuals who have experienced spiritual trauma, for example, may find that being with animals provides an empathic space whereby “having someone witness their pain [may] bring hope hope through responding therapeutically to their suffering [and] that clients can begin to heal” (Ashbrook as cited in Wilkes, 2009, p. 103). The work of Yorke et al. (2008) suggest that a strong intimacy/nurturing bond can form between humans and horses. They concluded that “...unique elements of equine-human relationships may foster deep, intimate connections” (Yorke et al. 2008:18-19).

**APPENDIX B:      Research and Advisory Team Members**

White Buffalo Youth Inhalant Treatment Centre: Loni Longclaws, Ernie Sauve  
Cartier Equine Learning Centre: Gail Boucher, Janice Cartier, Tamara MacKinnon, Dominique Dryka

\*Youth Solvent Addiction Committee: Debra Dell

\*National Native Addictions Partnership Foundation: Carol Hopkins

\*Canadian Centre on Substance Abuse: Cheryl Arratoon

University of Calgary: Cindy Adams

University of Saskatchewan: Colleen Dell, Randy Duncan, Serene Spence, Mallory Wuttunee, Kathryn Dunn

University of Regina: Darlene Chalmers

\*Advisory Team

\*\*Siksika Nation of Alberta participated in the project at the beginning by offering guidance

## APPENDIX C: Measures of Wellbeing in the Data Sources

*Biological wellness* is measured as physical wellbeing and through:

- (a) physical status. How—Post EAL program interviews with the youth. YSAC has standardized treatment follow-up questions that have been culturally validated for its client population. We will modify the participation question to—“Did being in the horse program assist you with taking part more often in other physical activities like sports, dancing, walking, or working out?”; Cartier facilitator field notes and interviews; Post EAL program interviews with White Buffalo staff;
- (b) importance of physical touch with the horse. How—Post EAL program interviews with the youth; Review of youths’ journalling about EAL; Post EAL program interviews with White Buffalo staff; Post EAL program interviews with Cartier EAL facilitators;
- (c) acknowledging the role of the land in healthy being. How—Post EAL program interviews with the youth; Review of youths’ journalling about EAL; Cartier facilitator field notes and interviews.

*Psychological wellness* and is measured as mental wellbeing and through:

- (a) perceptions of self. How—Application of the Harter Self-Perception Scale, which requires the participant to report on feelings about the self. A widely used instrument, Bowers and MacDonald specifically claim that this adolescent scale was chosen for their animal-related work because “all the subscales were show to have satisfactory reliability, with Cronbach’s Alpha ranging from .80 to .89 over four samples” (67); Pre and post EAL program interviews with the youth; Review of youths’ journalling about EAL; Post EAL program interviews with White Buffalo staff; Post EAL program interviews with Cartier EAL facilitators.

Third, wellbeing is defined as *social healing* and is measured as increased community involvement and relations with others and through

- (a) quantity and quality of interactions with fellow clients and staff in the residential treatment program and family members. How—pre and post EAL program interviews with the youth. As noted, YSAC has standardized treatment follow-up questions that have been culturally validated. We will modify the social connectivity question to—“Has your relationship with others in the treatment centre changed because of your participation in the horse program?”; Review of

youths' school journalling about EAL; Cartier facilitator field notes and interviews; Post EAL program interviews with White Buffalo staff.

And last, wellbeing is defined *as spiritual healing* and is measured as development of an equine-human relationship (trust) and spiritual bond.

(a) development of respect and trust with horses. How—post EAL program interviews with the youth; Review of youths' school journalling about EAL; Post EAL program interviews with White Buffalo staff; Cartier facilitator field notes and interviews

(b) spiritual bond to horses. How – Jewel Equestrian Scale, a 31 item instrument developed to measure the human-horse bond interaction; Post EAL program interviews with the youth; Review of youths' school journalling about EAL; Cartier facilitator field notes and interviews; Post EAL program interviews with White Buffalo staff;

(c) increased spiritual functioning. How—Post EAL program interviews with the youth. Drawing on YSAC's culturally validated standardized treatment follow-up questions, we will modify the spiritual functioning questions to—"Has participating in the horse program helped you to use spiritual practices or services (e.g., church attendance, meditation, Elders, ceremonies)?" and "Has participating in the horse program helped you to participate in cultural activities that keep you connected to your spirit or spiritual health (e.g., sweats, pow wows, feasts, round dances, prayer)?"; Review of youths' school journalling about EAL; Cartier facilitator field notes and interviews; Post EAL program interviews with White Buffalo staff.

## APPENDIX D: Youth Client Descriptions

### SERENE to add

# had previous horse experience, # had previous EAL experience, and # completed the current EAL program. # girls has previous treatment experience and most were at WBYITC for xxx, followed by xxx, xxx and xxx. Mental health issues were prominent among the girls, and most specifically xxx, xxx, xxx and xxx. Medical issues ranged from xxx to xxx to xxx. And the level of addiction was mainly described as xxx, followed by xxx and xxx. Other descriptive characteristics of the girls included substantial artistic ability, xxx, xxx and xxx.



**APPENDIX E: Anonymous EAL Clients and Corresponding Data Sources Collected**  
**(MALLORY WILL PROVIDE ANONYMOUS TABLE)**

**Data Collected**

		<b>Cohort 1 July-Dec 2010</b> 9 graduated, 16 youth	<b>Cohort 2 July-Dec 2011</b> 7 graduated, 16 youth	<b>Cohort 3 Jan-June 2012</b> 5 graduated, 19 youth
<b>1</b>	<b>Youth Pre-Equine Program Interview (Pre)</b>	Nancy (2 copies) Ivana (2 copies, different dates of Oct 6 & 12...same interview) Harriette (2 copies) Teagan Cook ( 2 copies) Paige Rich ( 2 copies) Deadra Miles (2 copies) Angeling McKenzie (2 copies) Patty P1,P2,P3 combined interviews, filed in one file	P2-Chanelle Redhead (2) P3-Crystal Lavallie (2) P6-Vicky Mckay (2) P7-Claudia (2) P8-Sheena (2) P9-Flora Sewap (2) P10-Denelle Sewap (2)	
<b>2</b>	<b>Youth Post-Equine Program Interview (post)</b>	P3-Anglique (2copies) P5-Deandra (2copies) P8-Nancy Rich (2 copies) P9-Paige Rich (2copies) P10-Teagan cook (2copies) P11-Ivana (2copies) Ivana –June/11 P12-Harriette (2	P2-Chanelle Redhead (2) P3-Crystal Lavallie (2) P6-Vicky Mckay (2) P7-Claudia (2) P8-Sheena (2) P9-Flora Sewap (2) P10-Denelle Sewap (2)	

		copies) p-13 Patty (2 copies) P-14 Sandra (2 copies)		
3	<b>WB Staff Reflections (Notes) [throughout]</b>	Feb 14/11; no date; Jan 25/11; Aug2/11; May10/11; Jan25/11; Feb8;11; Mar22/11; Mar 22/11; Apr5/11; Apr4/11; Apr 12/11; Mar24/11; May 24/11; May 31/11; June 7/11; June 8/11;	Sept 22/11; Sept 22/11; Oct 25/11; Oct 20/11; Oct 13/11; Aug 4/11; Aug 16/11; Oct 6/11; Sept 8/11; Sept 6/11; Sept 13/11; Aug 31/11; Sept 27/11; Oct 4/11; Oct 11/11; Oct 11/11; Oct 18/11; Oct 28/11; Nov 1/11; Nov 1/11; Aug 2/11; Nov 15/11; Nov 3/11; Oct 27/11;	June 5/12; June 5/12; Apr 3/12; Nov 15/11; Nov 14/11; June 8/12; Apr 5/12; Apr 10/12; Apr 12/12; Apr 19/12; Mar 22/12; Apr 24/12; Apr 26/12; May 10/12; May 1/12; Apr 24/12; May 8/12; no date; Feb 9/12; Mar 6/12; Feb 28/12; Feb 28/12; Mar 8/12; Mar 1/12; Mar 22/12; Apr 26/12; May 3/12; May 8/12; May 29/12; May 31/12; May 22/12
	<b>WB staff reflections (notes, with girls commenting when on their moon time)</b>	Sept 14/10; Oct 19/10; July 27/10; Oct 28/10; Nov 11/10; no date; Oct 26; Nov 25/10; Sept 25/10; Aug 3/10; Aug 10/10; Aug 31/10; Aug 31/10; Sept 14/10; July 27/10; Sept 14/10; Sept 14/10; Sept 21/10; Sept 21/10; Sept 2/10; Sept 28/10; Oct 5/10; Oct 12/10; Oct 12/10; oct 19/10; Nov 2/10; Nov 2/10; Nov 9/10; Nov 9/10; Nov 9/10; Nov 16/10; Nov 16/10; Nov		

		23/10; Nov 25/10; Nov 30/10; Dec 7/10; Dec 7/10; Aug 12/10; Nov 30/10; Aug 11/10; no date; no date; no date; July 27/10; July 29/10; July 29/10; July 27/10; Nov 16/10; Oct 19/10; no date; 5-no date; July 20; Oct 21/10; Oct 7/10; no date; Nov 25/10; Oct 14/10; Oct 14/10; Oct 14/10; Oct 28/10; Oct 28/10'; Nov 4/10; Nov 4/10; Dec 2/10;		
4	<b>Cartier Facilitator Reflections (notes) [throughout] **taken from the green binder*</b>	Angelique 32 Deandra 35 Harriette 22 Nancy 33 Paige 32 Patty 9 Sandra 10 Teagan 28	Chanelle 27 Claudia 20 Crystal 28 Denelle 17 Flora 18 Sheena 20 Vicky 29	Annie 22 Caitlyn 26 Georgina 31 Kellie 33 Renee 27
5	<b>WB Staff Interviews (Loni, Shirley, Loretta) [post]</b>			
6	<b>Cartier facilitator Interviews (Gail, Janice) [post]</b>		WB01 WB02	C01 C02
7	<b>Harter Self-Perception Scale [pre &amp; post] ***(only teacher's rating scale portion)***</b>	Angelique 2 Arianna Canasia Deandra 2 Emma Harriette 2	Alandra Chanelle 2 Claudia 2 Crystal 2 Denelle Flora 2	Angelique Annie Caitlyn Chanelle Georgina Justyce

		Ivanna 2 Nancy 2 Paige 2 Patty 2 Payton Sandra Shianne Teagan 2	Phyllis Sheena 2 Shyana Skylynn Vicky 2	Kellie Mallerie Redhead Monika Renee Sheena
	<b>Harter Self- perception Scale ***What I am Like</b>	Angelique 2 Arianna Canasia Deandra 2 Emma Harriette 2 Ivana 2 Nancy 2 Paige 2 Patty 2 Payton Sandra Shianne Teagan 2	Alandra Chanelle 2 Claudia 2 Crystal 2 Denelle 2 Flora 2 Phyllis Sheena 2 Skylynn 2 Vicky 2	Angelique Caitlyn Chanelle Redhead Georgina Kellie Mallerie Redhead Monika Carpenter Renee Sheena Redhead
<b>8</b>	<b>Jewel Equestrian Scale [mid &amp; post]</b>	Angelique 2 Deandra 2 Harriette 2 Ivanna 2 Nancy 2 Paige 2 Patty 2 Sandra 2 Teagan 2	Chanelle 2 Claudia 2 Crystal Danelle 2 Flora 2 Sheena 2 Vicky 2	Annie Caitlyn Kellie Renee
<b>9</b>	<b>General Well- Being Scale [pre &amp; post]</b>	Angelique 2 Arianna Canasia Deandra 2 Emma Charles Harriette 2 Ivana 2 Nancy 2 Paige 2 Patty 2 Payton Sandra shianne Teagain	AlandraBeardy- before Chanelle-Beofe &nov/11 Claudia- before & nov/11 Crystal- before & nov/11 Denelle-nov/11 Flora-aug/11, nov/11 Phyllis-Before Sheena – before,oct/11 nov/11 Shyana Finlay-before Vicky-Before &	Angelique Caitlyn 2 Chanelle Redhead Kellie 2 Georgina 2 Mallerie Redhead Monika Carpenter Renee 2 Sheena Redhead

			nov/11	
10	<b>WB Client Program Evaluation Form [post]</b>	Angelique Deandra Harriette Ivana Nancy Paige Patty Sandra Teagan	Chanelle Claudia Crystal Denelle Flora Sheena Ivana Leah Mallorie Rivery Shaylee	
11	<b>WB Intake Package (Follow up; Rosenberg; Resiliency; Valpar) [some pre &amp; some post]</b>	Angelique (F1; Ros2; Res3; V1) Deandra (F1; Ros2; Res3; V1) Harriette (F1; Ros2; Res2, V1) Ivana (F1; Rose3, Res3; V1) Iv:post (F1; Ros2; Res2, V1) River (F2; Rose3; Res3; V1) Leah (F1; Rose3; Res3; V1) Shaylee (Rose2; Res2, V1) Mallerie (F1; Rose3; Res3; V1) Nancy (F1; Ros2; Res3; V1) Paige (F1; Ros2; Res3; V1) Patty (F1; Ros2; Res2; V1) Sandra (F1, Ros2; Res2, V1) Teagan (F1; Ros2, Res3, V1)	Alandra (F1;Ros2;Res2;V1) Chanelle (F1;Ros2;Res2;V1) Claudia (F1; Ros3;Res2;V1) Crystal (F1;Ros3;Res3;V1) Denelle (F1;Ros3;Res3;V1) Flora (F1;Ros2;Res2;V1) Phyllis (F1;Ros1;Res1;V1) Samantha (F1;Ros1;Res1) Sheen (F1;Ros2;Res2;V1) Shyanna (F1;Ros3;Res1;V1) Sikwan (F1;Ros1;Res1) Skylynn (F1;Ros1;Res1) Vicky (F1; Ros3;Res3; V1)	Caitlyn (F1;Ros2;Res2;V1) Georgina (F1;Ros3;Res3;V1) Kellie (F1;Ros3;Res3;V1) Renee(F1;Ros2;Res2;V1)
12	<b>WB Aftercare Notes (when a client calls) [post]</b>	Deandra Miles -1 ***filed as non-Participant*		

		Megan Mckenzie Jesse Lariviere		
13	<b>WB Daily Staff Progress Notes/Case Client Notes [throughout]</b>	Angelique 7 Deandra 6 Harriette 9 Ivanna 5 Nancy 10 Paige 13 Patty 8 Sandra 5 Teagan 8	Chanelle 3 Claudia 3 Crystal 4 Danelle 3 Flora 2 Karina 5 Sheena 4 Skylynn Vicky 4	Caitlyn 6 Danisha Georgina 9 Josephine Kellie 12 Renee 5 Sheena 5
14	<b>Girls' Homework After each Cariter session Ai[throughout]</b>			
15	<b>Cartier Feedback Forms ☺ ☹ [post each session]</b>	Angelique 32 (2written feedback forms) Deandra 35 (with 1 feedback form) Harriette 26 (2 written feedback forms) Ivanna 22 (2 written feedback forms) Nancy 34 (along with 2 written feedback forms and hand written notes) Paige 31 (2 written feedback forms) Patty 19 (2 written feedback forms) Sandra 21 (2 written feedback forms, 1 note) Teagan 28 (1 written feedback form)	Chanelle 26 (1 feedback form) Claudia 19(1 feedback form) Crystal 27 (1 feedback form) Denelle 16 (1feedback form) Flora 17 (1feedback form) Sheena 19 (1 feedback form) Vicky 29 (1 feedback form)	Annie 21 (3 feedback forms) Caitlyn 23 (3 feedback forms) Georgina 29 (2 feedback forms) Kellie 29 (3feedback forms) Renee 26 (2 feedback forms)
16	<b>Girls' Video [post]</b>			

17	<b>WB Classroom Incorporation of Cartier Program [throughout]</b>		Chanelle 7( hand drawn) Claudia (2 hand drawn) Crystal 4 (hand drawn exersie) Denelle (1hand drawn) Sheena (2 hand drawn) Vicky (5 hand drawn exercises)	
18	<b>Youth Journal [throughout]</b>	Cheryll 2 Haley 3 Mallerie 5 River 3 Shaylee 7		
19	<b>Weekly Record</b>	Angelique 16 Arianna Brooke Chanelle 2 Cheryll 10 Cheynell 1 Claudia Crystal David Deandra 17 Denise Jack 3 Dream G. 3 Elizabeth Roberts 15 Flora Sewap 1 Haley 8 Hayette 15 Ivana Custer 35 Keesha Desnomie 14 Kendra 2 Leah Sunchild 17 Mallerie Redhead 23 Nancy 17 Nicky Mckay 1 Paige Rich 18	Alandra 14 Chanelle 17 Claudia 13 Crystal 16 Denelle 10 Flora 9 Karina 9 Phyllis Shyana 3 Skylynn 6 Sheena 12 Vicky 12	Annie 6 Caitlyn 10 Danita Georgina 19 Josephine Justyce Kellie 14 Luana Monika Renee Squirrel 14 Sheena 5

		Patty 8 River 21 Sandra 15 Sheena 1 Shianne Shaylee 15 Teagan 15		
<b>20</b>	<b>Consent Form</b>	Louise Smokeyday Arianna Angelique Canasia Deandra Emma Charles Harriette Ivanna Nancy – no to study Nancy-yes signed Paige – no to study Paige-said yes Patty Payton Sandra-no to study Shianne Teagan	Alandra Beardy Chanelle Redhead Claudia Thomas Crystal Lavallie Denelle Sewap Flora Sewap Phyllis Sheena Shyana Finlay Skylynn (in 2 parts) Vicky Mckay	Angelique Mckenzie Annie Boyd Caitlyn Chanelle Redhead Georgina Justyce Kellie Mallerie Redhead Monika Carpenter Sheena Redhead Renee-no Mar/12 Renee-yes Mar/12
<b>21</b>	<b>Equine Personality</b>	Sandra Teagan		Georgina Josephine Justyce Luana Kellie Monika
<b>22</b>	<b>About my favorite Horse</b>	Cheryll Deandra Elizabeth Ivana Keesha Leah Mallerie Nancy River Teagan		



23	<b>What do you know?</b>	Deandra 2 Harriette 2 Ivana 3 Leah Mallerie Nancy Paige River Sandra Shaylee Teagan 2	Claudia Chanelle 3 Claudia 2 Crystal 3 Denelle 3 Flora 2 Sheena 3 Vicky 2	
24	<b>About me.....</b>	Denise Keesha River		
25	<b>What's a good choice look like?</b>	Deandra Elizabeth Haley Harriette Ivana 2 Keesha Mallerie Nancy Paige Patty Sandra Shaylee Teagan	Alandra Chanelle Claudia Crystal Denelle Flora Vicky	
	<b>Their World-Our World</b>	Angelique Arianna Cheryll Deandra Elizabeth Harriette Ivana Keesha Kendra Leah Mallerie Nancy River Shaylee		
	<b>Where is your comfort zone- Check off Sheet</b>	Angelique (2 copies-same) Deandra (2 copies-same)	Chanelle Crystal Vicky	Georgina Kellie

		Nancy (2 copies-same) Paige (2 copies-same) Teagan 2		
	<b>I Believe.....</b>	Angelique 2 Deandra 2 Harriette Nancy 2 Paige Rich (pay G?) Teagan 2		
	<b>How to be a responsible person</b>	Nancy		
	<b>Your Space or Mine</b>	Angelique Cheryll Dream Harriette Hayley Ivana Keesha Leah Mallerie Nancy Paige Patty River Sandra Shaylee	Chanelle Claudia Crystal Denelle Flora Karina Sheena Vicky	
	<b>Give your 'feedback' on how you felt at the horse program..... (picture of a horse reading)</b>	Angelique Deandra Harriette 2 ? no name Paige Patty Sandra	Alandra Chanelle Claudia Crystal Denelle Flora Skylynn	
	<b>Horse Power –vs- My Power</b>	cheryll Elizabeth Haylee Leah Shaylee	Claudia Sheena	Annie Caitlyn Georgina Kellie Renee
	<b>Feedback Objective: evaluation of the</b>	Angelique Cheryll Deandra		

	<b>EAL Exercise (picture of a heart with a horse in the centre)</b>	Elizabeth Harriette 2 Hayley Ivana 4 Leah 2 Mallerie Nancy 2 Paige 2 Patty River Sandra Shaylee 2 Teagan		
	<b>Evaluation of EAL at Cartier Equine Learning Centre's (parg. At the top of the page, then blank for the clients to fill)</b>	Ivana Leah Mallerie River Shaylee	Chanelle 2 Claudia 2 Crystal 2 Denelle 2 Sheena Vicky	
	<b>Building Self Esteem</b>			Annie Caitlyn
	<b>About my family</b>			Georgina Kellie Renee Sheena
	<b>Learning the Lingo (vital statistics)</b>			Georgina Kellie Renee 2
	<b>Graduation Experiences: Intake 34, play: A day in the program at Cartier Equine Learning Centre</b>		Filed all in one file, Alandra, Denelle, Sheena, Chanelle, Vicky, Claudia, Flora, Crystal (2 copies)	
	<b>Emotional Discovery</b>		Karina	
	<b>Teacher's observations ....notes</b>	Angelique Deandra Harriette Nancy Patty Paige Sandra	Sept 29/11; Sept 29/11; Sept 29/11; Sept 29/11; Sept 29/11	

		Tegan		
	<b>Interviewer's comments following the client exit interview (after horse program)</b>		Chanelle Claudia Crystal Flora Denelle Sheena Vicky	
	<b>WB Demographic Information</b>	Angelque Mckenzie Harriette McDonald Ivana Custer Nancy Rich Paige Rich Patty Castel-Scott Sandra Pitre Tegan Cook	Alandra Beardy Chanelle Redhead Claudia Thomas Crystal Lavallie Denelle Sewap Flora Sewap Karina Denechezhe Sheena Redhead Vicky Mckay	Caitlin Burge Georgina Martyn Kellie Kahpeaysewat Renee Squirrel Sheena Redhead
	<b>White Buffalo Research Overview</b>			Feb 2/12; Feb 9/12; Feb 21/12; Feb 23/12; Feb 28/12; Mar1/12; Mar 6/12; Mar 8/12; Mar 13/12; Mar 22/12; Mar 27/12; Mar 29/12; Apr 3/12; Apr 5/12; Apr 10/12; Apr 12/12; Apr 12/12; Apr 19/12; Apr 24/12; Apr 26/12; May 1/12; May 3/12; May 8/12; May 10/12; May 15/12; May 17/12; May 22/12; May 24/12; May 29/12; May 31/12; June 5/12; June 7/12

## **APPENDIX F: Narratives of the Case**

### **White Buffalo Youth Inhalant Treatment Centre**

The White Buffalo Youth Inhalant Treatment Centre is a six-month residential treatment program for female, First Nations adolescents. It is located on the Sturgeon Lake First Nation, on the southeast shore of Sturgeon Lake, approximately 55 kilometers north of near Prince Albert, Saskatchewan. 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. Underlying this approach is adherence to YSAC’s culture-based resiliency model. This model is understood as “...a balance between the ability to cope with stress and adversity [i.e., inner spirit] and the availability of community support [i.e., relations with the collective community]” (Dell, Hopkins and Dell 2005:5). A foundational concept of the White Buffalo program is nurturing the inner spirit, which is practiced through traditional First Nations teachings and holistic healing (e.g., fasting, sweat lodge). Alongside this, through structured programming White Buffalo attempts to realign the youths’ association with and reliance on their greater community. The majority of youth who enter into YSAC programs have extensive histories of multiple forms of abuse (e.g., mental, physical) (YSAC 2008).

The WBYITC is located on Sturgeon Lake First Nation, home to approximately 1,400 members. The area of the reserve White Buffalo is located on is known to be a healing area, with the Elders still coming to the area south of the centre to pray and hold ceremonies. Eagles are sited over head on a weekly basis. The centre is surrounded by trees, which gives the youth some privacy, and peace. The lake is about 2 minutes away. The Amisk Cultural Camp is down the road about 5 minutes, and Sturgeon Lake First Nations has a beautiful cultural grounds located south of the treatment centre, along the River. It is a spiritual piece of land where many ceremonies take place, including sweat lodges, ghost dances, horse dances, and cultural camps. WBYITC participates in all these cultural events with the Sturgeon Lake First Nation community. The treatment centre has developed a friendship with the reserve over the years, and each are invited to the other’s events. The community is very welcoming and has taught staff and youth a lot about culture and their lands over the years. In the summer WBYITC staff and youth harvest from the land in the surrounding area, gathering berries, teas, sage, sweetgrass, fish, rocks and wood. Many of WBYITC’s staff are from the community.

The official sod turning of WBYITC took place on Friday May 24<sup>th</sup>, 1996 with Ernie Sauve as the Master of Ceremonies, Debra Dell the inaugural Executive Director, and the new staff. The Centre was initially called the Saskatchewan First Nations Youth Inhalant Treatment Centre, but was later renamed that year based on a community contest. Guided by Elders Clifford Sanderson, Gladys Wapass – Greyeyes and Mariah Shepherd, a Naming Ceremony was held on October 15, 1996 with the new name White Buffalo Youth Inhalant Treatment Centre. This name was chosen from the inspiration of a white buffalo calf being born in Wisconsin. A miracle, according to Aboriginal beliefs, the White Buffalo Calf Woman visited Lakota people and made a prophecy. She said the birth of a white buffalo calf would be a sign to purify the world, bring back harmony, balance, and spirituality. The Elders believe that this name best suited the purpose of the treatment centre, to bring unity of mind, spirit and body in the treatment of inhalant abuse for all First Nations youth.

The WBYITC is a national program funded by First Nations and Inuit Health, Health Canada. Governed by a 12 member Board representing 9 tribal councils in Saskatchewan, the WBYITC celebrated its official opening ceremony on February 7, 1997. Six young men began their healing journeys on this day. After three male intakes, the program switched to being female only. Elder Gladys Wapass-Greyeyes's son designed the centre's logo. The WBYITC has been accredited centre since 1999, and continues to be accredited through the Canadian Accreditation Council. The most recent will expire in May, 2015. The Centre's Vision and Mission were recently modified to meet the current needs of its youth and communities. The vision is: First Nations people use the creator's gifts to achieve well and vibrant communities, and the mission is: To empower First Nation youth and families through culturally based, holistic treatment and community outreach services.

Today, WBYITC's program consists of Four Phases, offered over a six month period. Phase one, is Nourishment and Self Discovery. Phase two, is Emotional Health. Phase three, is Integrating the Tools. And phase four, is Celebration and Future Vision. When youth first arrive at the program they are on what is called a "black out" period. For the first week they do not receive nor make any phone calls. They do not leave the treatment centre grounds. This is so they can get used to their surroundings, and to the people who will be with them for the next 6 months. This is also a time of withdrawal and detoxification for most. During this time staff help to ensure the

girls are comfortable, getting enough rest, eating healthy, and getting to know one another through games, visiting, smudging and talking circles. They are taught values, virtues, and rules throughout this time. Once this period is over the girls are taken out on the land at the Youth Haven Lodge on Bigstone Lake Sask. The Lac La Ronge Indian Bands have supported the WBYITC in this area immensely. They provide boats, canoes, skidoos, and guides. This is again a time again for the youth to bond with one another, pick medicines, and start learning that talking is a powerful tool in the recovery process.

Around the end of the first month in the WBYITC program the girls start attending the Equine Assisted Learning Program at Cartier Equine Learning Centre. They attend this program every Tuesday and Thursday afternoon, in one hour sessions. Facilitated by Gayle Cartier and Janice Boucher, this is a skill learning program that works hand in hand with the program at WBYITC. The Cartier program reinforces many of the teachings the youth are learning at White Buffalo. We had the opportunity in 2005 to camp at Cartier Equine Learning Centre, and that is when our deep friendship began. In 2007 a partnership was formed between Cartier Equine Learning Centre, WBYITC, Youth Solvent Addiction Committee, University of Regina Faculty of Social Work, and the University of Saskatchewan Research Chair in Substance Abuse to start a research program to understand more about how EAL relates to treatment for volatile substance misuse among First Nations youth.

The school program also begins near the end of the first month of the girls being at WBYITC. The program employs a teacher and teacher's aide. The teacher starts off by testing each youth to see what grade level they are at. She designs a program to meet the individual youth's needs. The girls attend school Monday to Friday, 9 a.m. to 3:30 p.m. The school program attends the annual Fine Arts Festival, and various career fairs.

Outings also begin one month into the girls' treatment, most of which these have to be earned by participating in the program, going to school, completing chores, cleaning rooms, and being engaged in their healing journey. Outings are a part of the program because the youth are being taught how to live a healthy lifestyle.

If the youth need additional assistance, such as mental health services WBYITC will make a referral. The youth also see a Doctor, Optometrist and a Dentist while they are in the program.

Medical personnel are brought into the program to talk about various issues, such as proper hand washing, different diseases, and any other concerns the youth have questions about. The aim is to have the whole person healthy when they return home to their family, and communities.

In the evenings the girls have two quiet times, physical activity time, they attend a session relevant to how come they are in treatment, and they complete their own treatment planning with their key workers. The youth are kept busy all day in the program, and are encouraged to set goals as well. They have a lot of physical activity time at the centre; they fish, hike, swim, cross country ski, ski doo, canoe, volleyball, basketball, golf, toboggan and much more.

WBYITC also has a family component to its treatment, where family visits are encouraged for the girls. WBYITC supports families and communities to be involved with the youth while in the program by helping them with accommodations (trailer on-site), meals at the Centre, and sometimes travel. These visits begin when youth have been in the program a full month.

The WBYITC Outreach Program is able to help in communities with presentations, cultural camps, referrals, and aftercare services. A toll free number exists so the youth and families can reach the program at any time.

WBYITC's cultural program consists of bi-weekly sweats, daily smudging, and teachings by both Elders and staff. An annual horse dance has been offered (4 in total) to coincide with this study. Talking circles are frequently used, especially at the beginning and end of treatment. The girls attend powwows, round dances, and cultural events in other communities. WBYITC supports visiting elders and speakers to come into the centre to share about culture and hold circles/teachings with the youth. In the last few intakes, WBYITC's Outreach Worker has been offering sculpting and photography lessons. Two intakes of girls have gone home with their sculpted buffalos. Two girls from the current intake have won first place at the Fine Arts Festival for their sculptures. Beading and moccasin making are popular crafts that the girls enjoy. Various staff teach the youth how to make blankets, bake bannock and soups for cultural days. Also taught is what food is needed in the sweat and for a feast. Youth are taught the protocols around moon time, and they are encouraged to wear skirts on cultural days, and when smudging. If Youth ask for Cultural Intervention such as medicines, or name giving ceremonies, these are supported.



Fundraising is also a part of the WBYITC program, teaching the youth how to fundraise and budget. This money goes toward an end of program trip, and if additional craft supplies or clothing are needed for the youth. Annually WBYITC has a food booth at the Prince Albert Exhibition for three to four days. We also have barbeques, dances, and bingos. There is also involvement in the Voices of the North Youth Program where the girls run a canteen.

The girls also attend the annual Girl Power Conference and any other relevant conferences that they would potentially benefit from. In the last three years, WBYITC has purchased gowns for the girls for their graduation from the program, as most prefer to be dressed up on their last big day with the treatment centre.

Staff of WBYITC follow their own wellness plans to keep themselves healthy and they education/training upgrading is encouraged. As a team, WBYITC has baby showers, family days, team building, and retreats to foster and role model a healthy lifestyle. The youth are involved in the majority of these activities to demonstrate that fun can be had without using substances. A lot of humor and laughter is enjoyed by all.

WBYITC was original designed as an Eagle. The main building houses the youth in ten separate rooms with three washrooms specifically designated for the girls. All the administration offices are located in this building as well, along with a Smudge Room. In the building to the west of this building is the gym, classroom, one office, work out room, four bathrooms and showers. To the North of the main building is the Sweat Lodge, where sweats are held two times a month. And to the East of the main building is the trailer which can house up to 15 people. This is where families, visiting Elders, and staff can sleep, eat and shower.

The treatment centre has been undergoing a renovation and updating over the past year to meet its current and expanding needs. Included is telehealth services, smart board technology, video surveillance, a new alarm system, a new classroom, new windows in the client rooms, new shingles, replaced siding, a new workout room, added showers/washrooms, new phones, a new boardroom, fixed up offices, replaced furniture and mattresses in youths' rooms, and new flooring throughout the centre.

Safety is a number one priority at WBYITC. The Youth learn that rules are for their safety, and everything we do in the program is geared around being safe.

## **Cartier Farm**

Cartier Equine Centre (CEC) is located at Cartier Farms, approximately 10 minutes north of Prince Albert, Saskatchewan on White Star Road. The Cartier Equine Learning Center (CELC) is situated on the banks of the Little Red River, surrounded by fields and trees. The CELC combines the beauty of the north with the natural teaching ability of the horse for the purpose of providing Equine Assisted Learning (EAL) experiential opportunities. This heritage site is a mature yard with large trees surrounding the perimeter adding to the character of the place. At the end of the drive you see a sign indicating you have reached the CELC, the lane is lined with trees on both the west and east side, giving the place a picturesque look. As you drive through the yard the classroom is located west of the main house. This is where the facilitator course is offered, which teaches individuals from around the world to understand the fundamental principles of EAL. Taking this course enables participants to provide EAL in their communities. As you continue down the drive you come upon large chain link paddocks that house approximately 30 horses that are trained and boarded at Cartier Farms. There is a flower garden located under the old tree that is accented by a wooden Welcome Sign. This leads the way to the two barns and the large covered arena. The lesson horses are housed in a large chain link paddock south of the arena.

The exterior of the arena is bordered by large pine trees on the north and south sides. This green and white arena is 130 feet by 210 feet and is 54 feet high. On the south side is a large outdoor arena. When you enter the indoor arena the natural light gives you an airy and spacious feel. You walk directly into the welcome and presentation area where the EAL briefing and debriefing take place. It has a barn board backdrop where the flip charts hang and the achievement board is situated. On the back wall helmets are hanging for participants. The lesson horses are tied in two locations in the arena.

CELC has 13 horses currently used in their program. The horses are carefully chosen by the based on their patience and mental stability. The horse's life experience is critical to making them amazing teachers throughout the EAL participants' journey. Usually 4 to 6 horses are used in an exercise. Each team gets one horse. Teams are generally made up of 2 youth. Depending on which exercise they are working on, teams can consist of 3 or even 4 youth. The facilitators

choose which horses they will use depending on the capability of the group, the size of the group and where in the program the youth are.

The form of delivery of this program is as follows. Participants are welcomed and find a helmet that fits. They then sit on one of the benches facing the flip charts. Briefing begins with a recap of the previous week's exercise and it is tied into the objectives and exercises of the current week. Directions and rules are discussed. The youth are then paired into teams and head out to the arena to choose their horse.

EAL is a program where the horse is the teacher and the facilitator is there to help guide them on a powerful journey of learning and understanding. Horses in this program are effective teaching tools; immediately responding to stimulus that participants provide to them, trained facilitators look for "teachable moments" that horses identify. Facilitators are there to offer explanation and provide guidance as they work through a solution. The environment within which participants learn these life skills is unique. It is the form of delivery in this program that captivates people. With its structure and hands on approach, youth and adults alike respond to this type of learning. The Cartier Equine Assisted Learning Center provides an opportunity to work through a BuildingBlock equine-assisted learning program specifically designed to bring out the best in those that enter as participants while using "Horse Sense". Each exercise is custom designed to maximize the progressive learning potential and focus on developing individual skills as they work through each interactive group challenge. Teams will work to: develop relationships; accept responsibility and accountability; overcome barriers to find change; be encouraged to be creative and innovative; find opportunity in working together; realize the benefits associated with effective communication; and recognize the value of mutual trust and respect and personal integrity.

Once the teams are finished their obstacles they return to the debriefing area. This gives individuals an opportunity to reflect on their journey and connect the objective to the desired outcome. They then choose a word off the achievement board and describe why they picked it. The group is given a handout and a journal page to be completed at the treatment centre. This brings the learning full circle.

The Cartier Equine Learning Center has been operational for 10 years. It was started when the partnership saw there was an obvious need in the community for this type of program. The partners of CELC come from different backgrounds with the same core values making a strong team in the development of their curriculum and formula. The formula consists of horses + objective-based exercises + effective facilitation + experiential learning combined with partnering = positive change. Cartier's Centre is noted for becoming a leader in establishing industry standards in the area of EAL certification and program development (Saskatchewan Horse Federation 2007). A private vocational school accredited by Saskatchewan Advanced Education in 2008, the Cartier EAL program is a learner based educational experience with horses that focuses on the animal's non-verbal communication as a teaching modality for cognitive and behavioural change. A fundamental guiding philosophy of the program is the understanding that "[b]y their intuitive nature and innate sensitivity, horses can provide facilitators with a window into the participant's personality creating opportunities for immediate outcomes and feedback. As such "as facilitators observe a horse's non-verbal communication, together they have the ability to walk participants through to finding [potential] life-altering change" (4).

The Cartier Equine Learning Centre offers participants a structured curriculum that incorporates a variety of 'building block' lessons and learning opportunities. The Centre has developed an "EAL Formula" that is considerably different from any other equine guided program, and which is designed to produce consistent, desired and predictable outcomes when all 6 components of the formula are present. The Equine Learning Center embraces an approach which focuses on the participant's observable behavior and the use of the environment to bring about behavior change (Martin and Pear, 2007). The Centre is influenced by the principles put forward by Albert Wight, who studied methods of education and concluded a need for change from the traditional classroom and lecture format to an educational alternative called "the participative method". This method focuses on the experiential process of learning, rather than the mere transmission of information, and has been demonstrated to increase retention of the learning experience. Wight's (1970) model of experiential learning focuses on "beginning with the experience, followed by reflection, discussion, analysis and evaluation" (p. 237). According to Wight, this process creates opportunities for self awareness to enhance self understanding and therefore impact on the nature

of an individual's lived experience in the world. In this way, participants in the EAL program begin their learning with a preliminary self evaluation. The facilitators simultaneously use the horse as a barometer to immediately identify internal stimuli, and then skillfully facilitate the experience by providing immediate feedback based on responses from the horse in order to create opportunities for self awareness. Through the duration of the course, participants learn how to use the horse in the same barometric manner in order to generalize new learning to their treatment and home environments.

The 6 components of Cartier's "EAL Formula" are: 1. establishing the foundation for understanding through a behavior modifying module which includes self-evaluation, new skills learned, and specific behavioral choices as a result of increased self-awareness and personal accountability (*relationship*); 2. facilitating a curriculum; a BuildingBlock™ formula developed by the Cartier Equine Center based on the theoretical foundations of behavior modification, by EAL specialists while working with the horses (*curriculum*); 3. incorporating the basic principles of operant conditioning, the EAL program's "Formula" becomes fully interactive, providing participants with an opportunity for engagement in experiential learning. Active participation paired with a positive response as it relates to a certain behavior, is observed to increase the occurrence of the learned behavior over time (*formula*); 4. monitoring the horse's response to the slightest change in the participant's intention, emotion, and physical expression allows the facilitators to 'read' the participant when it may be otherwise impossible. In turn, teaching strategies used by the facilitator can be adapted immediately to suit the participant's responses. Using the horse in this way provides a meaningful outcome for both the participant and facilitator (*horse*); 5. transferring observational cues related to the horse's response from the facilitator to the participant, builds skill in identifying and taking note of their intentions in relation to the horse, altering their own behaviors, and using these same techniques in their life beyond the confines of the arena. Just as operant conditioning uses a reward response to a stimulus, the horse's response becomes the reward to the desired behavior of the participant. Through this experience, the participant develops a better understanding of the nature of consequence for his or her own actions (*facilitation*); and 6. evaluating the participant's learning immediately following the arena experience builds personal accountability into the program. Accountability includes documentation of the arena experience and reflection of participant

growth and development. Important aspects of the program which are critical to the “EAL Formula’s” success are the partnerships with the participants’ teachers and school districts, families, and communities who provide continuity and follow through of the facilitated step-by-step lessons (*partnerships*).