

UNDERSTANDINGS ABOUT TYPE II DIABETES MELLITUS
AMONG THE NĒHINAW (CREE)

BY
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UNIVERSITY OF MANITOBA

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**UNDERSTANDINGS ABOUT TYPE II DIABETES MELLITUS
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BY

JOCELYN BRUYÈRE

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree
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Understandings about diabetes among the Nêhinaw of the Opaskwayak Cree Nation of northern Manitoba are examined from an emic perspective. Diabetes is an important issue for the Nêhinaw as prevalence of diabetes has doubled each decade since 1976. This investigation focuses on the role of culture and language in these perspectives. This was facilitated with use of Kleinman's Explanatory Model for the open ended interview questions. The questions used by Linda Garro, who has done extensive research among the Anishinaabeg of Manitoba, were translated into Nêhinawawin (Cree language). The results indicate that the animate-inanimate concept within this language impact the understanding that Nêhinaw have regarding diabetes. As well, hunter terminology plays a role in these understandings. The informants draw upon their knowledge of the life ways which existed prior to development and subsequent environmental disruptions around them. Resort to treatment is pragmatic, but also draws on previous understandings about Indian medicine and these vary considerably among the informants. The change from the trapping and hunting way of life witnessed by this generation of Nêhinaw contribute to the understandings about causation. Diabetes is defined in a broad political perspective.

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Anihinaabe: Ojibway

Anishinaabemowin: Ojibway language

IDDM: Insulin dependent diabetes mellitus

Mite'wiwin: Grand medicine society (Nêhinaw)

Nêhinaw: Cree (tribe). The name given to the tribe by the Europeans was Kristineaux (Christians). Christians use the trinity. Nêhinaw, therefore according to the informant means people who use the four (L. Stan Wilson, personal communication, January, 1998).

Nêhinawak: Crees

Nêhinawawin: Cree language

NIDDM: non-insulin dependent diabetes mellitus

OCN: Opaskwayak Cree nation

OCH: Otineka Health Centre

Opaskwayak: Wooded narrows (variations of Basquia, etc.)

Me'chim or Ininwime'chim: Indian or Native food. Refers to mainly food which has been obtained through fishing, trapping or hunting (Adelson, 1992).

Wāmistikoosew: Means "white man". A political term which is used to denote who is not an Aboriginal person.

First Nation: Treaty/status peoples and Indian reserves.

NADA: the National Aboriginal Diabetes Association.

• Note: Not all Nêhinaw terms used are included in this section as they are explained as broad concepts within the text.

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1. INTRODUCTION

1.1 Rationale for the Study

A major health problem since World War II, non-insulin dependent diabetes mellitus (NIDDM) and its sequelae are rapidly increasing among many First Nations people today (West, 1974; Young, 1993). Yet, very little is known about collective tribal or individual understandings regarding diabetes among First Nations peoples. In contrast to the abundance of literature examining biological factors, genetic contributions, prevalence, and distribution, there are few studies which address perspectives and understandings of this disease among First Nations peoples (see Rokala, Bruce, and Meiklejohn, 1991).

The emergence of NIDDM has been observed amongst indigenous peoples experiencing a transition to a sedentary existence, concurrent with the introduction of a diet which is non-traditional to their cultures (Eaton, 1977; Young, 1994). Recent Health and Welfare Canada statistics (1991) indicate NIDDM to be the most prevalent chronic disease suffered by First Nations peoples. The age standardized rate for the registered Indian population in Canada is estimated to be .31 per 1000 population. This figure is 1.5 times that of the rest of the Canadian population (Health and Welfare

Canada, 1993). According to the National Aboriginal Diabetes Association (NADA), the rate of diabetes among Aboriginal peoples is three to six times that of non-Aboriginal Canadians (NADA, 1996). The age-standardized rate for Manitoba's First Nation people has been estimated to be four times that of other Manitobans (Young and Shah, 1987). According to NADA (1996), 25% of First Nations women in Manitoba have been diagnosed with diabetes, and for men it is 13%. Further, there is evidence that NIDDM occurs in Aboriginal children who are under the age of fifteen (Dean, Mundy, and Moffat, 1992; Dean, DeGroot, Henderson, Friesen, 1995).

Predisposing factors for type II diabetes mellitus which have been identified consist of genetic and environmental factors, sedentary lifestyles, being overweight, and modern diets (Young, 1994). There is a growing concern that seemingly preventable factors are prevalent among First Nations peoples (Botash, Kavey, Emm, and Jones, 1991; Foggin, Robinson, and Luzon, 1988). Once diabetes is diagnosed, lack of glycemic control has also been identified as an issue for many (Rate et al., 1983; Brassard, Robinson, Dumont, 1993).

Although it is difficult to characterize treatment protocols amongst health practitioners, there is general agreement that diet and exercise are important. There is often emphasis on the presumed predisposing factors of

overweight and sedentary lifestyle. Typical interventions focusing on diet and exercise have been largely unsuccessful among Aboriginal populations (Botash, et al., 1991). Although there have been specific successes in some intervention projects, such as the Zuni study (Leonard, Leonard, Wilson, 1986), it is unclear how broadly these interventions can be generalized.

It has long been noted that perceptions of illness, cultural norms, and individual response to illness may influence morbidity and mortality levels (Suchman 1964). Adherence to diet regimen was reported to be low among Indian people with diabetes mellitus in several tribes because of food preferences and other cultural factors (Broussard, Bass, and Jackson, 1982; Lang 1985; Tom-Orme, 1994). Further, the health professional and tribal person's viewpoints of the protocols may differ, and result in communication misunderstandings (Huttlinger, Krefting, Drevdhl, & Tree, 1992; Evaneshko, 1994). Given the problems of glycemic control experienced by Aboriginal peoples, and compounded by the complexities posed by cultural differences between biomedical care givers and clients, it is crucial that the tribal person's understandings of diabetes mellitus be explored and recognized.

1.2 Purpose of the Study

The purpose of this study is to examine tribal perspectives of diabetes among the Nêhinaw (Cree) of Opaskwayak, a First Nation situated north of the town of The Pas, Manitoba. The investigator is a Nêhinaw from the Opaskwayak Cree Nation. Given my background as a speaker of Nêhinawawin (Cree) and a biomedical professional, it is my aim to examine how language plays a role in the understandings about diabetes by focusing on the "emic" perspective of the Nêhinaw speaker's viewpoint of the illness.

An "emic" approach strives to reflect "a valid understanding of the local context in its own terms" (Kleinman, 1988;28). That is, the "emic" or "insider" approach uses internal symbolic terms and standards, providing for internal validity.

Because we have to use language to structure our thoughts, cognitive understandings about diabetes may vary between cultural groups and individuals. As well, language provides a means for mediating individual and shared cultural models. Investigating the role of language and meanings of Nêhinaw understandings will, in part, illuminate how this cultural group interprets its experience with diabetes.

The specific objectives of this project are to:

- a) describe and explore understandings of the Nêhinaw regarding diabetes.
- b) examine the role of language in the relationship between cultural knowledge and individual explanatory frameworks.

1.3 Significance of the Study

This approach and the resulting new knowledge will contribute to further understanding of the tribal person's perception of this disease.

1.4 Limitations of the Study

The sample is limited to 22 Cree speakers of Opaskwayak Cree Nation (OCN) drawn from those who had been diagnosed with diabetes. No biomedical professionals were interviewed as a part of the study. Although the methodology closely followed the format used by Dr. Linda Garro in her studies among the Anishinaabeg, no measurement for cultural consensus or individual variations was sought. Although broad language concepts within Nêhinaw understandings have been carefully examined, this study is not intended to be a linguistic analysis. It is to use language as a vehicle for exploring those understandings.

2. REVIEW OF LITERATURE

Prior to the examination of literature focusing on North American tribal perspectives, it is useful to briefly examine the western biomedical model of type II diabetes mellitus.

2.0 The Biomedical Explanatory Model

Biomedicine views Type II diabetes mellitus as a syndrome which is the result of a metabolic disorder characterized by abnormally high blood glucose levels. In insulin resistance, the hyperglycaemia may occur in spite of sufficient amounts of insulin. Predisposing this resistance to insulin may be a defect of insulin secretion from the beta cells of the pancreas, glucose uptake, or glucose production in the liver (Burrell, 1997). There is, as a result, a dysfunction in carbohydrate, protein, and fat metabolism (Kaufman and McKee, 1996).

Insulin is required in order for the metabolic end product of carbohydrate digestion, glucose, to be transported into the cells to be used for energy production. Insulin also functions to increase the uptake and facilitate storage of glucose into the liver cells (Guyton, 1991). Absence, or decreased amounts of insulin cause the increased breakdown of fats and increases the serum levels of these

fatty acids. In turn, an increase in the fatty acids in the blood will cause pathophysiological events which will increase serum cholesterol levels. Increased serum cholesterol levels predisposes to the deposition of plaques in the arteries, which then places the person with diabetes at risk for cardiovascular and other complications (Berne and Levy, 1986).

The sequelae of this disease are of major concern to biomedical practitioners. These consequences may come in the form of vascular complications which may result in end-stage renal disease due to nephropathy or blindness due to retinopathy (Kaufman and McKee, 1996). Other complications such as gangrene may occur and necessitate limb amputation.

The precise cause of type II diabetes mellitus remains unknown, although researchers attribute it to a defect at the cellular level in which there is an inhibition of insulin mediated uptake in the tissues (Kaufman and McKee, 1996). Genetic predisposition, obesity, sedentary lifestyle, and fat distribution have been denoted as risk factors in the development of this disease which is multifactorial in nature (Young, 1994; Rate et al, 1983, Newman, Merlin, Eggers, & Helgersen, 1990).

One explanation for the high prevalence of diabetes in the indigenous populations is the "thrifty gene" theory proposed by Neel (1962, 1982). This theory postulated that tribal peoples developed a gene as a result of certain

environmental conditions which allowed highly nomadic populations to survive in "feast" or "famine" conditions. That is, the body genetics adjusted to varying situations of famine or plenty. This gene becomes a disadvantage in an environment where there is a stable and plentiful food supply (Neel, 1982). This theory has been refuted in past years, but it has been suggested that an "over-responsive B cell" mechanism may exist which may have been advantageous for survival in conditions feast or famine (Zimmet, 1982).

The course of this disease, according to the biomedical model, is that the longer one has the disease, and the longer the state of hyperglycaemia, the more chance there is for complications to develop (Kaufman and McKee, 1996).

Onset symptoms may include polyuria, polyphagia, polydipsia and these are often referred to as the classic symptoms of uncontrolled diabetes (Mahan, L.K., 1996). Common treatment that is prescribed include weight loss, diet, and exercise. If medication is required, oral antidiabetic agents or insulin are prescribed. Specific protocols and established therapy are presently debated amongst physicians. However, it is the view of many that with conscientious care, complications may be delayed or prevented (NADA, 1996; Mahan, K.L. & Escott-Stump, S., 1996; 687; Wallberg-Henriksson, Rincon & Zierath, 1998). The demonstrated link between glycemic control and complications has been established in Type I (Insulin-dependent) diabetes

mellitus through a randomized, large prospective study (Mahan & Escott-Stump, 1996). However, a similar study on type II diabetes mellitus has not demonstrated the above results, but it is assumed that a similar link exists (Mahan & Escott-Stump, 1996).

Epidemiological data indicates that Aboriginal peoples of North America have a higher risk for developing type II diabetes mellitus. Obesity and genetics are considered to be predisposing factors (Kaufman and McKee, 1996).

Kleinman suggests that elements of the explanatory model of biomedicine emphasize the cellular level and the pathophysiology of the disease (Kleinman, 1975). Thus, treatment is directed at the individual body. This explanatory model emphasizes a perspective which characterizes not only separation of the mind and the body, but which stresses that NIDDM is a medical disease.

Biomedicine interprets diabetes mellitus to be a disease which is modifiable through exercise and diet. However, the disease is also multifactorial. Understanding the biomedical model is important for the study of understandings of diabetes mellitus by different individuals and cultural groups.

Although epidemiological studies have clarified the multifactorial characteristics of the disease, this method does not address the same kind of issues as does a qualitative study. The ways that people structure reality

and cope with illness are a crucial element which can best be addressed by qualitative method.

The concern now turns to qualitative literature which has focused on tribal perspectives and understandings of diabetes.

2.1 Qualitative Studies and Methodologies

This review will examine qualitative literature which explores perspectives and understandings of diabetes mellitus of North American tribal peoples. Some general but recurring themes emerged from studies reviewed. Included are studies by Garro (1987;1988;1990;1991;1993;1995;1996), Lang (1985;1989), Tom-Orme (1988;1994), Weiner (1993), Kracht (1994), Huttlinger et al. (1992), Joe (1994), Judkins (1978), Hagey (1984;1990), and Evaneshko (1994), among others. These themes reflect the complex ways that the tribal people studied understand and talk about diabetes. Since diabetes emerged after World War II in North American Aboriginal populations, these tribal peoples consider this to be a new disease among them. It is also seen as a consequence of the disruption of the tribal way of life. That is, disruptions which have been brought about by imposed sociopolitical and environmental impacts. On the other hand, they also speak of diabetes as a consequence of individual behaviour, such as that of ingesting too much

sugar. These understandings are not always congruent with the perspectives of biomedical care givers. These conceptualizations are complex in that people speak in a bimodal perspective in regards to diabetes. They speak of individual lifestyles leading to diabetes, but they also speak of their understanding that it is a collective tribal experience and phenomenon (Garro and Lang, 1993). Although these studies have touched on many understandings of diabetes, only key ones are included in this review. There have been many intervention and descriptive studies (Miller, Wilkoff, Keen, and Norton, 1987; Jackson and Broussard, 1987; Justice, 1989; Pine, 1988) which marginally touch on the topic of interest, but will not be discussed in this review. Of those reviewed in the following section, investigations by Linda Garro, who studied the Anishinaabe (Ojibway) of Manitoba, and Gretchen Lang, who studied the Dakota (Sioux) in North Dakota, figure prominently.

2.1.0 The Anishinaabe

Linda Garro, a cognitive anthropologist, has conducted studies on the understandings of diabetes in Anishinaabe reserves in Manitoba (Garro, 1987;1988;1990;1993;1995;1996). In particular, her medical anthropological approach can serve as an example for a careful and sophisticated method of looking at variability of tribal perspectives on

diabetes. Her studies have contributed to a general approach to the study of tribal peoples which is not static (Garro 1990). She does not use an approach which explores extent of acculturation in those tribal perspectives, used in older studies. Her studies clarify that illness understandings have changed among the Anishinaabeg over time, experience, and influence of biomedical professionals, but show that these broad understandings are located within pre-existing frameworks, and that these understandings remain distinctly Anishinaabe (Garro, 1990). She used open-ended questions based on the explanatory model framework as proposed by Kleinman in 1975. The explanatory model framework contains explanations of causation, onset, course of the illness, treatment and pathophysiology. It stresses that each individual develops an understanding of illness experience which draws on cultural understandings, and that illness and sickness are cultural and social constructs as well as physiological events (Kleinman 1975).

Garro differentiates between individual illness models and those which are cultural models. Explanatory models are expressions of a given illness at a given time and are based on individual experience. Cultural models are the shared understandings. Garro used cultural consensus analysis (developed by Romney, Weller, and Batchelder, 1986) using true-false questions derived from earlier informal interviews on illness (Garro, 1996). This program is a

method of determining what is shared and what are individual models. The results of these studies demonstrated the complexity of tribal understandings. Multiple frames were used for understanding the illness, and these frames were built on preexisting explanations of illness. In her work, Garro has focused on explanations of diabetes and how they relate to action taken in response to illness. In general, underlying the description of diabetes by the Anishinaabe was a model of imbalance. On the macro level, the tribal experience with changes and contamination of the environment concurrent with imposed changes in lifestyle were considered to be important factors (Garro, 1987;1995). These changes in lifestyle were seen to have impacted the people's food ways from that of a traditional to a non-traditional diet (Garro, 1987;1995). These associations prompted some individuals to avoid using canned foods, and increase the use of traditional foods. The Anishinaabeg, although not all in agreement that a traditional healer could cure diabetes, felt that there were herbal medicines that could cure diabetes. At the same time they thought of diabetes as a white man's disease and that interventions from western medicine were appropriate (Garro, 1993).

One of Garro's studies included an investigation of the popular, professional, and folk health domains in the Anishinaabe community. This study involved three groups; those who were suffering from hypertension and diabetes, an

Anishinaabe curer group, and biomedical professionals. The curer group shared the popular cultural model, whereas the biomedical practitioners' model differed in many ways. For example, they disagreed that hypertension could be caused by food additives, pesticides, overexertion and stress, important elements in the popular model. Their explanatory model favoured heredity, whereas, many Anishinaabeg questioned it because it was a new phenomenon among them (Garro, 1988). The study illustrates that explanatory models of a chronic illness such as diabetes, which are considered to be "new" among the tribal peoples are complex, drawn from the teachings of biomedical professionals, but also from contact, experience, and pre-existing cultural knowledge of illness. The use of traditional healers, herbal medicine, and individual interventions (such as avoidance of certain foods), combined with, or without biomedicine demonstrates that alternative explanations are actively considered. The next ethnographic study reviewed demonstrates that there is also a tribal cultural model among the Dakota, although the methodology is different and level of agreement was not measured.

2.2 The Dakota

Gretchen Lang, a researcher from the University of North Dakota, studied how the Sioux (Dakota) made sense of diabetes (Lang, 1989). She used a loosely structured approach to the interviews to elicit illness narratives. Lang's sample consisted of 20 Dakota who had been diagnosed with diabetes. She interviewed them and their families, as well as other community members over a two and a half year period. Diabetes was seen by the Dakota as a "new disease that has come upon us" (305). The Dakota saw diabetes as a consequence of a whole lifestyle being out of balance. Not adhering to traditional way of life was seen as a cause Dakota understandings of the cause of diabetes included heredity factors, as well as stress. In particular, changes in the dietary food ways of the people were thought to be a major factor in the causation of diabetes. Although they agreed that diabetes should be treated with white man's medicine, there was discussion that a medicine man from another reservation was able to cure it. Lang did not attempt to establish the existence of variations in viewpoints between individual Dakotas with diabetes. Unlike Garro's work, the study does not deal with variations in understanding about diabetes between those who have, and those who do not have the illness.

The next study reviewed was on the understandings of

diabetes among American Indian tribal youth conducted by Jennie Joe.

2.1.2 The Apache, Pima, Navajo, and Yaqui Youth

Jennie Joe (1994) studied perceptions of diabetes by 58 tribal students of the Arizona Apache, Pima, Navajo, and Yaqui tribes. Participants filled out a true-false questionnaire, and then sketched a person with diabetes. The true-false questionnaire involved items on cause, symptoms, treatment, and the consequences of the disease. The researcher also did a comparative analysis based on traditionality. Traditionality was defined as having knowledge of the tribal language, and having parents who are "full blood". The traditional students, in general, demonstrated that they had less exposure and knowledge of the illness. Predictably, those who had family members with the illness had more biomedical knowledge. While this study contributes to existing knowledge on the understandings of tribal peoples about diabetes, the methodology and design make it somewhat complex. However, since one of her approaches was to identify level of traditionality of her sample, it would have been interesting to examine how the traditional tribal-language speaking young population drew on their language experience in their attempt to make sense of the illness.

2.1.3 The Dine' (Navajo) and the Ute

Lillian Tom-Orme (1994), a Dine' (Navajo) researcher with a nursing background, described the Navajo and Ute attitudes towards diabetes, utilizing two different studies. In the first study described, she draws on her doctoral thesis in 1988 where thirty (30) Dine' informants were interviewed on illness beliefs and practices. She used ethnographic observation, semi-structured interviews, and participation. As a tribal member, the investigator became a key informant of the study (Tom-orme, 1988). Emerging themes, developed from the interview process, were similar to studies previously described. The Dine' see diabetes as having been introduced by contact with the white man (bilagaanas) with the subsequent results of contact being the disruption of traditional ways. This study is interesting in that the researcher discusses differences in values of food and exercise between the biomedical practitioners, and the Dine', and made recommendations for culturally appropriate interventions.

A Ute intervention program provided the data on the second study (Tom-Orme, 1994). Five key informants were interviewed. The methodology for this study is unclear. She and her colleague interviewed key informants who had spoken with participants of the intervention program. According to Tom-Orme, the Ute believed, in addition to the imposed

changes through contact, that diabetes can come from pesticides, as well as eating processed foods, not unlike the Dine'. Through her informants she found that there were some hints of shame if a younger person is diagnosed. They will avoid discussion of the condition, to the point of not attending care until severity of symptoms make it necessary. This finding that young people may feel ashamed of the diagnosis might be something important and worthwhile to follow up in another study.

Other interesting points in the article included the fact that both the Dine' and the Ute expected effective treatment from injections, not dissimilar to treatment for infection, then take on a "fatalistic" attitude when they see that these types of interventions do not exist for diabetes. These tribal people appeared to have no sense of diabetes as a chronic illness. Tom-Orme also discussed the social structure of the Navajo and the Ute. The Navajo structure dictated strong kinship ties, and therefore concern for the person with diabetes was shared. The Ute, on the other hand, preferred privacy, and were reluctant to share their problems with others. The author suggests culturally relevant interventions from biomedicine, but clearly outlines that willingness to resort to various forms of care for diabetes varies within the culture. People seek health care from evangelists, traditional healers, biomedical professionals, herbalists, and the Native

American Church. The investigator is a Navajo speaker, so it would have been interesting to see if there was a further attempt made to examine the role of the language and use of metaphors in those understandings of diabetes by the Navajo, but this was not the focus of the study. However, this study touches on some salient Navajo concepts within the language, and mentions the perceived role of the Bilagaanas (white men or Anglos) for the increase in diabetes among them.

2.1.4 The Ataxum (Luiseño)

Diane Weiner (1993) studied a California tribe, the Ataxum (Luiseño). The study questions focus on chronic illnesses such as diabetes, asthma, lupus, and cancer. After an epidemiological survey, genagrams, and 51 informal interviews, 33 intensive interviews were done. The activity was enhanced with observation and participation. She also found that diabetes was seen as an illness brought about by the white man. Of particular interest was how the Ataxum compared diabetes to an "attack," "invasion," "contamination," "pestilence" and even "date rape" (Weiner, 1993;384). Resistance took the form of that which was available to them, which was refusing injections of insulin and not following the diet. It might have been interesting to explore concept of risk among the study population, as well as further exploration of the metaphors used.

2.1.5 The Arizona Dine' (Navajo)

Huttlinger et al (1992) studied the Arizona Dine' (Navajo), linguistic relatives of the Dene in northern Canada. They used tape-recorded ethnographic interviews which were conducted, translated, and transcribed by Navajo-speaking graduate students. This was a two-year study involving twenty participants. The Dine' see diabetes as doing "battle" (Huttlinger et al, 1992;709). Although this is not dissimilar to the biomedical practitioner metaphor as "doing battle" with a disease, the Dine' used it to signify the struggle for cultural survival. Terms such as "fight," "prison," "victim," and "weapons" were used as metaphors and powerfully express the moral and social meaning of this illness to the Dine'. In another study, it was found that tribal peoples of the Seneca nation hold somewhat similar perceptions in that there is a feeling of powerlessness against diabetes, and it is seen as a deliberate attack on Indians (Judkins, 1978). The Dine see diabetes as a result of imposed changes to the traditional ways of life and the domination of the white man, and a metaphor for the battle against assimilation.

2.1.6 The Urban Ojibway in Toronto

Hagey (1984) wrote about a self-help diabetes education

program she and a group of urban Ojibway in a Native Centre in Toronto implemented. She described the project whose intent was to change Aboriginal images of diabetes by developing culturally relevant materials, and to measure the results of the intervention project. A story using the Nanabush character of Ojibway myth, was developed as an education tool for the program. (The author states that there was some criticism from some of the elders who thought that the Nanabush legends should remain unaltered.) Hagey's Native collaborators developed an image of and talked about diabetes as a "windigo disease" representing excess and imbalance. Windigo is described as "a giant spirit who takes delight in eating human flesh" (Lyon, 1996;316). Diabetes was explained as a metaphor, and related to the deterioration of a traditional way of life. It is not clear how broadly these concepts and approaches would be shared within the Ojibway community or the Aboriginal community in general. The use of metaphor relevant to tribal understandings for educational purposes is particularly interesting.

Although the final study is not specifically on diabetes, Adelson's (1992) investigation of the concept of health among the Whapmagoostui Cree is particularly useful for the broad concepts that she found regarding Cree understandings of health.

2.1.6 The Whapmagoostui (Iyiyuu) Cree

Naomi Adelson focused on the concept of health among the Whapmagoostui (Iyiyuu) Cree in eastern James Bay area. She found that health was defined within a particular framework. A Cree word, "Miyupimaatisiiu," which Adelson (1992) translated as "being alive well," is intimately tied to health and politics. The concepts explored here illustrate that patterns exist within the culture which shape how health is defined and articulated, and that allows for variations in understandings within wider symbolic frameworks (Adelson, 1992). The fundamental requirements to be a good Cree Hunter (Adelson, 1992; Scott 1983) include being able to maintain strength in order to carry out traditional activities and to be able to live well. The concept of health among the Cree effectively described by Adelson (1992), in part, explains that "Being Alive Well" is deeply rooted in Cree life and identity. To be strong and to endure was an ethic of Cree hunters. One must be able to hunt, pursue traditional activities, live well in the bush, eat the right food, keep warm, and have the ability to provide for self and others. These values all figure prominently in the understandings of what it is to be well, live well, and be alive as a Cree person. Adelson's dissertation of the Wapmagoostui Cree is particularly useful in the identification of broad cultural concepts among the

Nêhinaw.

2.1.8 Summary of Studies

The studies reviewed, although they vary in methodology, focus, and strength, reveal some general themes which give an insight into the complexities of tribal interpretations of diabetes, and subsequent response to this illness. These tribal peoples know diabetes as new to them. Understanding of this illness is placed in a broad and profound socio-historic perspective reflecting the negative impacts on the environment, the inequitable treatment that tribal peoples have experienced, and subsequent changes in the traditional way of life. At the same time, other causes are actively considered for its occurrence. For example, individual behaviour, such as intake of too much sugar, or just not following the Indian way were seen to be causes of diabetes. Garro (1990) demonstrated "continuity and change" of the Anishinaabe culture, a clear approach and methodology for study of individual and tribal understandings, and how these explanations impact response to diabetes, and resort to healing (Garro, 1987; 1988; 1990; 1993; 1995; 1996). Lang's work focused on Dakota narratives and cultural perspectives (Lang, 1985; 1989). Joe (1994) examined general knowledge of diabetes among Arizona tribal youth. Tom-Orme (1994), examined the Dine' and the Ute perceptions of diabetes, and

described tribal cultural structures which impact on individual coping. Huttlinger and her co-authors (1992) emphasized patterns of communication and use of metaphors among the Dine (Navajo). Hagey (1984) examined the use of metaphor of an Ojibway legendary character as a teaching aid for diabetes education. While not elaborated here, studies among the Seminole, Kiowa, and Mohawk tribes reflect similar general themes (Joos, 1984; Kracht, 1994; Cosby, and Houlden, 1995).

No study of this nature with the Nêhinaw was found. Most of this literature is recent. There is generally a paucity of studies addressing the "emic" understandings of the disease from the perspectives of the tribal peoples of North America.

No research was found which looked at the role of language as it relates to how tribal peoples construct understandings of diabetes. Although there is some literature which looked at the impact of politics, culture, and economics and conflicts in communication in clinical encounters (Kaufert, Koolage, Kaufert, O'Neil 1984), as well as cross-cultural communication and the role of interpreting in diabetes education (O'Neil, Kaufert, and Koolage, 1986), no study was found which attempts to examine the role of a specific tribal language in the understandings of diabetes.

Huttlinger (1992) and Hagey (1990) discuss the use of metaphors. The use of metaphors is a powerful means of

expressing illness and suffering (Sontag, 1978). Metaphors are pervasive in everyday language (Lakoff and Johnson, 1980). Their use, as described, suggests that examination of the expressions and terminology used may give an indication of the role of language in these understandings. For example, in Garro's study (1993) one phrase used and translated from Anishinaabe inferred that diabetes could "leave" a person. This expression may be salient in the understandings of the pathophysiology or course of the condition, as well as the way that treatment is sought. In a pilot interview conducted with an elder, she used an old Nêhinaw term which, roughly translated, had to do with attraction or affinity to sugar. These types of clues suggested that they could be examined among the Nêhinaw data. This further stimulated my interest to explore how the tribal language affects the understanding of diabetes.

Kleinman (1978) has urged that biomedicine must consider illness aspects as well as disease and this is salient in the study of individual and shared understandings of diabetes mellitus by different cultural groups.

The purpose of the following study is to examine the understandings of the Nêhinaw of Opaskwayak Cree Nation regarding diabetes. Drawing extensively from material from study of Anishinaabeg (Ojibwa) practices and perspective of medicine and illness (Garro, 1990;1996), a description of understandings diabetes is compared using Kleinman's

Explanatory Framework Model. I draw on these studies in analysing the data from the Nêhinaw interviews.

3. MATERIALS AND METHODS

3.0.1 Site of Project - Opaskwayak Cree Nation(OCN)

Location:

The site chosen for the project is the Nêhinaw community of Opaskwayak Cree Nation (OCN). It is situated 630 kilometres on northwest of Winnipeg, Manitoba and north of the town of The Pas. This is a boreal forest area which borders on the Canadian Pre-Cambrian shield. The word Opaskwayak is Nêhinawawin (Cree language) meaning "wooded narrows." This term is used in Nêhinaw to describe a place for high ground with a wooded area, in comparison to the flatness of the surrounding Saskram and the Carrot River Valley areas (Beatrice Wilson, personal communication, 1996). Opaskwayak's main reserve centre, is north of the 53rd parallel (Opaskwayak Cree nation, 1996). In order to contextualize the informants' narratives, and to appreciate how they see the disruption of the traditional way of life for the Opaskwayak Nêhinaw, a cursory look at the history of developments in the area surrounding the reserve is necessary.

Cultural and Historical perspectives:

Traditionally, Opaskwayak was a site where hunting,

fishing, social, and Mite'wiwin (the Grand Medicine Society known as the "Medewiwin" among the Anishinaabeg) gatherings took place amongst this group of Nêhinaw (Opaskwayak Cree Nation, 1996). Today, it is a centre where Cree Confederacy gatherings take place. The oral history of Opaskwayak recalled by the elders reveal a rich cultural heritage among the Nêhinaw. To give two examples, elements of this culture included the above mentioned Meti'wiwin, and the sacred rock of Wapasquiak.

The first example, the Meti'wiwin or Grand Medicine Society, whose major concern was that of obtaining power to cure and to maintain health of the people. It was an institution which was Ojibwa in origin and a "late acquisition" among the Cree (Hallowell, 1936;33). Indeed, "the society devoted much of its instruction to the knowledge of medicinal herbs and other curing devises" (Vecsy, 1983;108). It also taught its members to lead moral and ethical lives. It taught that respect must be accorded every living thing in the universe (Peers, 1994).

The second example of the oral accounts of Opaskwayak Nêhinaw involves the sacred rock of Wapasquiak. This rock was one which was revered by the people of Opaskwayak (C. Constant, 1996; E. Constant, 1996). The description of this sacred rock is not dissimilar to the "Iron Stone" of Big Bear's people described by Dempsey (1984), who stated that this was a great monument venerated by the Plains Cree as a

guardian of the Buffalo and Indian people. The christianization efforts were directed against the seeming worship of the sacred rock (Green & Moyah, 1998). According to the elders, the Wapasquiak sacred rock was rolled into the Saskatchewan River on the urging of Anglican missionary Henry Budd (C. Constant, 1996; E. Constant, 1996). The "Iron stone" of the Plains Cree was also taken away by the methodist missionaries in 1866 (Dempsey, 1984).

These traditions are described in this section to indicate that not only was the historical past of Opaskwayak shared with other tribal Cree peoples, but they also shared knowledge of concepts regarding power and spirituality.

Early historical records indicate that contact in the Opaskwayak area began in the fur trade era when the Saskatchewan River delta was dominated by the Basquais (whose tribal name was derived from "Opaskwayak"), a tribal people who spoke Cree with the "th" dialect. They were reported to have utilized both plains and woodland natural resources (Thistle, 1986). However, the Saskatchewan River delta was almost totally depopulated of the Basquais by a smallpox epidemic in the years between 1781 to 1782 (Tomison, 1952 cited in Meyer, 1985). Nêhinawawin with the Cree "n" dialect then became the more predominantly used in this part of the country, and is still spoken today.

Treaties:

When this area, then known as Le Pas, North West Territories, joined Manitoba at the time of confederation, a subsequent census in 1870 recorded the population of the Nêhinaw as 558. It was also noted in the same census that there were "5,757 Metis, 4,083 English half-breeds, and 1,565 Whites" (The Pas Economic Development Office, 1998; 4) reflecting the colonization and subsequent economic activity in the area at that time (De Traumaudan, 1962).

In 1876, treaty number Five was signed on behalf of the Opaskwayak Nêhinaw. The main objective of this treaty in northern Manitoba (which was sparse of agricultural land) was to regulate "natural resource use" (Waldram, 1988;39). The First Nations people of Opaskwayak requested terms similar to treaty six (Waldram, 1988) which had been signed in the west. The terms of treaty six provided for more land, that is, 640 acres as opposed to 160 acres per family of five, and included the medicine chest clause. These terms were rejected by the commissioner Thomas Howard (Waldram, 1988). The population recorded at this time was 599.

Following the trend of colonization at the time, several Church missions were established. No doubt the most influential among the Nêhinaw was the Anglican Church mission established by Henry Budd, a Cree missionary who was educated at the Red River Settlement in 1840 (The Pas and

District Horizons, undated). During the treaty-making process, commissioner Howard proposed a relocation plan for what was then and until recently, known as "The Pas Band" This was met with opposition (Waldram, 1988).

In 1906, the Nêhinaw occupation of the south side of the Saskatchewan River came to an end when the land was surrendered to provide for a site for the town of The Pas (Sinclair, 1994). The Opaskwayak Nêhinaw were then forced to relocate north of the Saskatchewan River. Although there have been several land settlements, there are still on-going negotiations regarding the validity of the surrender which are yet to be resolved (Ralph Abramson, personal communication, February, 1998).

Environmental Impacts:

Historical records indicate that there had been vast flooding of the Saskatchewan River in 1902 when "from Cedar Lake to Cumberland House the only dry land was at The Pas, and the Barrier," and in 1948 when the effect was described as "inundating the farming area of the Carrot River Valley" (The Pas Economic Development Office, 1998; 5). These events led to projects which would protect lands from flooding (The Pas Economic Development Office, 1998; 11).

An example of one project was the Pasqua Reclamation Project initiated to protect 138,000 acres from flooding,

cultivated by the non-Nêhinaw occupants of the Carrot River Valley. They were the beneficiaries of such a project. The result is 75,000 acres are under cultivation from the rich soil, and is "some of the most productive farmlands in western Canada" (The Pas Economic Development Office, 1998). Another example of a project was the Braken Dam, which was built at the junction of the Saskram and Carrot Rivers by "Ducks Unlimited" as a waterfowl conservation project. This altered the water levels of the Saskram marshes. The Pasqua River Dam was built to divert the Pasqua River into the Carrot River. Other projects in the surrounding areas which altered water levels included dams, drainage canals and diversions and projects whose purpose to protect arable land, had the cumulative effect to decrease subsistence activities such as hunting and trapping for the Nêhinaw.

Perhaps the project which most served to disrupt the traditional life ways and ended the muskrat trapping in the area of the Nêhinaw was the implementation in 1963 of the Manitoba Hydro project at Grand Rapids. A dam was constructed on the Saskatchewan River raising Moose Lake and Cedar Lake water levels and flooding many thousands of acres, disrupting much wild life habitat. This project flooded 7,000 acres of land which was held in trust by Canada and belonging to The Pas, Moose Lake, and Chemawawin Bands (Hobbs & Associates, 1985). At that time, Mr. J.R. Bell, Indian superintendent, noted that "many of the

resources from which the people derived a livelihood will be lost or seriously depleted for a number of years and in some cases, possibly forever" (cited in Waldram, 1988; 97).

In 1967, the construction began on a paper mill complex north of the Saskatchewan River in the Pas by what was then the Churchill Forest Industries (CFI), later known as MANFOR, now known as REPAP Manitoba (Economic Development Office, The Pas, 1996). This development is mentioned by the informants, who refer to it as CFI or REPAP, as having had an impact on the environment surrounding their community.

The cumulative effect of the projects changed the way of life for the Nêhinaw, who relied on trapping, fishing, fowling, and hunting as major subsistence activities into the 1950s and early 1960s.

Examination of the economic situation faced by the Nêhinaw in the early and mid 1960s' reveals that this First Nation was not exceptional. Like other First Nations across Canada, they were forced to face poverty conditions. In a journal kept by a councillor at that time, the total unconditional grant budget from the government for the band was \$2,376.00 for the year. There were no waterworks. The band council's priorities reflected the conditions. For the year 1964, the band's projects from the grant included the repair of a tractor, two church renovations, a new road, and one person was employed at a rate of \$2.00 a day. There were 17 families in 1976 who did not have "privies," and concerns

regarding the water supply (Beatrice Wilson, personal communications, October, 1996).

This First Nation, among others in Canada, has undergone a rapid socioeconomic transition where the subsistence economy has been impacted negatively by resource developments from hydroelectric projects, as well as other resource developments. Perhaps most profound was the aforementioned Manitoba hydroelectric project which raised water levels and flooded 7000 acres of land in the 1960s and, among other environmental disruptions, effectively ceased muskrat trapping for the Opaskwayak First Nation (Hobbs, E.R. & Associates, 1985).

Current Conditions:

Although there is still high unemployment, the Opaskwayak First Nation is developing projects which can alleviate this problem. In 1987, OCN developed a business development corporation which oversees business ventures, known as the Pasquiak Business Development Corporation. Some resource development projects established by the Opaskwayak First Nation include the Timberland Trailer Court (1970), the Otineka Shopping Mall (1975), the Kikiwak Inn (1996), and a structure for a bingo hall as a part of its gaming operations is under way (Paskquiak Business Development Corporation pamphlet, 1996). These projects bring a

substantial revenue for OCN. The band office is located within the Otineka Mall structure. The mission statement of OCN is "to have true Aboriginal self-government as determined by the people which incorporates our culture, values, and traditions and which is based on our own unique history" (Opaskwayak Cree Nation, 1996).

Opaskwayak Cree Nation's People:

The present registered population of Opaskwayak First Nation is 3,538 people as of October 2, 1996. In 1987, it was 1,772. The sudden increase in population was, in part, attributable to the enactment of Bill C31 of the Indian Act (This act allowed those members previously enfranchised and their children, admission to status.) Of the OCN total population, 2,298 members were on-reserve as of June, 1996, and 1139 were off-reserve. There are 447 housing units (OCN report, 1996). Nêhinawawin (Cree) is spoken as the working language (with some mixture of English) among the people, and it is taught in school. In spite of this, some people, particularly the elders voiced an opinion that many younger people are not learning Nêhinawawin adequately, or that some children do not speak it at all (Opaskwayak Cree Nation, 1995). Historically, this First Nation's people have experienced externally-controlled boarding schools and day schools where speaking Nêhinawawin was discouraged

(Freisen, Hamilton, & Sinclair, 1996). A one-room day school on the reserve existed prior to the construction of a four-classroom day school. After 1968 the OCN children were accepted to attend the schools located in the town of The Pas. Prior to this time there was no integration policy. After a lengthy and complicated process, OCN now has a locally-controlled school, the Joseph Albert Ross School, which offers courses to grade 12, in which culturally relevant curriculum is offered.

Otinika Health Centre:

The Otineka Health Centre (OHC) employs 11 staff members, eight of whom are OCN members. Its motto is "Awechitak taminoyayun," which, in Nêhinaw, means "we help you stay well." The Centre provides for health promotion programs in the community such as well baby clinics, immunizations, counselling, workshops, and referrals. Further, OCN now administers its own non-insured health services such as patient transportation and dental services. These were previously the responsibility of Health and Welfare Canada, Medical Services Branch. The Otineka Health Centre is located in the Otineka shopping mall, where the band office and operations are located. This makes the health centre accessible to the community day-to-day activities, and members have ready access to it.

Physicians provide medical services through a doctors' clinic and a hospital located in the town of The Pas. A Nêhinaw who wishes to see a physician may access the clinic directly for an appointment, or at times, the band nurse is asked to make an appointment.

Opaskwayak Cree Nation Chronic List and diabetes mellitus:

As of September 1996, approximately 176 people of the OCN on-reserve population have been diagnosed with diabetes mellitus. There are 114 women and 61 men in this population with non-insulin dependent diabetes mellitus from all age groups. The Otineka Health Centre monitors 184 people who have been identified as having the illness, eight of whom are not members of OCN (Eileen Personius, personal communication, Sept. 1996). A "chronic list" contains names and treaty numbers of all people in the community diagnosed with a chronic condition. This list requires updating when billing statistics received through the Medical Services Branch reveal a newly diagnosed person with diabetes or other chronic illness, or when there is a death. Accounting for exact numbers of people on the chronic list who have been diagnosed with diabetes is problematic and the list should be considered an approximation of the number of OCN members with diabetes. The present practice of keeping a "chronic" list is basically an informal process. It is

usually kept by the community health representative, who adds those people who come to their attention, or who are identified on the billing statement. Thus totally accurate or up-to-date statistics cannot be assumed. However, it is the best existing source and does serve to indicate a trend in the prevalence of chronic illness in the community. There is one child on the list who is identified as having type I diabetes mellitus, and who is on insulin (Alice Spence, personal communication, Oct. 1996). The rest of those with diabetes are over 23 years of age. Of the 184 people listed on the chronic list as having been diagnosed with diabetes, 24 of this number are on insulin. Forty-nine are known to have "heart problems," 11 have had amputations, and 102 have been diagnosed with hypertension. Two adults are on dialysis (Eileen Personius, personal communication, OCN, November, 1996).

The following table illustrates the steady increase in number of people with diabetes monitored by OCN. The proportion has almost doubled in the past twenty years.

Table A: Increase in Diabetes at OCN

Year	Population	Estimated # of people with diabetes	Proportion of On-reserve population diagnosed with diabetes
1976	1,274 (1,020) *	38	.0372 3.7%
1986	1,772 (1,408)	75	.0533 5.3%
1996	3,538 (2,399)	176 **	.07336 7.3%

*Note: The population indicated by brackets indicates the on-reserve population (**176 includes one child with IDDM). The rate is calculated based on the on-reserve population.

In 1976, there were 38 people who had been diagnosed with diabetes out of a total of 1020 on-reserve members at that time (Beatrice Wilson, personal journal, Sept. 30, 1996). In 1986, there were 75 people with diabetes when the total population was 1772 (E. Personius, personal communication, Sept. 1996). In 1996, approximately 176 people were on the chronic list as having been diagnosed with diabetes (Personius). This is out of a total population of the on-reserve population 2,538. Because the process is not centralized, rates of diabetes may be underestimated.

The following table indicates the ages of the present population of Opaskwayak Nêhinaw who have been identified as having type II diabetes mellitus.

Table B: Population with type II diabetes.

Total population diagnosed with type II diabetes mellitus (n=175).

Sex	Actual number	Age range	Average age
Men	61	29-88	52
Women	114	23-84	47

In 1996 the average age of people who had been diagnosed with diabetes was 47.41 years old (information given by Community Health Worker from OCN chronic list, 1996). The average age for the male population diagnosed with diabetes was 52, while for the women it was 47 years of age. The age range for the men was 29-88, while for the women it was 23-84. Both of these ranges indicate a 60 year spread, thus the median ranges are more useful. The median age for the men was 51, whereas, for the women, it was 48.5.

3.0.2 Design and Methodology

A qualitative design was chosen because of the exploratory nature of this proposed study. The objective of this study is to explore the understandings of the Nêhinaw regarding diabetes mellitus and to explore the role of language within those understandings. The fieldwork was done over a three-month period during the months of August, September, and October, 1996. The questions for the

interviews were developed using Kleinman's (1978) explanatory model framework. The questions were translated into Nêhinawawin (Cree) in phonetic orthography (see questions in Appendix A).

The sample of Opaskwayak informants was drawn from the on-reserve adults with diabetes on the chronic list as of September, 1996. The study involved semi-structured, tape-recorded face-to-face interviews using the Nêhinaw language or a mixture of Nêhinaw and English according to the informant's comfort.

The overall purpose of the study was to identify the role of language in understandings about diabetes among the Nêhinaw. When I completed an interview with an informant, and when scheduling made it possible, I immediately transcribed and simultaneously translated the interview. After this process was completed, I examined the document for themes and categories.

3.0.3 Instrumentation and Analysis

Interview structure was modeled on Kleinman's (1978) explanatory model framework, as well as Garro's (1988;1996) interviews with the Anishinaabe. Because Ojibwa are Algonquians and are close linguistic relatives, Garro's material is particularly useful in comparing, as well as clarifying concepts of illness and disease among the

Nêhinaw, and as well I draw heavily on her methodology. The explanatory model was utilized to explore cultural knowledge and understandings regarding diabetes.

The questions closely followed those used by Dr. Garro in a previous study with the Anishinaabeg (1988;1996). These were translated into phonetic Cree. Preparation of the questions in Nêhinawawin was done with the editing help of a fellow-Cree speaker. Although there are some subtle differences in our dialects, we negotiated Cree terms which would most adequately express the English intent of the question. These were tested with an elder in the English language and then translated to phonetic Cree. A subsequent interview with an elder in the community of study, who was interviewed in Nêhinawawin, provided for more feedback on the accuracy of the questions. The questions were translated in Nêhinawawin (see Appendix A). The questions were pretested for clarity with a Nêhinaw person fluent in the language. The explanatory framework model is salient in the study of understandings of diabetes mellitus among Aboriginal populations as a guide to explore individual and shared understandings about an illness. Use of Nêhinawawin (Cree) is critical in determining the role of language in those understandings.

The Explanatory Framework Model examines understandings of onset, course, pathophysiology, etiology, and treatment. The interviews were all done in the Nêhinawawin (Cree

language). Literal translations were examined on Nêhinaw terminology used by the informants in order to examine underlying concepts. In many instances, I consulted with my mother, an elder and former Community Health Representative in the community, and as well, other Nêhinaw elders and band staff members when informants used old Nêhinaw terminology in their accounts in order to ensure accuracy of my own interpretations.

Themes were noted according to their emergence from the interview data. After the process of translation and transcription was finished and themes extracted, a further analysis was done on the responses of the sample of the 22 informants. Themes which emerged from expressions and terminology used were extracted and examined with assistance and use of a computer program called "GOfer" (Microlytics, 1989). Analysis initially involved transcription and simultaneous translation of informant's narratives and answers from the tapes. The data from this translation and transcription was done by myself, and were examined for themes. After some themes were identified, then I went to the original tape to listen to the informants' tape recording and to identify where the theme seemed to have emerged, and if in fact the translation was accurate. If there were any difficulties, I consulted with others on specific words. The analysis involved many hours of repeated listening to the transcripts.

3.0.4 Selection of informants

The number of informants was limited to 20 OCN members who had been diagnosed with diabetes and whose names had been entered on the band chronic list. However, the actual number of informants included in the sample was 22, because there was one volunteer and a pilot interviewee is included. The director of the Otineka Health Centre (OHC) assigned a staff member to apply the exclusion criteria to everyone listed with diabetes on the chronic list and select the sample using the random table (Hassard, 1991, page A-11). Exclusion criteria was part of the instructions. Excluded were those who had not lived on the reserve previously, those transferees who are of another tribe, and those who are under nineteen (age of majority-Indian Act). All of the people who had been diagnosed with type II diabetes mellitus on the chronic list were over the age of majority. As well, people who might have a disability that precludes them from adequate communication were to be excluded; however, because the exclusion selection was done through informal staff information, and depended on subjective judgement, this was not vigorously accomplished. Those who were known to be totally non-Nêhinaw speakers were excluded but those who use a mixture of English and Nêhinaw were included. This method would ensure that the study reflected the population's

practice of speaking with a mixture of Nêhinawawin and English. A staff member then contacted the identified individuals to ask if they would agree to be interviewed. The investigator was given the names of those who agreed to be interviewed.

An information letter was published in the local paper "Natotawin" (see Appendix G). This was to ensure that OCN members had accurate information on the objectives of the project. It clarified the process used to select only 20 informants with diabetes, and thus avoid misunderstandings that may have arose. I included my mother's name on the information letter so that people would know who I am (as by custom, people are known by their relations in the community). Many of the people who live in this reserve are either relatives, or life-long friends, or both of the researcher.

3.0.5 Implementation

The fact that the band office so willingly offered me a desk in the health centre was a definite advantage in many ways. However, there was some danger that my informants may see me as an agent of the biomedical establishment. Because of this arrangement, some of the informants asked about my role at the Otineka Health Centre. However, others appreciated coming to the health centre for the interview as

it provided privacy. For those people who would welcome a gift of tobacco, this was offered as is the tradition. All the informants knew my mother and many talked about her past association with them. Although people were assured of the privacy of the tapes, one man demurred, but he agreed that I could make notes of our discussion and I subsequently made notes from his interview as extensively as I could recall shortly after the interview. The interviews lasted from one to two hours. Two informants preferred to use an extensive amount of English mixed with some Cree although they understood Nêhinawawin extremely well.

Individual interviews were held in the informants' homes in the majority of cases, however, others preferred a private office in the health centre.

Smokers were allowed to have their cigarettes during the interview and I smoked with them if they did. This also added to the more relaxed atmosphere of the interview. For those who did not smoke, I also did not smoke. However, a gift of tobacco was offered to the informants in order to establish trust, and to open communications.

I had some concern that someone would see my car parked in front of an interviewee's residence and naturally conclude that they were being interviewed. However, there were no questions or statements from people regarding this.

There was a situation where I was asked a leading question by one of the informants. "I bet many (informants

with diabetes) drank before." I wondered how to handle this, and made some general remark. I spoke to my thesis supervisor regarding this, and she suggested that I could have made a statement regarding confidentiality, which would then have reassured the informant that they would also be afforded this confidentiality.

The project felt at times, a lonely journey. Yet, support was there both from the community, the informants, and my thesis supervisor, Linda Garro. Although this was most gratifying, it was difficult to find a fellow Nêhinaw to talk to regarding broad Nêhinaw concepts for terms. There was plenty of help for terminology. However, finding someone to talk with regarding the implications of Nêhinaw language concepts was somewhat difficult. The interpretation was done by myself as accurately as I could, and I used a variety of people to confirm meanings of certain terminology.

I incorporated reflection in my approach, fostered trust and established rapport. I approached the Chief and Council for access to the community. This was appropriate for two reasons. My membership within this community did not necessarily ensure that type of access, and it was politically and ethically correct and also is the Nêhinaw way. I attended a chief and council meeting to communicate my project, and its purpose. I used Nêhinawawin to do this for two reasons: 1) To demonstrate my ability to communicate effectively in the language, and 2) to establish trust. In

regards further to the issue of trust, confidentiality was maintained at all times. My thesis advisor and I were the only people with access to the information. The tapes were kept in a locked place at all times. A small portable lockable case provided a container to lock my tapes and my diskettes and these were kept in my possession at all times. In the case examples, I did not use distinguishing features that would easily identify, or connect the informant with personal information. By being reflective, I was able to examine my biases. I attempted to be as clear as I could in asking questions. No secretary was hired to transcribe. I attempted at all times not to use wording which may identify my informant.

Twenty informants were interviewed, as well as the volunteer and the pilot. The following pages now examine the characteristics of the sample.

3.0.6 Characteristics of the Informants

Table C illustrates the demographic characteristics of the sample population.

Table C: Sample Demographics

Sex	n	Age Mean/median	Mean/median (Edu.)	Employed
M	10	47.8/46	8.2/8	3
F	12	53.3/53.5	7.25/8	5
	N=22	50.55/48	7.68/8	8

The average age of the male informants is 47.8, the median age being 46. Only three men are presently employed. However, it is difficult to classify "unemployed" for those who have some disability that precludes them from obtaining suitable employment.

The average age of the women is 53.3 years with a median age of 53.5. The youngest female informant was 35 and the oldest, 72. Five are employed.

As can be seen from the above table C, there were 12 female and 10 male informants. The average age of the total informants was 50.8 years, whereas the median age was 48. The eldest informant was 73 years of age, the youngest, 35. According to Health Canada, "by age 30-39 there are already appreciable proportions of First nations people with diabetes (5%), whereas the comparable figure for Canadians

of this age is less than 1%" (Bobet, 1997;5). This sample may reflect the community's profile and epidemiological data which indicates that Aboriginal people tend to have an earlier age of onset of diabetes compared to other Canadians. The formal education level attained by the informants ranged from grade 2 to grade 12, as well as two informants who had attained college education. The formal education mean is given, although these figures must be looked at with caution. Many of the informants have had training in other areas, and other occupations. It may also express results of the education system of their formative years.

Other characteristics of the sample which was obtained through a small form (see appendix B) produced the following profiles.

Males:

All but one male were married. The average household size of the informants was 4.7 people with a median of 5. Household size ranged from a single person household to one comprised of 10 people. In total, the male informants identified 15 dependent minor children, but this included adult children. Size of housing did not necessarily correspond to the number of people living in the unit. When asked about favourite activities, biking, walking, jogging, hockey, golf, going out, sports, bingo, watching T.V. and

just "taking it easy" were identified. Although some of the men do participate in hunting, it is interesting to note that, none of the men identified "hunting" as a favourite activity. Perhaps this reflects the fact that hunting, fishing and trapping are still considered to be subsistence activities rather than "activities" that one carries out for pleasure, or as a hobby. Income was not part of the biographical information requested as it was considered inappropriate to ask given the researcher's community status.

Females:

All but one woman were married. The average household size for female informants was 4 people, ranging from one household with nine, and one single person unit. These female informants identified a total of 17 dependent minor children as well as other adult children. When asked what their favourite activities were, the women included; housework, bingo, visiting, church, sewing, travelling, volleyball, "slots", movies, crochet, knitting, sewing, pow wow, crafts, drawing, baking, sports, and swimming. These activities include some of the work that women do to supplement the family income. Interestingly, they include these as "favourite activities." They also include traditional activities which suggest women doing "a woman's role." It suggests that the women had a wider interpretation

regarding "activities."

All the informants, except one (who understands Nêhinawawin competently), spoke fluent Cree. However, some preferred to use some English with the investigator. This may have been driven by the informant's extent of familiarity with the interviewer and family, as well as comfort level with use of the tape recorder during the interview.

3.0.7 Criteria for "Soundness"

The criteria for soundness of a qualitative study was described by Lincoln & Guba, (cited in Marshall pages 144-149;1989). The first criterion is credibility. This refers to the accuracy by which the subject of inquiry is described with regards to the view of the people being interviewed. This provides for internal validity. I attempted to ensure that those realities of my informants were accurately reflected by using Nêhinawawin during the interviews and by checking Nêhinaw terms and concepts with other sources, and using quotes from them extensively.

A study has the quality of being credible when the findings indicate neutrality, consistency, truthfulness, and applicability. I approached this process with truthfulness and was consistent with my questions in as much as it was possible. As well, I was forced into some soul-searching to ensure that I was objective, and that I was consciously aware of my own biases. Being a member of this community provided challenges which demanded that this was rigorously done. I described the data as accurately as I could. Face-to-face interviews were conducted in order to facilitate that the interpretation of the findings were true to the understandings of those informants that I interviewed.

Transferability is the criterion which indicates that the study is replicable. For this inquiry, I used and

translated into Nêhinawawin, questions which were used by Garro (1996) in another study. Although "one criticism sometimes aimed at qualitative studies is that data collected is not comparable because informants are not responding to 'exactly the same questions'" (Strauss & Corbin, 1990;191), attempt was made to organize the questions in a consistent pattern. However, information given by interviewees directed the interview. I made use of phonetic orthography to translate the questions, and tested their accuracy. Further, I used existing Cree-English dictionaries to confirm certain wording and meanings.

To ensure transferability and generalizability, it is the investigator's responsibility to describe well enough that people can decide applicability elsewhere. Transferability also refers to dependability and fairness. I ensured that I could go back and confirm the information as I received consent from my informants that I may store the tapes for five years. This process ensured that the criterion of confirmability was achieved.

Dependability is a criterion which refers to the stability of data. By being reflective, I had to understand my own position within the community as well as the kinship system. However, at times, it was somewhat difficult to "probe," as many informants assumed that I knew the "answers" to the questions. This was made evident by the term "mache maka" (as you would know) used at the beginning

of many of their explanations. Also, my being a member of the community may have influenced some explanations to be elaborated, and others, unelaborated.

3.0.8 Limitations:

That data can be overlooked if an investigator feels that they are familiar with the culture (Marshall, 1989) is one of factors which prompted me to be circumspect and reflective during this study. I maintained individual confidentiality, but I was also conscientious to provide adequate coverage of the concerns voiced by the informants. Because the Opaskwayak Cree Nation is a small community with many of my own relatives and friends, I found that there were instances where I felt probes were culturally inappropriate, and this might have limited potential valuable data. There were instances in which a "stranger" researcher might have been afforded more freedom, and could count on forgiveness for social errors. The ethic of non-interference was very much a practice which I had to reconcile within myself in my approach to my informants. However, there were instances in my interviews where probes might have been most appropriate, but were not pursued.

3.0.9 Translation

On the issues of translation, I make the following observations.

In a further careful look at the terminology, two Cree dictionaries were consulted for specific Cree terms. English-Cree/ Cree-English dictionaries compiled by the venerable Archdeacon Faries published in 1938, and Father Beaudet's publication of 1995 were consulted. However, as both dictionaries were published by Christian religious groups, some words regarding what would be considered "superstition" were absent, or were defined dismissively. For example, Meta'wiwin is defined as "sorcery, witchcraft; an Indian cult which deals with the unseen mysterious world" (Faries, 1936:331). There is no mention of this in the more recent dictionary by Beaudet (1995). However, it is unlikely that these customs would be shared with the Christian groups.

The meta'wiwin (medewiwin in Anishinaabemowin) was a Grand Medicine Society, one which was Ojibwa in origin, and adopted by the Cree (Mandelbaum, 1979). Further, a specific dictionary utilizing the "n" dialect was not found. Although much of the Nêhinaw terminology utilized within this paper is written in phonetic orthography, the Roman, and other styles of orthography used by these dictionaries was helpful. Because of the varying styles of the dictionaries

utilized, the orthography used in this document is not necessarily consistent.

Because of my background as a biomedical professional with little or no experience as a translator or an interpreter, I initially found myself interpreting, during the transcription and translation process, the informants words such as, "I went to the bathroom often" to "polyuria." However, this was corrected quickly in subsequent translations. I tried to ensure that actual words were translated as used by the informant.

An interesting process was used to determine the Nêhinaw word for "pancreas" in Cree, where a picture from an anatomy book provided the location and appearance of this organ, and a comparison made of the anatomy of the moose. Although there were some informants who used the term pancreas, there was some problem explaining its role in respect to diabetes and sugar. The term pancreas which arose from the interviews, if said, was pronounced in a Cree way. However, no informants used the Nêhinawawin term to describe or name this organ. The Nêhinaw term for this is "opaskekinikan" which refers to something about folds (Beatrice Wilson, personal communication, 1996). According to the English-Cree dictionary, the terms for pancreas are, "opastchehuyuwis" (Beaudet 1995:120). The process of consulting with an elder and a hunter was most helpful. It was not until I had consulted these two sources was the term

verified. Hunter terminology can be used in ways that make sense of medical terms referring to the anatomy. However, although the hunters may know, it is not common in everyday language among the informants. People rely on what they already know to make sense of illness, and the use of hunter terminology helped to link pre-existing knowledge regarding the terms needed. This collaborative action provided for a culturally relevant approach.

A sense of humour was used often by the informants, and some used comical anecdotes. As well, three informants spoke about dreams to illustrate their experience. Again, this illustrates culturally relevant ways of communication among the Nêhinaw.

I inadvertently "stumbled" on pronunciation on some Nêhinaw terminology which some of my informants found funny. However, these errors made the interview situation more relaxed.

The Explanatory Model Framework (Kleinman, 1975) was used as a general guide and method for examining elements of understandings about illness. It allows for the examination of explanations regarding causation, onset, course of illness, treatment, and pathophysiology. However, although the questions were divided into these categories, the ways that the Nêhinaw talk about diabetes do not clearly "fit" into those specific categories, or may sound repetitive, as are the questions for the interview (see Appendix A). This

made the analysis a little more of a struggle, in order to "unmesh" language concepts and ways of thinking about diabetes.

In translating questions from the Explanatory Model Framework, one of the terms which was overlooked was the issue of relations. When the informants were asked if they had any relatives who had diabetes, many named biological relations but, as well, named non-biological relations. But because the question implies heredity in biomedical terms, biological relatives were expected to be named. The word "relation" was interpreted in such a way that many named brothers-in-law, sisters-in-law. This reflects that there is a wider interpretation of "kinship" for the question did not imply heredity to the informants. The Opaskwayak Cree Nation's kinship system and how people relate to one another is sometimes known as the "cross-cousin marriage system" and has been described by Hallowell (1932) among the Ojibway and by Mandelbaum (1979) among the plains Cree. Within this kinship system, the way one relates to relatives is defined, as is behaviour towards them. This may not be functional today as a "marriage" system and was rare in previous years (Hallowell, 1932; Mandelbaum, 1979), yet it is persistent for the Nêhinaw and it is important in ways that people understand relationships.

Cree has two genders, animate and inanimate (Saveran, 1965; Ahenakew, 1992). It does not differentiate between he

and she, I used "he" most often in my translation. In particular, this is problematic for the translator when the animate form is being used, and using "it" (I used both "it" and "he" in table I) in translation may give the subject an inanimate nature, when this was not the case. Also, I want to clarify that using "he" was not to be sexist. The problem of the use of pronouns is that the distinction made between "him" or "her" compared with "it" divide what is animate or inanimate in English. Nouns in the Cree Language consist of the animate or inanimate. However, not only does the animate consist of living things, but they may also include what the English language may consider inanimate such as rocks or stones (Ellis, 1983). In explaining the concept, Freda Ahenakew (1995;18) states, "the animate class covers nouns for all living creatures. This group also includes such objects as rings, pants, stockings, stoves, pots, flour and stones." She gives the example of the endings which are used for animate items such as socks. That is asikan ak. However, an example of an inanimate term like "shoes" would be Ni muskisinga. Another example of the differentiation is the animate status of sugar. When one asks for sugar, they may say the following: "Peta una sôkkaw." Una gives the clue that it is animate. When one asks for salt, on the other hand, one would say "Peta unima seewetakan." Unima clarifies that it is inanimate (David Pentland, personal communication, February 25, 1998).

3.0.10 Ethics

After the University of Manitoba Faculty Committee on the Use of Human Subjects approved the study submission, the Chief and Council of Opaskwayak Cree Nation were approached during a "citizen's requests" session in September, 1996. I made a presentation in Nêhinawawin on the intent of the study and requested access to the community. They approved my request with the stipulation that I must also obtain individual consent for that purpose (see appendix H).

A consent form was translated into Cree (Nêhinaw) phonetically (appendix D and E), then into Cree Syllabics (see appendix F). This consent form informed the potential informant that the interview was about Nêhinaw understandings of type II diabetes mellitus, and that the interviewer would ask them questions about what they thought about diabetes.

Informant's identities have been protected by keeping tape recordings of the interview in a locked place assigning numbers to the informants instead of using names, avoiding (or altering) identifying characteristics. Some of their comments would be used but without identifying them (see paraphrase in Appendix C).

The consent forms with English (appendix D), Cree phonetics (appendix E), and Cree Syllabics (appendix F) were

very acceptable to the potential informants. However, they preferred, in almost all instances, that I explain the details of the forms orally.

I ensured that informants' rights were protected and ethical approval sought. Individual informed consent was obtained. I provided information in the appropriate language as was comfortable and appropriate to the informant. People were informed that they had the option of not answering some questions, that they could say "I don't know" when they felt that they were unable to answer the question. This was hopefully to ease pressure on the informant so they should not feel obligated to answer and to participate. They were also informed that they could drop out of the study at any time if they chose.

In the next chapter, case examples are presented in order to contextualize the concepts offered by the Opaskwayak Nêhinaw informants. The cases here illustrate, and contextualize individual Nêhinaw understandings. They were chosen because they represent different ways of understanding and responding to diabetes, and gives a preview of themes which emerged from the data.

4. RESULTS/ANALYSIS

4.0 Informant Case Examples

In this section I am going to use an explanatory model approach to illustrate some of the individual and cultural explanatory models given by four informants. These understandings are given within the context of individual lives but are selected because they demonstrate themes that are relevant to the cultural explanatory model. Personal information and identity have been altered to protect confidentiality. The names which have been assigned to the informants are not last names found in the community. The four directions, and the animal symbols of the sacred circle (Storm, 1972) are used in place of names or code numbers of the informants. The animal symbols include the eagle, the buffalo, the mouse, and the bear. They, in turn, represent illumination which is the eagle (Mi'kisew), inner search, the buffalo (Pusk'oimoosto'os), introspection which is mouse (Apikoses), and wisdom, the bear (musk'wa). The first name initials of the informants indicate the directions which these animals represent. Further, some of the ages and family size of the informants have been changed in order to protect identification as much as is possible. It is now the objective to look at some of the themes which emerged from the explanatory models which are offered by the four informant case examples and to contextualize the data.

4.0.1 E. Mikisew (Eagle)

E. Mikisew is a 40 year old man who has a wife and two children, and has a full time occupation. On commenting about the onset and subsequent diagnosis three years previously, he said that he was not totally sure that he had the illness, but went to his physician. He related that his physician told him then that his sugar "went very high", and that he had to have needles at the beginning."

He described his symptoms at onset in this way: "Yes I used to get dizzy and I used to be nauseous and I used to vomit. And from that I was tired. I was bone tired." Later in the interview, he also described that he no longer suffered from sweats, an additional symptom that many other informants mentioned.

Strong-weak: A concept of balance and control:

The pervasiveness of Mr. Mikisew's understandings about diabetes that the sugar in one's body must remain weak, and that it must not be allowed to get strong emerges as he discusses his illness. It is also, to him, an issue of control and balance of sugar. On describing the course of his disease, he says that it is "working good right now." He gives himself a "needle" to test his blood sugar, and that

is how he knows when it starts to go up. He states, "I exercise then..and I know when it goes up, and I know I must return to what I am supposed to do." He has no symptoms, but he uses the glucometer to gauge when he should "drive" his sugar down. His understanding is that the sugar must remain weak, because "When it is really strong and what can happen to a person. It will attack every vital organ in your system."

Further, he understands that the illness is ever-present, or "is there," and uses such terms as "beat" and "overcome" in describing control for the illness. He specifically states, "It is like we cannot win. Beat (overcome) it..that illness that someone has. Umm..it is there." The strong-weak model has been discussed among some of the Anishinaabe population's understandings of diabetes (Garro, 1993).

Further to his understanding of this strong-weak model, Mr. Mikisew spoke of his wife. "No, she does not have it yet. But she takes care of herself. She exercises a lot and she watches what she eats." The statement suggests that he sees her to be susceptible to the illness as well, and must keep her sugar down by eating right and exercising. He relates how he cautions others: "I tell my fellow human being what it can do to you if it goes too far" (if it gets too strong). He gave an example of a friend that he admonishes to take care of himself, and that a person must

take care of oneself, and be unceasing about it..that is, keeping the sugar in a weak state. "Not to give up. To work at that..to try to overcome it." Although he mentioned that diabetes is the one disease that is in his family, his argument for heredity is not strong, suggesting that the strong-weak model is more pervasive.

It is also present in children, as well as adults. In describing the illness, it sneaks and "it is like we cannot win" (over it). He tells his children and nieces that they should cut down on their sweets, although he understands that "they have insulin in the system to fight it off. But umm..as they grow older they must care for it too (Kapeneetakik), to control it. To watch for it too..Ahhh..it is not a thing to fool around with." In some of his recommendations for what can be done to improve the health of the whole community, he mentioned television programs, and public media, but he also says that it could also be "at the addictions level. Whatever..you know. Because when a person is addicted to something there is an on-going concern..a problem."

Silent (secretly): (pathophysiology)

Mr. Mikisew described diabetes as something which comes to one silently and secretly, and that it can move anywhere in the body.

O.K. This diabetes. This sôkkawaspinewin. It is like something that sneaks to come to you like secretly (ta'piskoch ke'mooch apanatikowan). It is the way it moves. This. Like I told you earlier, the sugar goes anywhere. All the things that are in your body like what. Like somewhere in the kidney, lungs, the legs, feet, hands, tips of your fingers. Your eyes. It goes anywhere.

Silence is spoken of in terms of the pathophysiology but also on the social level by Mr. Mikisew, and this fits into his strong-weak model.

It is like our people hide it. It is like they think I do not have it. But it is for sure that we have it. We have it silently (secretly)..like I mentioned it seeks us silently (secretly) like that. That is how it works when someone has diabetes.

Resort to treatment:

E. Mikisew reported that he saw a physician immediately upon onset of symptoms. The physician diagnosed him and prescribed "needles" initially, and then put him on "pills" a year later. His resort to treatment modalities was pragmatic in the sense that he saw a traditional healer who gave him herbal medicine to use in addition to the prescribed medications from his doctor. In describing his treatment, he also said that "but then at that time, I had to change the way I eat. I had to eat like vegetables, and cut down on sweets." He went on to describe the diet regimen in detail, and that he was to exercise. He saw the logic of the exercise, that people can lose weight from that. This

also fit into his model that continual vigilance is necessary to keep the sugar weak. He later mentions that he would continue the diet and exercise even if he were to not have diabetes any more because "It is true that we are (atikyetaiseeak) aging now. It will get harder for our people now. A person is not so young any more because a person exercises more when they are young. And the exercise slows down when one is older."

Etiology:

When asked how he would describe what diabetes is, Mr. Mikisew answered in this way:

Something like, ah, it came down. It was not there very much before. Then our people became sick, they say. This is one, diabetes, they say. It was the western Europeans who brought this. That is one of them. But it is like that is what they brought..those settlers. Indian people took care of themselves very well with drink from the wild. Sugar was virtually not there then. They did not have much of what we buy. But now, it exists. We are now able to afford all those things what we want to have. But then, in the past, they used to treat themselves from that. The wilds. They say, our people. They maintained their diet in a healthy way. Eating wildlife. (Wild) Food. Teas..herbal medicines. But now things are different.

Within this quote are several understandings of causation. That it is a new disease brought by the settlers. "But now things are different" he says, describing how a loss of a way of life had led to a loss of health.

This explanation offered regarding causation fits into the balance and strong-weak model. It explains that in a

broader sense, the "weakness" which had been wrought by the Europeans, the settlers. One contributing factor to this weakness is the change in how people took care of themselves. Further on in the discussion, he explained that, "the way that our people were taken care of. They looked after themselves then. Not the way we are taking care of them today." This concern regarding caring for oneself fits into the model of balance between weak and strong and the loss of the traditional way of life for the Nêhinaw. This meant a loss of strength. The fundamental requirements to be a good Cree Hunter include the ability to provide for self and others (reciprocity), being able to pursue traditional activities, being able to hunt, being able to live well in the bush, eating the right food, and keeping warm (Adelson, 1992; Scott 1983). In E. Mikisew's model, Indian people caring for themselves is a salient concept, and this is mentioned many times during the interview. In fact, he uses two Nêhinaw words for health, Minopameowin, and Minowatamowin. These words actually mean taking care of self and being self-reliant. Minopameowin or minowatamowin means literally "taking care of self well," or others may translate it as "happiness." This concept includes more than bare survival economically, socially, and personally, but includes a meaning which is a balance between the self and relationships with others. Health is included in this wide concept of living right. It implies "power" and "control" in

a sense of achieving that balance of within and without. And although his model seems to imply that everyone is susceptible to diabetes, the many ways that he sees overcoming diabetes all relate to maintaining strength by taking care of self and others. The commentary of Mr. Mikisew demonstrates the complexities of the understandings that he holds about diabetes.

4.0.2 W. Puskwa'wemosto'os (Buffalo)

W. Puskwa'wemosto'os is a 38 year old man with a wife and he has four children. He is presently unemployed but is very active in both traditional and non-traditional activities on the reserve. His model of diabetes is based on his experience of having been able to successfully change his lifestyle to one of almost exclusively "Ininewipimatiseewin." This term means living a way of life which follows the values of being a tribal Nêhinaw person, and living a spiritual life. He considers himself to be free of diabetes because he has been cured of it by a medicine man. He sees the diabetes as a sign of not leading a good life, and not following through with spiritual obligations. It is his understanding that a person may be plagued with misfortune through intervention of supernatural forces if they do not carry out those responsibilities if they have been gifted (Hallowell, 1960;384). As well, illnesses may be acquired through failure to follow through on obligations (Garro, 1991). This is made evident by the role he now has as a helper of a local healer. He also attributes his cure to the Nêhinaw traditional and spiritual life and the Indian medicine. He related a dream in which he was given the message very clearly that he should lead the Indian spiritual way of life which he termed,

"ininiwipimatiseewin."

However, treatment from the medicine man, and use of herbal medicine does not limit him from seeking other forms of treatment for his diabetes. He occasionally sees his physician, and he walks three or four miles a day. He also lost a considerable amount of weight.

He cannot remember where or how he got diabetes, but he notes that he "used to drink a lot." He says that he was about 18 or 20 when he was diagnosed. He wonders why they did not discover his diabetes before that, because some of the employment he had in the past required that he undergo a medical examination.

He was on insulin at the beginning of his illness prior to going to a healer. He speaks of his cure/healing in this way:

I don't even know where to start. Like I used to drink a lot myself. I used to have a hard time. I have been sober now for ten years. That is what sobered me up is this Indian medicine. And now I am into it myself now. Maybe I can't heal a person. But maybe I can counsel them. And I usually do that. And also, when I was a diabetic, I used to be on insulin, at least once a day. When I get up in the morning I used to just..and today. I think it took me twice to get healed. Or that one. Indian medicine, or how do you say an Indian healer. The one from Alberta. At first I don't think I really...I don't know how to explain that. Twice I saw him. Like even three or five years ago he called me to go and see him. And when I got over there he had the medicine waiting for me. And he told me to drink it all. And it took me about..that afternoon. Until about twelve O'clock that night. But he again, that is, his wife made me that medicine again.

He continued to take the medicine for 8 or 9 days before he finished it. He tested his blood sugar again at this time, and it registered at eight. He finished the pouch he was given to take with him in ten days, when he took his blood sugar test, he says that "the lowest it ever got was 4.2." He was also instructed by the medicine man never to take the sugar substitutes. He says that the last time he took his insulin was about eight years ago on the instructions of the medicine man.

He said "I quit drinking, or, Indian medicine cured me." This statement is complex, as is his explanatory model. He has taken the Indian medicine (herbal) and said that it has cured him of his diabetes, and the adoption of the Indian way of life has healed him from drinking as well as the illness which he sees was a result of not following "ininiwipimatiseewin."

4.0.3 S. Api'koses (Mouse)

S. Api'koses is retired and lives with three dependent children. She recalls that she was very strong and worked hard all her life. She had her own work which she felt she had to give up. The most prominent symptoms that she recalls are the feeling of tiredness and "sweating." However, she was not diagnosed because of these symptoms. She had an accident where she broke her arm, and the diagnosis of diabetes was made at that time. Her understanding of diabetes is that also of a strong-weak model. She spoke of her previous individual strength this way:

No. I didn't think there was anything the matter with me. Because I was always strong (akemuskawatiseeyan). I was always active. I never thought that I would get sick.

This is the base of her explanatory model, that she was strong, and now she is weak. "It gets you down eh," she observed, "you are not the same person you used to be. Of course I am getting old too. Ha, ha." She also speaks of how the people long ago did not have diabetes, and that "they worked hard a long time ago. The old women and the men. They were not struck down by anything like that. Like today. When they get older, most people are getting sugar." Although she recalls that her son and her father had diabetes, and that it is "in the family," this is not as prominent in her

understandings as other causes she considers.

Etiology:

She does not think that people had diabetes a long time ago, because they "ate wild food. No fat. No salt. Perhaps it is after the white man came here. He brought everything here to come and kill us." She further added that perhaps it is because "we do not eat right" and "because it is only Indians that have it (diabetes)." She elaborated on what she means by "not eating right".

We eat anything. Anything that the white man makes we eat. We eat sweet things. We eat canned stuff. This is where I think it comes from. That canned stuff. Because the people never ate those a long time ago.

She also mentions alcohol as another source of sugar: "and some people who drink. There is a lot of sugar in there." She not only understands that diabetes is caused by the ingestion of sweets, but she observed that "I have never known anyone to have sugar. I wonder. It is probably because we eat any kind of food that does not go with our diet from before. That is where I usually think that it comes from."

Pathophysiology: Sugar travels/is animate

S. Api'koses' understanding is that sugar can go anywhere. She explains:

It..well, you can get a heart attack, liver,

kidney, pancreas. And your sugar can go anywhere. And it can go to your head. You can go blind. I know it can do that.

She speaks of the sugar in animate terms. "Yeah. I guess that I will have diabetes until it kills me. Ha..ha. Tansi maka keke sipwapanit. How can it drive (go) away? (She realizes that she used the word "drive" as in a car, and laughs). If there is no..as along as I can control it." She also used animate terms when she was asked what scared her the most about it. "Ahhh.I cannot say anything to be afraid of anything. Because if he (it) kills me. He (It) will kill me (nipahichi, nikanipahik, wenipahichi oti) If he (it) wants to kills me. I don't know." The significance of the understanding about animacy of sugar is discussed further in the thematic analysis.

Treatment:

Her understanding of treatment is that one must control the sugar. She says of this "I guess a person should try to eat right. To try to control your sugar. By eating the right foods, doing a lot of exercise, to drink lots of water." She explains that "I drink a lot of water. I used to drink a lot of coffee and tea. I drink very much water now. I drink lots of it. I am trying to make it weak (the sugar)." Her understanding is that the sugar must be kept in a weakened state in the body by diluting it. This also fits with the exercise regime. She explains, "I guess you wear it

off..when you walk. You are moving your body, eh?" She recalled that the doctor told her that she should exercise. She checked to see the effect. It was 16 one time, she said, and she "started off walking" describing which way she went, then she took her blood sugar and "it was down to nine." She says that now she walks a lot. She said that previously she had driven a lot, but now "I do not do that now.I even sold my car to force myself to walk." She continued to extend the distance that she walked very gradually. That control of the sugar and keeping it in a weakened state is a theme which emerged from her model of diabetes, and in certain respects, this has worked for her in increasing her exercise regime. However, the dietary regime is more problematic. She recalls:

I was given a list. And then I took it home and I put it somewhere. I didn't know where. Ha.ha. I didn't look at it. At first I did look at it. Well, I tried to eat what it said there but I can't follow it. Like, I eat anything. Food I prepare myself. I boil them. Mostly boiled stuff, I eat. Except for fish, I fry it.

But she does not see this as a problem. She says, "I don't find it hard. I eat what I want. Ha.ha. As long as I boil them." She attributes her weight loss to boiling her food, as well as her activity.

4.0.4 N. Mu'skwa (Bear)

This summary is about N. Mu'skwa, a 51 year old man who has a large family. There are nine of them in his household. He works full time within the community. He related his illness experience very eloquently in Nêhinawawin. When he related the events leading to his diagnosis, he stated that the doctor had told him that he was "borderline" several years prior. He did not suspect that this was a cause of his sudden illness in 1991. He thought that he had a fever and continued working. He said that he would become dizzy, and would have to sit down to clear his vision at work. He tells an amusing story of the events surrounding a physician's initial diagnosis of liver failure and emergency hospitalization in a critical care unit. After he had been frightened by the doctor who told him that he was to die that night, his own physician came along and did some tests. He told him "your sugar is out of whack." After this, he said that he did not mind the diagnosis so much. It was because he was ill for several days without seeking medical attention, that it "hit him with full force" (N'takakihik) when it "took him." He is on "needles."

Strong-weak:

The theme which emerged from his account was that the

sugar, which is always in one's body, must remain weak, and that it must be made passive through activity so that it may remain weak. He explained that "a long time ago, we did not hear of diabetes because we did a lot of work." His understanding that, collectively, the Nêhinaw experience of moving to a more sedentary lifestyle from a very active one is a cause of the increase in diabetes in the community. He expressed it in this way:

We had to work a lot. Like chopping wood to make a fire. We used to saw (wood). There was no power saw then. And when we walked. We walked a long way. We had no car. And paddling..we used to do a lot of paddling. And that is also a lot of work. The sugar is there. That is how we live. Sugar. It (he) is there all the time. And it has to work a lot in our body. But now what is happening to us is that a person is not getting enough exercise. But now we sit. Everything is this. What we call technology. There is not that much work any more. Everything is machines now. Now we just sit.

In his account, he also touched on the change from the traditional diet where much of the food was boiled, to present day fast foods. He described microwave ovens in regards to fast foods, which he expressed as the "foods we rush to eat." He also mentions the fact that both sides of his family had diabetes and that it "took them" meaning that they had died from it. Although the concept of heredity was an accepted fact to him, he also believes that, collectively, "we do this to ourselves. We are too lazy. That is where it comes from. We do not exercise." His understanding of diabetes is that the sugar is always there,

and must be made weak with exercise. He expressed, "when a person is young, they are very active. But they begin to go down, and this diabetes takes them too. Because when parents carry this, we also get diabetes. But the sugar is there."

Pathophysiology:

His understanding of the pathophysiology of diabetes is interesting in the sense that it "fits" his strong-weak model. He expressed:

This is the way that I was taught when I first had sugar. Like, that. Like, near where your food goes, something works there. I don't know what you call it in English. Panikreas? Yes. That is what it is called. And the way that I was taught is the way that the sugar will not make itself too much from there.

He further talks about control, that the children should be taught to prevent diabetes so that the diabetes will not control them. They should be taught to "not just sit so that laziness will not control them. We need that exercise."

Course: "To live for a little while".

Although his model is about taking control, it also has an element that for a person with diabetes, there is linear path towards complications and death.

A person must look after themselves. To live for a little while. But surely the sugar is secretly is destroying him. You know. To take us and destroy us. It is for certain that it takes us. Those of

us who have sugar. Further down, something happens. Heart attack or something. Like, a sudden..what you call blood. Close to the heart. His artery. And also those kinds of things happen It takes him (otlinik).

He also related the same concept when talking about Indian medicine. His view is that Indian healers and white doctors treat the same way "but the person who is being treated still loses his life eventually." Thus, his resort to treatment is to keep taking his insulin because the Indian medicine "will interfere with the insulin greatly."

The view that complications are inevitable have been reported amongst other tribal peoples such as the Dakota (Lang, 1989).

The above case examples are given to clarify the variety of models which were put forward by the informants in their interviews. However, it is apparent that those understandings reveal some common themes which suggest that the common shared life experience, culture, language, and the concepts which are involved in those terms of Nêhinawawin facilitate the framing of the understandings to prior ones. These case examples draw complex explanatory models from people who are obviously conversant in both cultures, the non-Native and Nêhinaw, and biomedicine and Indian medicine. The themes and conceptualizations salient in these case examples is the strong-weak model, the animate nature of sugar in these understandings. Issues of identity and power underlie explanations about diabetes.

4.1 Theme Analysis

The themes which emerged from these interviews resemble in many ways understandings of other tribal populations, especially those studied by Garro and Lang (1993). However, there are important variations. I will demonstrate the role of language in these perspectives has an impact in the way that the Nêhinaw interpret and frame their understandings. Themes extracted from statements and explanations about sugar, using language as a focus, is explored in the

following section.

4.1.0 Sôkkawaspinewin (Sugar Sickness)

The majority of the informants used or knew the Nêhinaw term for diabetes. Only two informants were unable to recall the term. Table D illustrates the terminology used, admittedly all conjugations of the same word, "Sôkkawaspinewin" which means "sugar sickness."

There are very few declensions indicating tense or gender used in the Cree language. The endings indicate the form of the verb (Faries, 1938). As well, because Nêhinawawin has animate nouns for living things as well as other things which are considered inanimate in English, gender becomes an issue in translation (Ahenakew, 1995). According to Saveran (1965;17), "All verbs must show agreement according to gender. Since Cree, like most Indian languages, is almost entirely verb-centred, the animate/inanimate distinction permeates the whole language". The informants' terms for the illness reflect this fact.

Table D: Sôkkawaspinewin

# of Informants	Nêhinaw term	English Translation
10	Sôkkawaspinewin	Sugar sickness
1	e Sôkkawaspinechik	They have sugar sickness
4	e Osôkkamit	He has sugar
3	e Osôkkamiyak	We have sugar
1	e Osôkkawaspineyan	I have sugar sickness
1	e Sôkkawaspinet awayak	A person has sugar sickness
1		"Diabetic is all I hear".
1		"I don't recall what it is called".

The term for diabetes: The majority of the Opaskwayak Nêhinaw informants interviewed (20/22) used is "Sôkkawaspinewin" (sugar sickness), or other conjugated forms such as "e sôkkawaspinet" (he has diabetes) or "e Osôkamit" (he has sugar). The two informants who were unfamiliar with the term had both been recently diagnosed, and used English extensively in the interview.

Looking at the root words within the term sôkkawaspinewin, the "aspinewin" derives from "ita'spināwin" which the Cree-English dictionary defines as "a complaint, a disease, a sickness, a plague" (Faries, 1938;264). The Nêhinaw expression, "itaspinewin," means illness; however,

it is also a term which implies cause.

Sôkkaw is the word used for "table" sugar or "white" sugar. Sôkkaw is derived and euphonized from the English word "sugar" despite the fact that the Nêhinaw historically harvested "sisipaskwat" (maple sugar). Thus, the expression sôkkawaspinewin means, literally, that it is an illness caused by sugar. However, the Nêhinaw term for sweetening something is "Siwnew," or "siwinam," which means he sweetens it, or it can also mean he sugars it or salts it (Beaudet, 1995).

Three of the informants talked about salt, as well as sugar as a causal factor of diabetes. This understanding may result from the language inference, but more likely, the high prevalence of hypertension associated with diabetes has contributed substantially to this variation in understanding. The informants know very well the difference between salt and sugar. However, one man said "we do not know how we eat. For example, this salt. The one that is forbidden for someone to eat. They also say sugar. It is written in the salt. It has sugar in it" (B7Code7). Another informant put it in the form of a question: "I wonder what causes it (diabetes). Maybe salt? Use less salt maybe? Because I know a lot of people use lots of salt. They pour, then everything is white-looking" (B8Code8). Another noted, "this is how I know this for a person with diabetes. If they use too much salt, it seems that the salt makes more sugar.

And also the blood goes faster then" (A3code13).

The use of the word "sugar" to describe diabetes has also been noted amongst other tribal peoples. For example, the Seminole tribal people use the word "Oshugala" (sugar) to describe diabetes (Joos, 1984). Two explanations are offered by the author for the emergence of this expression among the Seminole. That is, those with diabetes are told that they must abstain from sugar by biomedical professionals, and they are told that the person's blood contains too much sugar. Therefore, according to Joos, the Seminole with diabetes believe that sweet foods must cause diabetes (Joos, 1984). Garro (1987;1988;1990;1993;1995) also reports that the term used by the Anishinaabe (Ojibway) means "sweet sickness" or "sugar sickness," and notes that this term is derived from biomedical professionals who use the word "blood sugar" to their patients. However, while no doubt true that biomedical information impacts this understanding, it may also reflect underlying concepts of tribal language. For example, in another study (Tom-Orme, 1994), the researcher states that the Navajo did not have a name for diabetes, but most referred to it as "ashii-likan shi' nitl hih' (sugar is killing me)." She interprets this to mean that the Navajo individual "feels subjected" to the illness "by a subjective force" (Tom-Orme, 1994;104).

The Nêhinaw informants, while they use the word sôkkawaspinewin, also say "kikiskakon" (it is inside your

body), implying causation by an external agent. As one man put it "once it is in you, it is in you" (B2Code2). Although the term may be used, on occasion to describe "body intrusion" by an object of bad medicine, as has been described among the Ojibwa (Hallowell, 1960), it is unlikely here that it is understood to be such. However, it is perhaps this previous understanding that makes it plausible that, like the Navajo, the Cree see it as something which originates from an external force, and that they have become victims. Tom-Orme says of the Navajo that they do not personalize diabetes as inferred by the statement, "I have diabetes," because they understand that the cause of the illness is from an external force (Tom-Orme, 1994).

The derivation of the term for diabetes, that is, "sôkkawaspinewin" (sugar illness) is no doubt formulated in a similar manner by the Nêhinaw as described of the Seminole and the Anishinaabeg.

Nonetheless, it is a "new" term. In fact, one informant, when asked for the Nêhinaw term for diabetes appeared to question its authenticity. They responded in the following way, looking somewhat embarrassed and chuckling, "We call it..pikonata..(made up, artificial, or lacking some validity)..we call it sôkkawaspinewin" (A7code17). This reaction and expression from the elder suggests that it is a "made-up" word, perhaps reflecting that no name existed from previous experience, or not previously known in Nêhinaw

illness taxonomy.

Sôkkawaspinewin, used by the majority of the Opaskwayak Nêhinaw informants may have a derivation as simple as described. The term is also potentially more conceptually complex. We now turn to those explanations which were offered by the informants regarding the onset of their diabetes. The following discussion is centred about onset, predominantly described as "Otinik" or "being taken."

4.1.1 Onset: Otinik (Being Taken)

The informants used the term Otinik in two major contexts in their explanations. One major use was to describe onset. The other described issues surrounding death, and is discussed in a different section of this paper. At the beginning of the interview, the informants were asked if they could tell about when their diabetes began. Their answers about the events surrounding the onset varied from brief to detailed accounts. Table B gives an overview of the date and circumstances of informants' diagnoses. It was necessary that specific illnesses which led to their diagnosis not be explicitly associated with the specific sex and age of the informant as it may serve to identify.

Table B: Onset

Informant	Age at onset (yrs.)	Length of illness (yrs.)	Circumstances on diagnosis: Symptoms= symptoms of diabetes.
M	44	4	Other illness
M	30	15	Accident
M	37	1	Experimenting with glucometer
M	45	2	Complication of diabetes
M	46	5	Other illness
M	40	10	Symptoms
M	30	43	Surgery
M	37	3	Symptoms
M	44	2	Other illness
M	18	22	"Cannot recall"
F	63	3	Request for test
F	47	1	Symptoms
F	45	16	Symptoms
F	31	4	Gestational which "stayed"
F	28	11	Symptoms
F	41	2	Symptoms
F	57	15	Other illness
F	35	24	Other illness
F	39	30	Symptoms
F	37	months	Symptoms
F	60	3	Symptoms
F	39	9	Symptoms
n=22	Mean/median age at onset=40.5/48	43 yrs. to two months	10 reported symptoms

More than half of the participants were diagnosed with diabetes through some other event which occurred in their lives. Ten were diagnosed because they went to their physician with symptoms. One stated that she had experienced gestational diabetes, and that it "stayed." The dates of diagnosis ranged from 1953 to 1996. One informant was diagnosed 43 years ago. One discovered he had diabetes two months prior to the interview. The following discusses the ways that these Nêhinaw spoke about how their illness started.

Putting diabetes in a downhill context:

In efforts to make sense of illness, sufferers often reinterpret and integrate past events and relate it to their present illness (Garro, 1994). To many informants, there seemed to be preceding events that could be considered misfortunes, a "downhill effect," if you will, prior to receiving their diagnosis. There appeared to be a feeling that this diabetes was a consequence of other bad things which are happening, and it continues, as a slope. One informant related that he had suffered loss of a family member followed by family and personal problems. He stated, "Everything went down from there." He experienced an illness, which his family attributed to bad medicine. He was hospitalized for the illness, and that is when he was

diagnosed with diabetes. One informant related that he had suffered an illness because of stress he had experienced in his work prior to the diagnosis. Another had experienced the death of a close family member, had an accident, and had some other medical problems. Two traditional healers confirmed that his other illness had been due to bad medicine. Another had suffered an accident in the workplace and was injured. As a result, he later suffered problems including a diagnosis of diabetes. Other informants stated that they had past medical problems. Two women had experienced gestational diabetes. Two others identified illnesses which left them continually ill. One said that he might as well say that he is "handicapped." There was a pervasive message somehow that the diabetes was a consequence of a misfortune which did not allow a person to be well and live well as a Nêhinaw.

Some said there were many things that they could no longer do because of the onset and subsequent diagnosis of diabetes. That is, it interfered with their hunting and fishing activities (men), continuing with sewing and working with beads and leather (women), and travelling. One informant put it this way:

It is very difficult when someone catches diabetes. Like that. Anything, many things. If you do not listen to what you have been told to do, following instructions. It is very hard for many. Very few people are able to follow that. I would then warn them that it is not a good life when someone has diabetes. Because it will teach you much. You must do all the things, all those things

that you enjoy doing, like for myself hunting. There are many things which get in your way. Many things in your system are not working right, in your body (B5Code5).

Others identified that it interfered with their full participation in some of the activities on the reserve such as wakes and feasts. Losses are not restricted to activities. Many related family members who had been "taken" by diabetes, meaning that they had died.

There is also the pervasive understanding that "some have it worse." Those who "have it worse" are those who have experienced complications which led to amputations, blindness, and stroke. Diagnosis is also seen as an event which eventually leads to death. One informant noted, "to live for a little while, but surely, the sugar secretly is destroying him. You know, to take us and to destroy us, those of us who have sugar" (B10Code10). One informant, when asked if he thought that he will have diabetes for a long time, responded in this way. "Of course I know. That is to kill me" (B7Code7). Another, when asked what scared him the most about it, stated, "for me to go on a stroke. Probably last thing" (B8Code8). Another stated "Umm, when it is very strong and what can happen to a person. It will attack every organ in your system (B10Code10). Another informant said,

I worry about it. Because I hear from a lot (of sources) know that my life is shortened because I have diabetes. That part I worry about or I worry about the day when..I have seen so much of it on this reserve. Getting amputated, you know, going on dialysis. Because I would not want to get my

leg amputated. I would not want to go on dialysis" (A5Code15).

Another man noted that "surely it is destroying us secretly" (B5Code5). There is also some understanding that eventually people with diabetes will have to take medication. "I dread to think of when I have to start treating myself. If I have to use pills or to give myself needles," said one informant (A2Code12). Another stated that "some have it very mild and other people have very bad. For example, my sister-in-law that I was telling you about, she has to take needles three times a day before she eats" (A6Code16). Another informant noted that "if a person has a lot of sugar, if their sugar is constantly elevated, it attacks the heart, kidneys fail. Then they get on dialysis" (A3code13). This same informant later said that if they were to have to go on dialysis later on, they would refuse. Also one noted, "once a person starts taking medications, it makes it harder to control your sugar. She said that "your sugar destroys your body, your organs. Same way as cancer destroys and eats up. But it can't be stopped. Once it destroys, there is no turning back" (A4code14).

The downhill effect is driven by the fact that many of the informants had experienced misfortunes prior to their diagnosis. These understandings have implications for treatment (discussed on page 130) and have prompted two informants to resort to healing from a medicine man for the "bad medicine" at work.

In essence, the understanding is that the illness can be strong for some, and milder for others but there is definite steady downhill effect which may lead to death. One man put it succinctly: "Inikook kwayesk kasookeemakak kasôkkawaspinet..tansi ke ati ispanyikot awayak." This translates as "the extent of the power of the illness determines what will happen to that person." The understanding expressed by this informant is profound. It is perhaps not so much the feeling of powerlessness which pervades such a statement, but that it represents the Cree concepts of what categories of their world represent power. Being taken and death represents the power of the illness. Previous understandings regarding power and control among the Ojibwa have been described as "power being tempered with that of autonomy or 'not being controlled' by outside forces" by Black (1977;146). The animacy of the sugar gives it power, and in a sense raises the issue of autonomy of the sufferer. The concept of power and control which is described by Black may closely coincide with the understandings regarding power and control by these Nêhinaw. The meaning of control for the Ojibway, according to Black (1977) is not necessarily to "boss" but that "Dibenima" as a concept is that one is responsible for others.

We now examine the Nêhinaw term which is used for both death and for onset of diabetes.

Otinik:

Informants talked about onset as one is "taken" by the illness. For example, one informant said:

Yes, ahhh, you did not go for medical treatment right away he (the physician) said. It is because I was sick too long one week. And that it was over borderline like the doctor told me, he said. And then, it grabbed me good. Ni ki'takakihik. It (he) took me with full force when it took me. Because I did not go (to the doctor) right away (B5Code5).

Another informant related onset in this way:

And also my brothers are all being taken by this. This (Oma). Sugar diabetic, eh. One of them had one of his feet cut off. And one of the other ones, the cancer went to his kidneys (A1Code11).

These informants clearly understand that predisposition to diabetes can be hereditary, and one can be taken if they do not take care of themselves. Others who related their onset reflected on their own lack of "taking care of themselves," and not working hard. However, "being taken" was predominant. The following comments serve as examples:

I was too large. That is how it can...Ka ki otinikoot awayak (takes one). It is when you are too big. That is where your sugar comes from, where it originates. And if your relations (ancestors), if one or two have it, have it, the children will be taken by it if they do not look after themselves (A4Code14).

"Otinik" or "being taken" is also used when referring to relatives having been taken by diabetes, that is, having died from the illness. As one put it, "both my parents had diabetes. On both sides. My family. They both had diabetes.

That is what took them. That is what took them. They died. From their sugar." Others related their onset to stress, as well as weight gain.

The understanding and the expression used, on "being taken" reflects a feeling that one is captured, or taken as a hunter takes wild animals for food. However, the hunter's game is partly due to the benevolence of the animal, whereas, being taken involuntarily is more the way that taken is used in the case of "being taken" by diabetes. It is thus unclear if hunter semiotics are being used when this expression is used, or that the concept is being stated as a metaphor. However, "being taken" has more profound underlying significance for the Nêhinaw which includes concepts of power and the issue of autonomy and self reliance (see discussion on the course of the illness).

In the next section, explanations about etiology is discussed which include wāmistikosew (white man), me'chim (wild food), and ecological destruction.

4.1.2 Etiology:Wāmistikosew, Me'chim, Ecological Destruction

The Nêhinaw see diabetes as a new or a European disease. The model is framed in, and encompasses understandings that the Nêhinaw were a strong people in the past who related to and depended on nature and wildlife for sustenance. However, the changes and environmental

destruction they see around them are witness to the disruption of their way of life. This threat was expressed eloquently by an informant, who stated her understanding of the sudden increase of diabetes in the community. The explanations include not only change in diet as a factor, but also includes the socioeconomic and political realities which she feels that the Nêhinaw had to face in recent years. I include a substantial amount of her account, as it provides a picture of the recent past for the Nêhinaw and allows for a better appreciation of their experience and relationship with food (wildlife) and the environment. Many of the informants share these understandings of history, but this informant elaborates extensively to express the meaning and importance of Me'chim (food) to the Nêhinaw. She relates her own experience, and draws an eloquent picture of the recent past of Opaskwayak.

We didn't eat that way long ago. And we had duck, moose, eggs. We used to go by canoe to pick eggs, We did not buy them from the store. And we used to have our own chickens. My late father had his own. We ate chicken from there too. Also in the store we did not even buy gum from the store. A tree from the bush. We looked for it. And we used to dig our gum from there. We also got our tea from the tree. Leaves, green. Also we did not use. .we used, do use, wood to make fire to make our own bannock. We used to use tilted frying pan or even used heated rocks to bake bannock. The bannock used to cook there. They also made these smoke tents (akowana) made from sticks. To smoke fish and sometimes they used to mince the fish. And also meat was dried there. Crushed and also made moosopimii (sometimes called pemmican). They used to call it. And we hung ducks and geese in the shed. We ate them in the winter. Beaver, grouse, (partridge), rabbits. We never bought anything from the store. When we had a lot of meat we (aki ne ke monipimichankanan) foraged. Ni ke monipitenan. Water. They used to go and we used to go to the wilds and we used to get fish and water. I don't know. We used and berries we used to pick all time and make jam. We never used to use the store too much. I think that is where it (diabetes) comes from. We eat store-bought food. Even sardine. Fish was smoked hung upside down. At Clearwater Lake and we used horses in winter to get it. We ate that (the fish) in the winter. Even potatoes. They made a hole. We had put them in a hole. Even carrots, rhubarbs, corn, onions, they grew. We used to use the cows milk from a cow who had a calf. We used to use the milk from that. Nothing from the store. It worked right a long time ago. Now we go to the store and this is where we are very much sick from. Also the power we use. If we put this in the fridge or the deep freeze, we freeze the food. Freeze it. We don't know if it is spoiled. Then we thaw it and we don't know if it has spoiled. Even if you find that the meat looks green the storekeeper will get mad if you take it back. This has happened to me many times. Green meat, when I returned it. Even those, the vegetables we buy. They also spoil from the store. They did not spoil. We kept them ourselves. Our grandfather. They used to keep them and we also knew that they were not spoiled. We used wood to burn and we used ice from the river. It is only recently that we have begun to use these (the technology). In the winter we used to use ice.

Blocks of ice. We used to drag the ice from the river. Not like these things. It is only now that we are beginning to use these things (AlCode11).

This account by this informant is drawn from her own experience with life and how the relationship with the environment has changed over the recent past. She relates the illness to these changes in technology, the way of life for the Nêhinaw, and the increased reliance on store bought foods. This informant concluded:

A kee meecheeak uskeek ochi (We ate from the land). We were rich in the past, now we are poor. We were able to have everything from the earth. We didn't take anything to buy (Alcode11). (Emphasis added)

This informant's narration about the recent past vividly draws a picture of Opaskwayak Nêhinaw practices relating to the sources of, the procurement, preservation, and preparation of Me'chim (ininiwime'chim). The loss of hunting and gathering traditions is pervasive in the understandings of the informants about the increased incidence of diabetes in the community. Her views about changes in diet and food preparation are consistent with the Anishinaabe (Garro, 1996) as well as other tribal models (Adelson, 1992; Lang, 1989). Indeed, Cree rituals have been described by Rogers (1969;35) as revolving mainly about "the food quest, and uppermost in the minds and thoughts of the Mistassini Cree." However, this is not to infer that all Cree culture is "uniform" (Preston, 1987).

These understandings reflect cultural and

socioeconomic realities. Although there are a few individual idiosyncratic explanatory models, in large part most of the Nêhinaw explanations complement each other. There is agreement that diabetes is a relatively recent phenomenon among them, related to the change from traditional to "modern" life ways. However, for the Nêhinaw, these explanations are related to the more recent developments and resultant decrease in the trapping, fishing, gathering, and hunting traditions due to environmental disruptions.

The loss of the traditional food is also related to the loss of the Nêhinaw way of life, with subsequent reliance on store-bought food. The following give some examples of statements which continue with this theme:

Because we eat differently. We eat like the white man. This is what I think. Because a long time ago we did not open anything in a can. I remember when I was a child. Everything was grown, or people hunted. This is where we ate from. Today we just go and buy everything. We do not know what is in it. This is where it comes from, I think (A8Code18).

Because there was not anything like we have. Well, the way Indians used to live, they did not get no sugar or nothing to cause diabetes (A4Code14).

Mache maka (as you know), they did not have it. Long ago, the food was very good. But now, "Ducks Unlimited" is spoiling (destroying) everything. He destroyed the ducks also. Yeah (A7Code17).

Almost all of the informants (20/22) spontaneously discussed the increase in diabetes in the community as a consequence of the destruction of the environment which until recent times had provided sustenance. The Wāmistikosew

(white man) is seen to have effected the destruction which the Nêhinaw see around them. One informant put it succinctly as a political statement. He said that there is a threat to the very identity of the Nêhinaw. As well, the following statement reveals some power relations which operate today.

..even a plane, CFI, (pulp and paper mill, now known as REPAP, situated north of the reserve), cars. They are beginning to destroy the plants and leaves, the wild animals cannot eat. They are the ones who are doing this. "Ducks Unlimited" also are drying up the lakes and the wild animals do not have a place to drink. They are starting to die out because they are being killed by the white men. It was very bad (ki pakotigon) when the white man first came. He is destroying everything. He (wāmistikosew - the white man) will even begin to take us out of our homes. Evict us from our homes. He will vie for the reserve here. He will try to take this reserve here. I have come to see this. And all these planes and cars that are becoming ubiquitous. That is what they used to tell us about. They (the elders) used to say that they would not see this. But now I see that wāmistikosew (the white man) is taking everything over. That they really control us. Even if there is a house being opened, I see a white man already working there. Take, for example, at the old folks home, all you see is white women working there. They will not make room for you. If you apply, you will not be chosen. They will take an outsider, a white person. They will be chosen because these people in the office are afraid of the white man. Those are the ones who are doing these things (AlCode11).

Although the "store bought food" model has been demonstrated amongst other tribal peoples in their causal accounts for diabetes (Garro, 1996; Lang 1986), this informant offers a more elaborate explanation suggesting that the change in diet for the Nêhinaw has many meanings.

Her model explains the effects of the encroachment and external control termed as "colonial stress" (O'Neil, 1986) or "internal colonialism" by Frideres (1993). The broad concept of internal colonialism is that the Aboriginal communities, or the Canadian hinterlands are seen as internal colonies which experience external exploitation (O'Neil, 1986). Her explanatory model on causation not only reveals the history and the way of life of the Nêhinaw until recently, but also warns that if the people are not careful, they will lose their culture and identity. It is a commentary which reveals the inequitable relationship with the non-Nêhinaw population. "We are going to lose everything" is a profound statement and a clear warning that external control will eventually destroy the Nêhinaw. It reveals the socioeconomic and political impacts which are seen to have resulted in the increase in diabetes within the community. Other informants offered similar explanations. This theme is predominant in the explanations for the dramatic increase of diabetes among the Nêhinaw.

Another informant also noted that the changes and the destruction of the environment are being caused by the Wāmistikosew. This is seen as leading to less wild food for the Nêhinaw.

Maybe, umm, I don't know what we can attribute it to, blame it on. I have never heard of people talking about it. But they cannot blame it on the medicine. Only that. They are eating too much from the store. Today there is very little Indian food available. The way the people used to live. They

used to talk about using a lot of fish And also moose, duck, rabbit. I heard one man talking. "Just outside my door. I did not walk far to get my snare and I can have a rabbit to eat." I believe him. It is true. There used to be a lot of bush here. You did not have to go far to go to the bush here. That was the extent of the amount of bush that was here. Today, One has to go far. You must ride to get that far when you want to go snaring (rabbits), or when you want to go and do your stuff in the bush to get good food. Or fish. Today you can't take it from the river, to eat fish. So many things are being destroyed. Because wāmistikosew (the white man) is pulling everything to himself to make money for himself from our land here (A4Code14).

Her explanation includes the themes of environmental destruction and external control. The majority of informants attributed the increase in diabetes in the community to the sometimes narrowly described "change in diet" from a traditional to a modern one. The sociohistoric explanations centre on the loss of control and the resultant loss of the hunting way of life.

It is not the intent here to expound on the neo-colonialism which has affected the Nêhinaw, and it is not to imply that every Nêhinaw feels this way. However, the discussion on the causation of diabetes evoked an explanatory model which has wide cultural, historic, and political associations for the people who are suffering from this condition. They understand that it is also an issue of "class and power" (Scheper-Hughes, 1988). Other studies have found that diabetes is most often seen as the most recent instance of the white man's destruction of tribal society

and culture (Tom-Orme, 1994; Lang, 1986; Garro, 1996). Wāmistikosew (the white man) conceptually represents political control and environmental impacts. It serves to differentiate between "others" who have the power to effect those changes, and the Nêhinaw, who do not. Indeed, Adelson (1992) also found that the meaning given to health was tied into politics.

4.1.3 Etiology: Other Explanations

The ancestors are seen to have been a strong people because of the hunting lifestyle they led. The way they lived off the land and the use that they made of plants and animals around them gave them power. "They ate right" is said, perhaps reflecting the value placed on me'chim (wild food), and placed in a frame of previous and present understandings of Nêhinaw culture. One informant succinctly clarified the understanding. "They had wild food. They were very strong. There was not much that could destroy them" (B2Code2). Other samples of what other informants offered demonstrate that this view is widely shared:

I listen to the elders. A long time ago. I hear the elders. Because they never had this illness. They had to do without (modern conveniences) each day. And the way that they cooked for themselves a long time ago. They boiled everything. That is what they think is where we get this diabetes. This food. The canned food. And foods we rush to eat (fast foods). This is where they think it comes from, this diabetes (B5Code5).

Not as much I guess (the Nêhinaw did not have diabetes as much). They had wild food. They did not have salt (A10Code20).

Despite these explanations of causation which reflect on the destruction that the Nêhinaw witness around them and their world and which suggest that many explanations are considered and are complex, other explanations focusing on individual responsibility are offered by the same informants. Biomedical information is also incorporated in the interpretations by the Nêhinaw. These explanations of individual responsibility reflect the thought that sugar intake is a causative factor, as well as other store-bought "white man's food," or junk food. These are related as a collective experience, rather than individual behaviour.

According to Adelson, (1992;146) "Eating well for the Cree incorporates notions of living well that are rooted in Cree life and practice. Being Alive well is ultimately tied to all that it means to be Cree and thus eat cultural food" (Adelson, 1992;146). Indeed Adelson (1992) aptly described the concept of the Cree "miyopimatiseewin" which she translated "Being alive well." One of the hunter values is being able to eat the right food.

The term "pikonata kekon," which was used extensively to describe "junk food," implies that it is not valid food or valid Me'chim. The concept of Me'chim is not merely food, it also connotes food attained from hunting and respect for the practice of conservation and balance. Nêhinaw children

must learn to respect and follow the ethic of hunter, because it is not only skill which makes a successful hunter. Animals are understood to be gifts. Therefore, "to waste an animal is an offence" (Scott, 1983;135). This understanding may impact what may be seen that food is now a locus of control by wāmistikosew, and that there has been a loss in the relationship of the Nêhinaw with the sources of me'chim, which are the animals. Indeed, as Lang and Garro (1993;322) observed, "foods and food ways constitute complex codes for social relations and symbols of cultural identity and change and as they are linked to aspects to health and illness provide salient imagery in which to demarcate community and cultural boundaries."

One informant's model of diabetes is interesting in the sense that he integrates many of the cultural issues, and white-Indian differences in his explanation. It demonstrates that multiple explanations can be held by one person. He stated it this way:

What I think is, my life. They took the children to the camp and they were frying food all the time. Eh. And that is fried food that brings your sugar up. And then that is what happens to us . But not these young kids. They don't go to the camp any more. They are not doing their culture. Then some of them will not be diabetic. But then some of them will be because they eat a lot of junk food. But even the white man when he is hunting, he takes a lot of junk food to the camp but they don't have the problems like this. But we have more problems like this than the white man (B3Code3).

This is a complex explanation of causation. Although

his initial explanation appears to be extremely idiosyncratic in that he blames his diabetes on "fried moose meat" and his experience with going to camp with his parents, he goes on to elaborate and imply many meanings. He states there is a role that "junk food" plays in the causation because the Nêhinaw are at more risk for diabetes. His understanding is that even if the way of life is no longer followed, that is, going to camp, others may get it because they eat "junk food" and because they are more susceptible than the Wāmistikosew. Yet later in the interview this same informant noted:

They (the ancestors) didn't have it. They didn't. They used their own medicine then. Their own culture. There was no alcohol or drugs involved. They just used their own medicine. Because I used to see that when I was a little one. They used Indian medicine on those people that the doctors did not know how to cure (B3Code3).

These understandings about diabetes illustrate the complexity of the model of causation for the Nêhinaw.

Table G details the explanations of causation offered by the informants. These explanations give some insight into the cultural and individual models of this illness. Within a cultural setting, there are individual models as well as knowledge and understandings being shared.

Table F: Etiology: Other Explanations.

Etiology	Number of responses
Lack of wild foods	19
Decreased quality of wild foods	2
Eating White man's food	6
Pollution	6
Wāmistikosew destruction/control	5
Chemicals	2
Increased availability of technology & decreased activity	7
European disease/Nêhinaw more prone	4
Junk food "pikonata kekon", also "fast foods".	10
Salt	4
Sweets, Sugar	12
Passed from generation to generation	8
Canned foods	4
Stress	6
Alcohol	7
Weight gain	6
Store-bought foods with additives	4
Tainted blood products	1
Not following spiritual obligations	1

The explanations offered for causation illustrate some obvious idiosyncratic models, but thematically, others complement each other. There is almost total consensus

(n=19) that the lack of wild food is seen as a major cause of the increased rates of diabetes in this community. The cause of this lack of wild food is understood to be a result of pollution, wāmistikosew (white man's) control and destruction of the environment. There was also the concern regarding pollution as a cause. They basically had the same theme in that the Saskatchewan River is polluted with one of the causes being REPAP.

Those things that are there along the Saskatchewan River. All the sewage come there. You know..you can't eat fish from there. Too much pollution. You cannot eat fish from there when it is polluted. And that is all. I don't know about Grand Rapids. I don't like to eat fish any more. I am very afraid of it (A2Code12).

Maybe REPAP has lots to do with it. Because when that smoke comes out, it always comes out when it's cloudy. When it's a nice day they won't let that smoke come out. Because someone told me that they saved \$20,000.00 a day when it's cloudy (B8Code8).

I don't know. Maybe it is something we eat. Using too much chemicals. They are killing our..like the fish used to taste good but now they do not..from the river. Since they had that sawmill (pulp and paper mill), when it started. That is when people got sick. Because a long time ago nobody used to get sick. Too much pollution. They are killing our wild meat too (A2Case12).

Inactivity due to the resulting decrease in wildlife and accompanying traditional activities, and the increased amounts of technology in the form of modern vehicles and technology among them is also seen as a factor. Junk food and sweets, which are considered "pikonata kekona" as well the lack of availability of wild food are seen by more than

half of the informants as being causal factors for diabetes. It is difficult to discuss consensus as measurement of this sort was not used, nor intended for this project. However, there was total consensus among the women that one of the causes of diabetes in the community was the change from a traditional diet to a modern one, attributed to the increasing lack of wild foods. Seven out of the ten men interviewed also agreed with this model of causation.

There is also the understanding, for some informants that there was some protective effect if one were not to have a family history of diabetes. Two of the informants said that they were shocked that they had this illness because they understood that if one does not have a family history of diabetes then they would not get it. One informant noted that

No. I did not think anything of it. To have diabetes. Because my father and my mother did not have diabetes. I did not think that we were going to get diabetes. Just the same, I and my sister, we were told that we had diabetes about the same time (A5Code15).

Another informant said:

I don't know any of my relatives to have it. Only one. One of my sister's daughters. None of my family had it. That is why I did not believe him (doctor) when he first told me that I had it. Not once did it occur with them (A6Code16).

However, she also named a sister-in-law who had the disease. Another informant said that he did not believe that it runs in the family, because he said that he had it, and his father was not diagnosed with diabetes until he was 75 years

old. The table below illustrates the relatives identified as having had diabetes.

Table G: Relatives who have diabetes

Informant	Relatives with diabetes
1	One brother and one brother-in-law
2	Late grandmother, also late mother
3	Late father, mother, "brother's ex"
4	Late father, brother died
5	Both parents died from it
6	Father not diagnosed until 75 or 78 years old
7	Son-in-law whose father also had diabetes
8	Mother
9	Late mother, brothers, sisters, uncles, and grandmother
10	Grandmother and grandfather, and siblings
11	Brothers, mother, late father, husband and brother
12	Brother, sister-in-law, mother, and 2 sisters
13	Late father, brother, and sisters
14	Late mother and ten siblings
15	Late mother, two brothers and two sisters
16	Sister
17	Sister's daughter
18	Father, husband and uncle's wife
19	Son and husband
20	Mother
21	Father and son
22	Mother

All the informants without exception knew family members who

had diabetes. They identified, in appropriate Nêhinaw terminology, who in their family been diagnosed with diabetes. Eight informants considered the illness to be hereditary, that is, as one informant put it "it is passed from generation to generation" and that "it is in the genes, so to speak." Another stated, "it is passed on from generation to generation. It is inherited. That is the way I understand it" (A5Code15). Others said that their relatives did not know that they themselves had the illness because they did not tell them. There is some community "silence" to the illness in this respect. Indeed, as with the Anishinaabeg (Garro, 1990), many illnesses within the Nêhinaw illness taxonomy are related to moral dimensions and concepts of what it is to live a good life, as well as the concept of control and power (Black, 1977). It is apparent to most of these informants, who, at the same time being Nêhinaw are conversant in both cultures, that they can inherit the illness.

However, even considering the number of relatives, listed as known to have been diagnosed with diabetes, the model of heredity is not as pervasive in their accounts as other causal factors which were more actively considered.

Although the discussion above in respect to relations illustrates the profound impact of the illness on the family, it also serves to illustrate a salient issue regarding methodology. The way that questions are organized

and worded within and between languages have an impact on the type of responses being given. A Nêhinaw person views the world of relatives in more than a biological way and are given a much broader meaning within the culture of the Nêhinaw. These overall understandings and ways of thinking about diabetes are ultimately tied to identity of being Nêhinaw, as the examination of some of the major concepts in language used to make sense of diabetes among the Nêhinaw demonstrate.

4.1.4 Pathophysiology: Sugar Travels, is Animate

The Nêhinaw informants always used the animate form of the word for sugar when describing their understanding of how it works in the body. This suggests that language has an impact in the interpretation and meaning given to the pathophysiology. In general, they described the onset as being insidious, that it sneaks up secretly or silently (hunter terminology). One informant expressed this eloquently: "Ta'piskoch ke'mooch kekon a penatikowan akosi isi atoskepanew oma." Translated this means, "it is like something coming to you secretly. That is how it works, this." As already discussed, many of the informants also described being "taken" (otinik) by the illness. The same term is used for "capture" or "killing" or being killed. "Otinakun" is "captive" (Farries, 1938;35). These may be

Cree hunter semiotics, however, they are also battle metaphors. Sontag (1978) described how a disease such as cancer may become personified and create fearful imagery. These Nêhinaw speak in animate terms about diabetes, suggesting that it is perhaps not as much a personification as it is the Cree structure of thought and language which impacts these understandings. According to Ellis (1983), Cree nouns are identified through concepts of animate and inanimate, and that, in spite of what animate implies, some non-living well as living things are considered animate. The verbs which accompany these nouns and qualifiers indicate the animate or inanimate nature of the noun (Adelson, 1992). However, as became clearer later in the study, it is not the declensions, nor conjugations which are critical in the understandings. It is the concept of animate-inanimate which characterizes the Cree language that emerges as having cognitive influence. It is described as "e kikiskakoot awayak" meaning that it is within one's body. As one informant (previously cited) put it, "Once it is in you, it is in you" (A2Code12).

Language has an impact on the understandings of pathophysiology. It is evident that the Nêhinaw informants take the biomedical model and interpret it in a distinct way that reflects Cree thought.

Participants frequently perceived sugar as travelling all over the body (in animate terms) and causing damage. One

informant responded in this way when asked how would they tell someone how this illness works in their body.

Well, you can get a heart attack. Liver; kidney; pancreas; your sugar can go anywhere. And it can go to your head. You can get blind. I know that it can do that" (A11Code21).

Another informant explained it in this way:

The thing that I am most fearful of is that which I mentioned. When one has a stroke. That is the only thing that I worry about sometimes. Because that is what grabs someone very suddenly when they have diabetes. That is where the sugar goes. Travels to. Sometimes, the sugar goes anywhere. It can go to someone's head, but, I don't know. It goes there. And that is when they have a stroke. That is the only thing that I am most afraid of. That what do you call it in english? Nipoaspinewin? That. Stroke (B5Code5).

Diabetes in these cases is talked about in a way which makes it animate. One informant (A1Code11) responded in this way:

(The following quote is stated in phonetic orthography).

Akwa mena apapamootet una kisugam keaweek.misi wayitay akokapewanaweet. Ka poostopaniyan nataitay akwai pachachi awanaweet. Apimootet una kisôkkam. kisôkkam una a we tinipat..ako kenipatchi akwa awaskaweet, koskopanichi.akwani ta koka wanaweew. Akoni katinipayikochik. Akosi ni ke isi weetumak muskikiwininim.

And he, the sugar, walks in the body he goes everywhere trying to get out. When you get a sore, that is when your sugar has truly gone out. Your sugar is walking (travelling), he wants to sleep, and when he has slept, and he moves, wakes, he tries to get out. And then that is when it kills them. That is what my doctor told me (A1Code11).

The above colourful explanation reflects her understanding of what her physician told her about how diabetes works in the body. Patients take the biomedical

model explanations and interpret them in a way which incorporates their ways of understanding their experience. Further, these interpretations are taken and "made sense of" in a fashion which reflects the person's culture and their language. That sugar can travel within the body is a salient concept and complements the animate concept about sugar.

Another informant explained that his doctor explained to him about how insulin works by referring to "doors" in the body. He said that his physician was "speaking in a high language." Another informant explained how the sugar works in this way:

The sugar goes anywhere. Sometimes, sometimes it goes to the kidneys. Your head. It goes to your eyes. It goes to your feet. It goes everywhere. It can get stuck anywhere. If, when a person does not look after themselves properly. If they do not make an effort to eat properly. And also if a person, it would be good if someone with diabetes not to just sit. If a person is sitting, then no exercise occurs then. But if a person exercises, then that sugar cannot sit still anywhere. If I sit still then I think it can happen to me too. I think sometimes. As long as I am given the ability to move today. I do what I must do. (A4Code14).

Another stated:

If a person has lots of sugar. If their sugar is constantly elevated, it attacks the heart. Kidneys fail, then they get dialysis. And also their sugar goes to their eyes so that they become blind (A4Code14).

That the sugar can sit still or "get stuck" is made plausible because of the understanding of its animate quality, and that it can travel to other parts of the body.

One woman said. "Because if he (it) kills me, it will kill me. If it (he) wants to kill me (A10Code20). The animacy of diabetes is clearly expressed here through its desire and power to kill her. Another stated: "I pray. Remove this from me, my manitou, my sugar that is trying to kill me, I say. This helps me I think. And when I eat, I also say that" (A7Code17). She seems to be asking for the exorcism of sugar, an animate threat, or perhaps even a personified killer. She also spoke of a friend who warned her not to "keep (it) him" (sugar), suggesting that this way of thinking about and speaking about sugar is shared. I have translated, using "him" and "it" to stress the animate nature that sugar is talked about. She expressed it in this way "I do not think of him (it) that way. Don't keep him (it), Anna used to tell me. You will get worse. You will get sick from thinking about him (it). Try to think of something else" (A7Code17). This concept that people have in respect to thinking too much about the sugar will make it go up was also expressed by other informants.

There are many expressions within the Nêhinawawin to describe the diabetes or "sugar" in the animate form. The following list serves as an example of some of the animate expressions which were used by the informants.

Some examples of expressions which were used to describe the animate nature of diabetes (sugar) are given in the next page. The animate form are given. However to

demonstrate, n'takakihikon would be the inanimate, whereas, N'takihik is animate as shown. Ke-Otinikon would be used for the inanimate. Therefore, Ke otinik would be the animate form.

Table H: Sample Expressions of Animate

N'takakihik	He (it) hit me with full force
Ke otinik	He (it) took him (used for both onset and death)
Kikiskak	He (it) is in his body
Nika nipahik, we nipahichi	He (It) will kill me if it wants to kill me.
Anisiwanatchikoyak	He (it) is killing us
Pooko ita itotew	He (it) goes anywhere (travels)
Takeitootew osam ispimeek	He (it) can walk up too high

As illustrated by the table H above, the animacy of sugar is expressed in varied ways. The gender noun, he, has been used in the translation as use of the neutral term, it, may imply the inanimate. In fact, it has been suggested by Saveran (1965) that there are only two genders in Cree, that is "he" and "it."

The ways that the Nêhinaw think and talk about diabetes are structured within the language and within symbolic cultural frameworks. Preexisting frameworks are used to describe how the illness can travel to other parts of the body. However, understandings are also drawn from teachings from biomedical professionals. As one informant explained:

The way I think about it, when you eat, it does not stay in your stomach. So that sugar can't stay in one area and just keep growing. And so it gets too high. And if you exercise, you are like, moving everything in your body. It is necessary for your sugar to rotate, move along with your body as you are going (A4Code14).

It is difficult to differentiate between metaphor and the language concept of animate. Metaphorical thinking permeates every culture's thinking (Lakeoff & Johnson, 1980). On what basis this differentiation can be made is not clear. The understandings draw power from this animate view. Terminology used such as "taken" suggest a sense of relationship to hunting. Conceptually, however, Nêhinaw terms used suggest a similarity to the Anishinaabeg in their cognitive understandings about the connection between illness, control, and power which were traditionally omnipresent (Hallowell, 1963; Garro, 1990; Black, 1977).

The sugar is seen as being able to travel throughout the body. The animate nature inherent in its description makes the explanation of the moving sugar plausible. As one informant explained:

The sugar goes anywhere. Sometimes it (he) goes to the kidneys. Your head. It goes to your eyes. It goes to your feet. It (he) goes everywhere. It can get stuck anywhere (A8Code18).

The understanding suggests that it is dangerous for the sugar to travel to the many places in the body. However, it can also "get stuck". Therefore moving the body and exercising will prevent the sugar from getting stuck

anywhere where it can do damage.

4.1.5 Course: Kikiskak

The word, kikiskak, used to describe diabetes within the body, is a word which means "it is in you" (in the body). This term was most often used in the context of describing the diabetes in one's body. That is, the understanding is that "once it is in you, it is in you," as one informant stated. In speaking about the course of the illness, informants used the words "destroy" or "wasted" (anisiwanachihikot), to describe the effect of diabetes. One informant said that it is like "a death sentence." Another woman informant said:

It will try to kill you, of course. Because if it kills me, it will kill me. I guess I will have diabetes until it kills me (A8Code18).

She used the word that in Nêhinaw is used by other informants for death from diabetes. That is, "nipygon" (it is killing me). There are two terms to refer to death. One is nipiw, which means that "he dies." "Nipiw" (death) is rarely used for humans, but instead refers to the death of animals (Craik, 1979:75, cited by Graham, 1988). "Ponipimatisiw" (he stops living, or he quits living) is the word which is commonly used when referring to death and dying of human beings. A word which, according to Graham (1988; 82), infers "an implicit notion of choice or

control." The use of Nipyigon suggests that for many, there is a lack of choice in a death from sugar. Although there were many expressions used such as "destroy," "kill," and "death," which may either be interpreted by the biomedical professional to be "fatalistic," or even be considered to be war metaphors, it is the sense of cognitive control or lack of it which permeates as a theme. In speaking about control, one informant stated, "You cannot just let go. If you do, you will have lost. You will have lost" (A2Code2). It is both a battle metaphor, but it is also clearly an issue of control. Another informant stated, "we must overcome it." Other informants made comments which were similar in theme: "What if I die from it. If I die, I will die" (B1Code1); "It is like I am waiting to fall" (B7Code7); "I will probably never get well. For me to go on a stroke. Probably last thing" (B8Code8); and, "I want to die soon" (A1Code11).

Expressions used to describe the course also include some of the following: Akwa awaneetachik omuskaisinewak (they lose their strength); asa ke Nipahik osôkkama (his sugar has killed him already); ateet anipahikootchik osôkkamiwawa (some people are killed by their sugar); and Tapiskooch aka akepuskinatamak unima itaspinet awayak (It is like we cannot win over this illness that one has). Many of these statements might seem fatalistic. Other behaviours may be deemed to be a form of denial. However, it is perhaps the pre-existing cognitive framework which defines the concept

of control (that is, personal autonomy and self reliance) underlying these understandings. Control in this case means maintaining self autonomy balanced with social responsibility. N'tipeneten/ n'tipenemaw (Cree), or Dibenima (Ojibwa) means "being responsible for" (Black, 1977) which is different from the conventional English meaning of control. Indeed, self-restraint, and self reliance are cardinal values of the Nêhinaw (Adelson, 1992), although to the Nêhinaw (as well as the Anishinaabeg) not many events occur which are accidental, or are totally within one's control (Dempsey, 1984). "Cree ideology asserts that it is disrespectful in itself to presume that the world can be known or controlled with certainty" (Scott, 1983;296). However, there is a relationship with the supernatural and the control of one's inner self and living in harmony with what life, or death, offers. As stated by Graham, "the Cree do not reject death" and "there is some element of control in departure" (Graham,1988;86). He calls this element a case of cognitive control. Cognitive control underlies the issue of a good death (Graham, 1988:85). There is a cognitive integration of the traditional concept of power, responsibility and control, and its relationship to illness and wellness.

Yet there are also expressions of hope. As one informant put it:

I hope someday they will find a cure for that. It is somewhere in the world, but they just can't

find it yet. I guess it has to be something like a plant. Somewhere in the world. I don't know where it is. But I guess people are not looking in the right place. All they think about is money. I think (B3Code3).

This expression of hope for discovery of medicine to cure diabetes was expressed by other informants as a question, at times after an interview.

In the next section, we now turn to the issue of weight. Because biomedical professionals emphasize the connection between body mass and diabetes, this is often the concern of diabetes education. Although specific questions on the perspectives on weight were not part of the investigation, informants were asked if they had been advised to lose weight, and if they did lose weight, to what extent. However, perspective and value given to weight is often impacted by culture, and indeed, there were some indications that there was a subtle difference in the way that people saw ideal body mass. This section discusses the issue of weight loss and the ways that people talked about weight, exercise and diet.

4.1.6 Treatment: The Issue of Weight

The majority of informants reported they had lost weight. However, there were understandings which were different from biomedical perspectives. As one woman put it "I don't want to be too skinny" (A2Code12). Another said

that if one is losing weight, people ask "are you sick?" However, more significant is the way that people talk about exercise, and the purpose of the exercise. This connection is made because it is difficult to talk about exercise in the absence of the issue of weight loss. It is often the rationale given for exercise to decrease body mass by biomedical professionals. However, the understandings for the need to exercise have more subtle significance for the informants. One concept is that the sugar is animate, and must be moved. It must not be allowed to sit still.

Exercise was easily spoken about by the informants, and most said that they made efforts to walk or do other activities. According to the accounts of the informants, exercise was an activity which was meaningful because "the ancestors worked hard." For this reason the exercise model is more meaningful and successful than the diet regime which is often prescribed by physicians and other biomedical professionals. Because people are able to relate it to the past and to being Nêhinaw, exercise is acceptable, and most of the informants do some form of exercise. The majority said that they walked. The concept of diet for weight loss prescribed by physicians is more foreign.

The method of preparing food made more sense than the type of food recommended. Boiling food was more acceptable because it was seen as the predominant traditional way of preparing wild food. Many of the informants related that the

ancestors worked hard and boiled wild food, as well as used their own Indian medicine.

Many of the informants said that their physicians advised that they lose weight. Many agreed (15/22) that they had been "heavy" or "fat" at the time of diagnosis. One informant related how she would get "so irritated. Nobody wanted me. I was so fat. You know the feeling you get. Just like you have low self esteem, that is, you think badly of yourself (amuchenimisoyan)." She was 350 pounds when she was diagnosed with diabetes, and is now 190 pounds. Her understandings about diabetes revolve around weight, exercise, and sweets, and the lack of a traditional diet of wild meat, and "things that grow." When she was asked what she thought diabetes was, she stated it is there because of increased availability of technology which has resulted in a more sedentary lifestyle.

We don't move as much like our ancestors did. They did everything. They didn't have electricity. Just turn it on. They had to chop wood, carry water, go to the store by walking. They never had automobiles. That is what I noticed too, when I was growing up. You are always on the go. Today you just sit and watch T.V., eat bread, things like that come easy. That is how we build up our sugar (A12Code22).

Exercise and diet are recommended for weight loss. Many others did not seem to have much difficulty relating to the issue of exercise, as they see this within a preexisting cultural framework. Three informants who were somewhat debilitated stated that they do exercise within the limits

of their ability and condition.

Table I: Weight loss

Sex	n	Range	Mean	Median
M	7	10-100	49.14	40
F	10	7-100	55.8	31.5
M&F	N=17	7-161	52.47	31.5

Table I indicates the informants' estimates of lost weight. According to their estimates, almost all lost weight and many reported a very significant weight loss. The weights are given in Imperial pounds as this was the unit of measurement with which the informants were comfortable, and used exclusively in the interviews. The informants attributed their decision to lose weight to the recommendation of their physician. However, some lost weight because of trauma or illness, and in another instance, as one female informant (A2Code12) put it, "it came off naturally." One informant (A12Code22) went on a serious walking program and lost 161 lbs.

These results would impress biomedical professionals as "compliance." The weight loss reported by the informants are well over the estimated average weight loss for people with diabetes who have been placed on programs (Ciliska, 1998). However, it would be difficult to draw conclusions as there were no other efforts made to investigate whether weight loss for some may be due to uncontrolled diabetes, or other illnesses. This was not a major issue for the purpose of the

study. However, some of the comments regarding weight suggest that weight loss resulted from lifestyle changes and that the perceptions of weight of the physician and the patient may differ. A male informant (B9Code9) stated that he had lost 20 pounds, and that now he was normal at 180 pounds. Another informant (A3Code13) said she was comfortable at 175 lbs. because "I don't want to be too skinny." Another informant said that they had sold their car to force themselves to walk. Although one informant participated in the gymnasium for weight training, most stated that they walked for exercise. There was an understanding that if one moves the sugar through exercise, it would not get stuck somewhere in the body and create damage.

4.1.7 Resort to Treatment and "Ininiwimuskiki"

The following Table J illustrates conventional treatment prescribed by physician which the Informants stated they were using at the time of the interview:

Table J: Treatment Prescribed by Physician

Treatment	Number of informants
"pills"	10
insulin	2
diet and exercise only	9
Total	21/22

As can be seen by the table above, 12 of the informants had been prescribed medications. Two are on insulin, and ten are on "pills." Of this number, one of the informants said that she did not take the pills because she found they made her sick (A5Code15). Nine had been advised by their physician to follow a diet and exercise regimen. However, 10 are actually on this regimen. There is one informant who is no longer taking insulin but still goes to his physician for consultation. There is also one person here who is not taking their "pills" because they are under treatment from a traditional healer.

The informants were asked about Indian medicine and how this contributed to the health of the people in the past. One of the themes which emerged in regards to treatment was the perception that much Indian medicine was lost, and that if there were Ininiwimuskiki (Indian medicine), as one informant put it, it would be able to "kill" the sugar. In this instance, Ininiwimuskiki and herbal medicine in general, are understood to have had power to cure many illnesses. Although the effects of the wāmistikosew's devastation of the environment was pervasive in the understandings about causation, no informant spoke of its effect on the plants for ininiwimuskiki. In part, the loss of ininwimuskiki represents the loss of power and control for the Nêhinaw. Some expressed total doubt that Indian medicine can control or cure diabetes, because they see it

as a new and European disease.

Only one informant stated he had been cured of diabetes by a medicine man. One other informant said that they were in the process of being cured by Indian medicine. One informant explained his resort to treatment in this way: "Nato'wehewāowew, (phonetically, Ontawewew, a traditional healer), That kind. They gave me herbal medicine to help me with my sugar. Yes, still, I use those medicines. Those white medicines and Indian medicine" (B10Code10). However, three informants stated that they had tried herbal medicine, but found it was so unpalatable that they discontinued use. Still others said they did not think that the Indian medicine could "kill" the sugar, only controlled it similar to the "white medicine." There were some informants who appeared to be very familiar with Indian medicine and said that certain relatives had been or were practitioners. For example, one spoke in this familiar way about herbal, or rather, plant medicine:

Diabetes. This is what my father said to me: "If you want me to treat you. I will. The bark of a specific tree. Wuskwaitatik ekwa napakaseek. The one with the sap and the sap of a specific tree (Napname). If you want me to treat you I will make the medicine and treat you with that." He said. And then, I only used it once. I did not ask him for another one.

When this one informant was asked why she did not pursue it, she commented about distance.

However, there is more to the understanding about the

healing process for diabetes than herbal and plant medicines. There is also the issue of seeing the medicine man, who offers a more holistic approach. About a quarter of the informants had not seen a traditional healer yet, but said that they would, if the opportunity presented itself. For some, the expense, and travel to a medicine man are obstacles. This resort to healing may be impacted by the policies of the Medical Services Branch, Health and Welfare Canada (Cale, 1995) which have only recently recognized the need for the Aboriginal peoples to seek traditional healers. The guidelines are somewhat restrictive in that they state that healers must be sought within provincial boundaries without recognition of tribal boundaries.

There were a variety of responses regarding resorts to treatment. Two informants suggested that the sugar "could be killed" if there were Indian medicine. "Ininiwimuskeeki: Indian medicine. That if this medicine existed, it would kill the sugar (uses animate form). There are also two opinions on taking Indian and "white treatment" concurrently. One male informant thought that the white medicine would be "greatly interfered with" by Indian medicine. Another expressed doubt: "I don't think that he (name of traditional healer) is able to kill it but he is able to control it" (A3Code13).

In these accounts the concept of the animate nature of the sugar within one's body is apparent, suggesting the

pervasiveness of language in these understandings. However, this does not suggest that all informants agree that the sugar can be killed or controlled by Indian medicine. One informant succinctly stated that he did not agree that Indian medicine can cure diabetes. He stressed it in this way:

I don't know. Some people say they can. But I don't really believe in that because it is the old people who had the medicine. And they didn't have the diabetes to try to find a cure at that time. They controlled what they knew. It is a European disease. That. And they didn't know about European diseases (A5Code5).

There was also a split in opinion about the available traditional healers. Others expressed hesitancy to discuss Indian medicine because, as one woman informant put it, "they will be told upon." This statement perhaps reflects the history of traditional or Indian medicine which was forced to become clandestine in Canada amongst the Aboriginal peoples. One informant thought, in referring to Indian medicine, that "some do not use it right" (A2Code12). This may suggest that there is some feeling that "bad" medicine may be used. Hallowell's work clarifies that bad medicine was feared among the Ojibway (Hallowell, 1963). There is a suggestion that this is also an influence in the understanding.

Another informant (B8Code8) said he thought there was no consistency in Indian medicine, and that it may work one occasion, on another, it may not. While some tried herbal

Indian medicine for diabetes and found it unpalatable, they told of accounts where they received Indian medicine for other illnesses.

The following discussion illustrates the use of healing methods used by the informants.

Table K: Resorts to Healing

Treatment	Number of informants
Indian medicine	3
Combination of Indian and "white medicine"	1
Live ininiwipimatiseewin	2
Avoid alcohol	4
Drink more water	1
boil food	8
Avoid greasy/fatty foods	8
Restrict canned foods	2
Avoid junk food	20
Avoid sweets	20
Exercise	20
Low salt	5

Most of the informants said they avoid "junk food" and sweets (20/22). Exercise also figured prominently giving the rationale that the ancestors had to work hard (20/22). The understanding is that the ancestors were strong because they ate right and had to work hard. The previous table J (see Page 127) illustrated that almost half of the informants were on "pills" prescribed by the doctor; however, one

informant of this group stated that he is taking both Indian medicine and prescribed medication concurrently. As well, one informant stated that he was cured by the medicine man and lives the "ininiwipimatiseewin." He still sees his physician, whom he said was surprised that his glycemic levels were remaining normal (B9Code9). Four explicitly stated that they avoid alcohol and eight stated that they avoided greasy or fatty foods. Boiling food was mentioned as important by eight of the informants, giving the rationale that the ancestors had wild food, and prepared it by boiling. These explanations are similar in many respects to the understandings which have been found among the Anishinaabeg (Garro, 1996) and the Dakota (Lang, 1989). Yet they are understandings which are related to the hunter way of life and are clearly Nêhinaw.

4.1.8 Pikonata Kekon and The Issue of Identity

Pikonata kekon was used most often by informants in referring to "junk food." In literal translation, it means something worthless, or alien. The Cree-English Dictionary (Beaudet, 1995;148) states that "pikonata" means common, gratis, all for nothing, without cause, without reason, in vain, useless, or false." At times this word was used to mean something "alien." Usage of this term arose most often when "junk food" was talked about. The concept is that it

refers to food which is not valid, frivolous, or "eaten for nothing," such as chips, candy, chocolates, french fries, and soft drinks, which they also referred to as "white food."

Many informants talked about junk food as pikonata kekon. Included in this were soda pop, chips, candy, and sweets. One informant also included canned strawberries and raspberries in this definition (B2Case2). Pikonata kekon includes other things which are "not Cree." The term, "pikonata kekon" was also used by two informants to refer to something sinister. That is, when one informant spoke about diabetes, they related that perhaps it is "pikonata kekon" (A1Codell). That is, an entity or disease which is strange and sinister. Similarly, another informant stated that she was afraid that she might get something "pikonata" like cancer. Thus, an illness is another which could be pikonata kekon. The former informant, stated that "maybe it is not an illness," and that it is perhaps something "made up" by physicians from their books. These understandings reflect that pikonata is something strange and alien among the Nêhinaw and is not found previously within preexisting understandings of food itself as well as not being within the Cree taxonomy of illness.

On the other hand, wild food was considered to be "strong food" (me'chim), which is valued in the Cree hunter tradition. As one informant put it, "They ate wild meat all

the time. That helped, I guess. Kemuskawatiseewak akoospeek ininiwuk, people were very strong (hearty) then. There was not much that could destroy them" (B2Code2). The broader implication of meaning of "me'chim" is that animals are seen to be "gifts" which are only partly provided by the skill, luck, and talents of the hunter. According to Adelson (1992), "Eating well for the Cree incorporates notions of living well that are rooted in Cree life and practice." The concept of healthy food from the Cree perspective include those that are "natural" or "wild" food, or "things that grow."

Identity comes up as an issue in many subtle ways in the interviews. Pikonata kekon describes those things which are not validly Cree. The threat of diabetes on not only personal freedom and control, but on the very identity of being Nêhinaw. One woman informant noted: "I often think, too, when we go and see the dietitian, because he is white. How is he to know how our people eat? Because we eat differently. They are able to afford what they eat" (A5Code15). Another stated, "But sometimes we can't afford the stuff. Ha, they want you to go on a diet. I went to a dietitian before. Eh. But sometimes you can't afford that kind of food" (B8Code8). Threat of loss of identity, accompanied by loss of eating traditional food, may be seen as a threat to identity. As well, these informants' explanations include financial and socioeconomic factors

which impact compliance to prescribed diet for diabetes.

5. DISCUSSION

An example of one of the more salient themes which emerged was the way that informants used the animate/inanimate concept which characterizes the Cree language. As well, ingestion of too much sugar and loss of traditional ways were pervasive in those understandings. Examining the role of language being the objective of the study, there is not as much an analysis on other perspectives.

5.0 Animate/Inanimate

The linguistic concept of what has been termed as "animate and inanimate" figures prominently in the informants' explanations about how diabetes works within the body. Animate noun forms are predominant and are used in explanations about onset, course, pathophysiology, and treatment, specially in relation to sugar. Firstly, upon onset, it is understood to come to one secretly (as though a hunter). Secondly, the term "otinik" (being taken) is used when one experiences onset, and infers conscious choice as well. This term is also used when one has died from diabetes. "Otinik" represents capture or death. "Kikiskak" is a term which is used in Nêhinaw to describe that sugar is within one's body. Thirdly, there is an understanding that

sugar can travel (Pimotew) to various parts of the body and create damage. Lastly, in speaking about treatment, it is understood that one should "move" sugar so it would not sit still anywhere where it can create damage. Thus, exercise is seen as beneficial. Further, it is understood that if there was Indian medicine, that it would kill the diabetes. The use of the animate is pervasive when speaking about sugar, and indeed, sugar is classified as animate. As well, and not surprisingly, hunter terminology was a part of the explanations. When referring to sôkkawaspinewin (diabetes) the inanimate form is used. Whereas when referring to sôkkaw (sugar) the animate form is always used.

Animate forms in language and cultural understandings about power are also intimately tied to the ways that diabetes is understood by the Nêhinaw. Black (1977) proposed that the conceptualization of power underlies Ojibwa belief systems, and that related to this are understandings of control and responsibility. She introduced an intracultural view of power reflecting the world view of the Ojibwa. Living things and non-living things are categories which are used to denote distribution of power among them. However, these categories are not mutually exclusive. Some of these can be inanimate in one situation, and be considered animate in another (Hallowell 1960). This concept is salient in the world view which impacts the understandings of diabetes. That is, animate does not necessarily mean being alive in

the biological sense of animation, but what is salient is the degree or amount of power they have (Zieba, 1990).

The Ojibwa are an Algonquin group, who are closely related to the Nêhinaw both in language and many world views, although there are admittedly, differences. Another example of commonality among these two tribes' world views is the concept of medicine which Black discusses in her article titled "Ojibwa Power Belief System" (Black, 1977). She discusses "maskiki" (which is the same word used by the Cree), as a concept which is integrated with wider spheres including curing, protective and bad medicine. The issue of control figures prominently in this. According to Black, good medicine is used to restore or maintain another's state of control.

5.1 An Issue of Power

The issue of power relationships which emerge have many meanings for the Nêhinaw and they speak of these on many levels. The results illustrate that the complex and diverse ways the Nêhinaw think about illness, and diabetes in particular. There is not only the cultural issues which impact the understandings about the illness, but it indicates that tribal language has a major role in those cultural understandings. Broader explanations are offered by the informants than is offered by the biomedical model of diabetes. One understanding which becomes clear is that of

the overall concern of the destruction of the hunter-gatherer tradition in the lifetime of many informants. The disruption of the environment is seen as a result of wāmistikosew or external control. Further, the disruption of the environment is seen as having resulted in a decrease in quality and quantity of wild foods available to the Nêhinaw. With this, came a decrease in activity of hunting and procurement of wild meat. This has resulted in the change in diet from wild food to store-bought food which is seen to have unhealthy additives and chemicals. These events are seen to account for the progressive emergence of diabetes in many of the community members. The Nêhinaw have a broader understanding of diabetes, and it stands as a metaphor for external control. In contrast, biomedical professionals maintain that diabetes is an individual illness, and that predisposing factors include heredity, obesity, and a sedentary lifestyle. There is an individualized approach to the person with diabetes, and this takes the form of diet, exercise, monitoring of the blood sugar levels, and if required, medications. If one can use Foucault, the "clinical gaze" (Foucault, 1978) is established on individual bodies. This medicalization of the illness does not take into account that the Nêhinaw see the loss of their traditional way of life, and the loss of control as a phenomenon that have resulted in a collective increase in diabetes.

5.2 Diabetes as Political Metaphor

Diabetes stands as a powerful metaphor for the loss of the way of life for the Nêhinaw (Cree) hunters, where they see the breakdown of the way of life through socioeconomic and environmental impacts. Opaskwayak Nêhinaw informants described the destruction of the plant and wildlife of the surrounding area and the traditional hunting territories. Many referred to the smoke that comes from the paper mill, and the smell that permeates the community on some cloudy days when the wind is from the northeast. They also talk about "Ducks Unlimited," an institution which has often been seen as being in conflict with Nêhinaw interests regarding hunting and hunting territory. One informant pointed to one of the consequences of the developments: "The people say that the fish do not taste the same, neither do the rabbits down river who eat the bark off the trees." He attributes the latter to the paper mill. There is also a sense that there is a decrease in quality and quantity of wildlife because of increased control by Wāmistikosew (white man). There is an understanding that a direct relationship exists between diabetes and the decline of available wild life for food. There is also the perception that in the past, the human beings (ininiwuk) were strong (ke muskawatiseewak), and there "was not much that could destroy them" (B2Code2). This model is drawn from understandings regarding

traditional food (Me'chim), wildlife, and environment.

The Nêhinaw understandings regarding diabetes have to do with the issues of power, identity, political, and economic control. This is represented by the expression used when speaking of external control by Wāmistikosew (the white man). The following quote from an informant perhaps describes best the meaning given to politics and health.

The person must try to look after everything. That is the way we used to look after ourselves a long time ago. Today we are trying to be white men. I do not condone the way we are being looked after today. Ever since the white man controlled me, I am sick. Ha, ha (AlCodell).

Further, she stated that "We are going to lose everything." The message is strong and warns that the Nêhinaw will be destroyed. The very identity of the Nêhinaw is threatened.

"Pikonata kekon" was an expression used often by the informants and it represents the parameters of what is Nêhinaw, and what is not. The implications this has for the individual Nêhinaw incorporates those very essences of being Nêhinaw, and one of the Anisiwininiwuk (human beings).

5.3 The Strong/Weak Model

One of the major themes in the Nêhinaw accounts is the strong/weak model. This model represents an individual's struggle to keep the sugar in balance, and that one must be

vigilant to keep it in a weak state. This concept and understanding was summed up by one man who stated, "Inikook kwask kasookeemagak kasugawaspinet tansi ke atiispanyikoot awayuk." Translated, this means that "the extent of the power of the illness will determine what happens to the person." It emphasizes the almost complete power of the disease regardless of what the individual does. The subsequent cultural changes have resulted in this weakness. In the first case study, E. Mi'kisew, the informant's emphasis was on the issue of self-reliance balanced with, although implicitly, provide for others. On the other hand, his model of the strong/weak also incorporates the understanding that the "weakness" is also seen as a result of contact with Europeans, and the white man's destruction of the environment. The importance of caring for oneself fits into the model of balance between weak and strong and the loss of the traditional way of life for the Nêhinaw, to whom this meant a loss of strength. The subsequent cultural changes have resulted in this weakness.

Indeed, the ways that the Nêhinaw informants talked about diabetes expressed this concept in their understandings of this illness. This concept is useful in appreciating the impact that diabetes may have on the individual Cree person is that his very identity as a Cree is impacted. These understandings of the illness are impacted by culture (of which language and world view is an

integral part), sociopolitical views, personal experience, and, as well, influenced by contact with biomedical professionals.

6. SUMMARY & CONCLUSIONS

The broad purpose of the study was to identify Nêhinaw ways of talking about diabetes, and the impact that language has on these understandings. The results of this investigation have given some insight, using language as a vehicle, into the Nêhinaw understandings about the etiology, onset, treatment, pathophysiology and course of diabetes.

The Nêhinaw term for the illness is sôkkawaspinewin, which can be translated to mean illness caused by sugar. "Otinik" (capture, or conceptually, someone else taking control) is a term which is used to describe the onset of the illness. The same term was used by the informants to express death from the illness. Further, nipahiko (kills him) is used to describe the death from diabetes. "Ponipimatisew", a term which infers a cognitive choice in death is not applied here.

In this group of Nêhinaw, there is a pervasive understanding that the environmental and ecological impacts of development have a major role in the evolution of the disease. Diabetes stands as a powerful political metaphor for the loss of a way of life which had changed during the lifetime of the informants. There is the understanding that the people were strong in the past because they followed a traditional way of life which consisted of hunting and gathering. However, because of imposed changes on the environment and increased technology, they observe that now,

people do not exercise as much, eat "pikonata kekon" (non-valid foods such as "junk" or fast food, and sweets), fried food (the traditional method is boiling food), and do not have as much wild food as before. Underlying this understanding is the sense of loss of autonomy and control.

"Pikonata kekon" represents not only the "junk food," but also represents the parameters of what it is to be a Nêhinaw as compared to other things which are not.

The concept of the animate/inanimate within the language impacts the understandings of how diabetes affects the body. Animate nouns are used in the explanations. The sugar is seen to be animate, and travels to many parts of the body creating damage.

One of the major themes which emerged as salient in these Nêhinaw informant accounts was the strong/weak model. It represents the struggle of the individual to keep the sugar in balance, and that there must be a constant struggle to keep it weak. This model also incorporates the "weakness" which has resulted from contact with Europeans, and the subsequent destruction of the environment on which the Nêhinaw depended for life which is understood to have been "minopimatiseewin", (a term which Adelson translated to "being alive well" (Adelson, 1992).

Research directed at understandings of health and illness among North American tribal peoples reveals that these interpretations do not take the form of "impoverished

biomedical accounts," but that they reflect issues of identity, history, and culture (Garro, 1990). This was most certainly true of the accounts of the Nêhinaw informants in this study. Although these interpretations of illness reveal some biomedical information, they were explanations which were distinctly Nêhinaw. Further, these Nêhinaw support that "being alive well" among the Cree is deeply rooted in identity and politics as was described in the study conducted by Adelson (1992) among the Whapmagoostui Cree. These themes are implicit in the explanatory models of the Nêhinaw, reflecting the impacts of culture, language, politics and history.

6.0 Implications for Further Research and Practice

This was an "emic" effort, a first effort, and suggests that other studies which are so directed should be encouraged. It would be interesting if a more complete effort could be realized with linguistic consultation and assistance and use of standard orthography. Because of the small sample size of this study, it is difficult to say how it can be generalized to other Nêhinaw. However, it does reveal that language impacts the understanding about diabetes among the Nêhinaw. The animate and the inanimate categorizations that characterize the Cree language significantly apply to those understandings about sugar.

Non-Aboriginal biomedical personnel will continue to work with tribal populations suffering from diabetes. The study has considered many understandings that these tribal people hold in regards to the illness. While these understandings are not dissimilar to the basic elements taught in diabetes education, they are uniquely those of the Nêhinaw. The Nêhinaw take the information and make sense of it drawing from life, illness and cultural experience, and the political, economic and social and historical pre-existing knowledge. Because the biomedical model considers the cellular level of the illness to be basic, it does not share a truly empathetic view with tribal people's understandings of the illness. The results of this study should prompt health professionals to attend to individualized models of the illness. This would assist medical professionals to become more open to the way that biomedical information becomes assimilated in both individual and cultural models, and that semantic networks are involved in those understandings.

Medical anthropology provides the conceptual and theoretical frameworks by which understandings regarding illness and disease may be examined. Studies directed at how medical knowledge is constructed indicate that social, cultural, economic, political experience and history interacts with interpretation of illnesses (Kleinman, 1988; 89, Garro, 1996; Farmer, 1996). The construction of

understandings about illness is the result of interactions with others, personal experience and culture (Kleinman & Kleinman, 1978; Garro, 1990).

On the other hand, illness is the meaning that is attributed to the experience of human suffering (Kleinman, 1986). Illness is viewed as the total experience of the person, including the social and cultural realms of being, and involving personal and interpersonal relationships (Kleinman, Eisenberg, and Good, 1978).

Kleinman (1986) defines illness as the perspectives of the patients in context of their culture, whereas disease is the perspective of the practitioners and the biomedical culture. That is, "illness is the way the sick person, his family, and his social network perceive, label, explain, value, and respond to disease" (Kleinman, 1978; 88).

Kleinman (1980) stated that because western medicine concentrates on the biology of the body, the result is that there is less emphasis on the treatment of illness and overemphasis on the treatment of disease. Because disease is viewed as a pathophysiological abnormality, the clinical interest is at the cellular level of the body. Biomedical explanations place illness in the individual body, not the environment. The result is reductionistic because of this concentration on biology. "Attempts by health workers to provide information regarding appropriate treatment are more likely to be successful if grounded in an understanding of

how people interpret and respond to illness" (Kleinman, 1978). This is especially important when the patient and the physician are of different traditions and culture. Broad dimensions must be inclusive of cultural experience and of the broader historical context, because health providers are not exempt from culture. Therefore communications between tribal peoples and their biomedical providers is important, if not crucial. The effect of biomedicine which does not include such parameters can be reductionistic (Hahn & Kleinman, 1983). Culturally based understandings can be incorporated in educational efforts (Hagey, 1984); however, the power relationships which underlie the understandings and communications may well be worth a second look. The Nêhinaw model indicates that language plays a role in the ways that the informants think about diabetes. The sugar they speak about draws power from its animacy. These Nêhinaw, because sugar is animate in their conceptualizations, impacts how they understand the power of sugar, ergo, diabetes. Further, they relate the sociopolitical events which they have witnessed in their lifetime destroying the traditional Nêhinaw way of life as a cause for the increased numbers of fellow First Nations people diagnosed with diabetes, illustrating that political events can structure explanatory models.

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9.1 APPENDIX A

A. Interview questions

Interview Questions: Date: _____ I.D.Code: _____

I have come to you to ask you about your experiences and thoughts and how you understand diabetes. I want to know how Cree (the people) people understand this illness. Can you tell me your own story of your illness?

Ni-pe-uttitan ê we kakwetchimitan tânisi ka kê isi ispanihikuyân êkwa mina tânisi e iteynittamun, êkosi ka isi kiskenittamun oma diabetes ka itchikatek. Ê ntawenitaman ta kiskenittaman tânisi ay isi kiskenittakik Nêhinawak (ininiwak) oma itaspinawin. Mona na ka ke achimostawin ka ati ispaneekoyan oma kitaspinewin ochi?

1. Diabetes-is this the name you use for this illness?

Diabetes - Êkosi na kitisinekatan oma ka itaspinayan?

ONSET:

2. Can you tell me about the time when you found out you had diabetes?

Ka ke achimostawin na tânisi ka ispanik akospeek ka miskikatek asôkkawaspineyan?

3. Can you tell me what it did to you when it began? Before you were told you had diabetes, did you know something was wrong?

Ka ke achimostawin tânisi ka to takowan akospeek kamatchipanik? Amoyes awetumakaweyan oma ka ayayan oma sôkkawaspinewin, ki ke kiskeneten nantow ayetiyen?

4. What do you think, why did it start at the time it did?

Tânisi ayetenetumun, tâneki ka ke otchi matchipanik akospeek?

5. How does your sugar affect you? Is there something that you cannot do now that you did before you had diabetes?

Tânisi maka êtiskask kesugam? Moch na kekon kikeetooten ke ke tootatum amoyes asôkkawaspineyan?

6. If you were to explain it to someone else, how would you

describe what diabetes is?

Tânisi ke ke isi weetumowata peetos awayak kakon oma sôkkawaspinewin?

7. Do people treat you differently because you have this illness (diabetes)?

Peetos na ininewuk ki iti kanawapimikwok ka kiskenetakik oma ka itaspineyan?

8. What did your relations think when you told them you had diabetes? Do you know if any other family members have diabetes?

Tânisi ka itenetakik kiwakoomakanak askoospeek kawetumawachik ayayan oma sôkkawaspinewin? Mona na ki kiskenemawuk kiwakomaganak westaho asôkkawaspinechik?

ETIOLOGY:

9. Where do you think it comes from? How does a person get diabetes? (Why, do you think, you have diabetes and other people do not have this problem?)

Tanta iteneetumun, ka otchipanik oma sôkkawaspinewin tanta kaotchisôkkawaspinet awayuk?

10. Do you know anyone else with diabetes on this reserve? What do you think, do you think there are a few people on this reserve have this illness, or many?

Kikiskenimaw na kotuk awayuk asôkkamit ota iskonikaneek? Tânisi itenatumun, ateet na pooka ininiwuk ota iskonikaneek awayuk oma itaspinawin, akachi meechet?

11. How about our people in the past, do you think they had this illness, or not. Why, do you think?

Kayasmaka kitininiminawuk, kiteneten na ke ayawak omenew itaspenaywin, akachi moch? Taneki kiteneten?

12. Why, do you think, that many Nêhinaw (Cree) people are getting this illness?

Taneki, kiteneten, mechet ininiwuk, (Nêhinawak) ka ati machi sôkkawaspinechik?

13. What do people say? What do our people understand about the cause of this condition?

Tanisi a twachik ininiwak? Tanisi asi nisitootakik ka ochi

pusikoomakak oma itaspineywin?

14. Some people say it is their own doing if they get this illness. Do you think this is true?

Ateet ininiwuk itoywuk, wena katotasot awaywk oma ka ati itaspinet. Tapway na kiteneeten?

COURSE:

15. What is your sugar like at present? Do you know when your sugar get better or when it gets worse? Do you worry about it? How has this impacted you?

Tansi kesôkkam mekotch it iskask? Kiskiskeneten na mana kisugam ispeeka kwayesk ka ispanit, akwa mena ispeeka akakwayesk kayispanit? Ki kinomyekon na? Tanisi aisi pukumiskakowan?

16. Do you do anything different to get well? Did you give up anything?

Moch na kekon petos kakeetooten tati isi minogayan? Ki keepukitinen na kekon?

17. Have you heard of other consequences that can come from having sugar?

Mona na Kipeten peetos tati eetit awayak kasôkkamit?

18. Do you think you will have diabetes for a long time? What scares you the most about it?

Kititeneten na kinwes ta sôkkawaspineyan? Ke kon nawatch koostumun oma ochi?

19. Is your sugar impacting you very much? Do you think other people have it worse or better?

Mista ye na kesôkkam kepukumiskak? Kiteneten na kootuk awayukok awasimay itaspinewak, akachi moch?

PATHOPHYSIOLOGY:

20. How does this illness work? How would you tell a person who has diabetes what happens inside their body?

Tanisi a isi atoskepanik oma itaspineywin? Tansi kena ka kee isi weetumowata awayak ka osôkkamit ka isi ayspanik weaweek?

21. Do you know when your sugar goes up? How do you feel, and what do you do?

Ki kis keniten na ispeek kisôkkam kaispakepanit? Tanisi ay tama chioowan akospeek, akwa tanisi totumun?

22. Do you know when your sugar goes down? How do you feel, and what do you do?

Ki kis keniten na speek kisôkkam anechipanit? Tanisi aytamachiowan akospeek, akwa tanisi totumun?

TREATMENT:

23. What are you doing, or what is being done to treat you? How do these treatments (activities or measures) work and how do they help you?

Kekon mekotch totumun, apo toochikatek ta n'tawehikaweyan? Tânsi maka asi atoskemakakai akwa ka isi weechikoyan oma ka n'tawehikaweyan?

24. What treatments are you on now? What are you taking? What are the most important things that the doctor or nurses have told you about diabetes? Are there other things that they have advised or discussed with you? Is there some things that you find hard to meet in order to follow what the doctor has told you?

Tânsi asi n'tawihikyan mekotch? Kekon utinamun? Kekon mawutch kawetamaskisk muskikiwininewuk akachi muskikiskowak sôkkawaspinewin otchi? Moch na kekon peetos mena kike weetumakkuk ta ti totumun? Mona na kekon ki animeneten ta isi pimichisahaman oho ka kee weetumakaweun ta pimitisahaman?

25. Have you ever tried any other treatment to help you? Is there any Indian medicine that can help to treat it? Have you ever tried it?

Moyakatch na ki kee kootcheetan kotuk taweechikoyan? Ayanewan na ininewmuskiki ta weechihikoot awayak? ki kee kotchetan na?

26. Have you been told how you should eat? What have you been told? Have people who live with you said anything about your diet?

Kikeewetumakawin na tanisi ta isi meechisooyan? Kekon ke weetumakawin? Nantaw na ki itikuk kiwechahamakanuk?

27. Sometimes people say that it is hard to follow the diet.

Has this happened to you? What has been the hardest for you in following the diet?

Askow mana itowuk ininiwuk aka akeewichieechik ta isi meechisoochik. Moch kwayak kuskeetowuk kapay A animeneetakik ta pimitchisahakik oma ka keewetumachik ta is mechisoochik unima. Akosi na tapway ki tis panehikon? Kakon ka animeneetumun ta pimitisa umun oma ka is mechisoowan?

28. Did the person who is treating you tell you that you should lose weight? What did they tell you?

Mona na awayuk ka n'taweeisk ki kee weetumak ta neechipaneeyan ka ittikotean? Kekon ka ke weetumask?

29. Have you ever been told to exercise? What have you been told? What do you do?

Kikee weetumakawin na ta isi sasaweeyan? Kekon ka ke weetumakawean? Ekwa tanisi totumun?

30. How much control do you think you have over your sugar? If it is normal, would you still need to follow your diet, exercise, and take your medicine?

Taninikook iteeneetumun asi tipenimut kesugam? Kwaesk ispanichi kisôkkam, kayapich na ka otineta kimuskeekeem, akwas kayapich na ka pimitishaheta na oma kaisimeechisooyan, akwa ta sasaweeyan?

31. Do you think that an Indian traditional healer can help with diabetes? Did you ever go and see one of them? What did he/she say?

Ininew ontawehewew na ta kuskeetaw ta n'taweeat aweeya kayan it diabetes? Kena maga, moy catch na ke kee opumaw akotowa awayak ta ntaweeisk? Tanisi ka itisk?

32. Is there anything that a person can do so that they do not to get diabetes? Is there anything that can be done so that children will not get diabetes?

Kiskentetenk na kekon awayuk ta ke too tak aka ta ti osugamit? Kikiseneeten na kakwan tanis ta toochikatek aka awasisuk ta ati osôkkamichik?

33. What other things can a person do to improve the diabetes? If you follow everything like losing weight, diet, taking your medicine and exercise, what might it do to your sugar?

Kekon na awayuk ta kee totum otaspineywin ta nakutikoot?

Keespin ka ki now kakon pimitchisamani, tapiskootch tanneechipaneyan, ta pi michi sa umum ta isshi mechiosouyan, muskiki otinumuni, sasaweeun, tanisi, kiteneeten, ke ispanit kisôkkam?

34. When was the last time you saw anyone about this condition? Who do you see? Is this the person that you normally /regularly see?

Tanispeek iskoyatch ka kee wapamut awayuk oma otchi? Awena ka opumut? Kapay na kiwawapumow awayuk taweecheeisk?

35. Do you suffer from anything else? What bothers you the most?

Peetos na kitaspinyan? Kekon nowatch naspich kekon kanotchihihikoyan.

36. When you think of diabetes, what do you see? Some people say that diabetes is not an illness. What do you think?

Ispeek ka mamitoneneetumun sôkkawaspinewin, kekon kawapatumun? Ateet ininewuk mona oma akoosewin itoywuk. Kena maka, tansi asi kiskeneetumun?

37. Is there anything else you would like to say about diabetes in general? Is there anything else you would like to share about the health care that you have received? Do you have any suggestions about what could be done to improve the health of the people with diabetes? Do you have any suggestions as to what can be done to improve the health of the whole community?

Mona na peetos ki wee iton awi ichi ka isi panee-wikaw wean? Mona ka ko kena kekon kitayan keyweton ta isi pame hi cheek ota Iskoonikaneek kwask ta isi pinomanik ta ke ishi pameeichik unikik ka inow ta menopimatiseechik akwa taminoyachik?

38. Do you have any questions about diabetes? Is there anything else about the study that you would like to discuss before we finish?

Mona na kakon ki ke we kokwachimin diabetes ochi? Akachi oma ka tootuman, a moyes ekesetahak oma?

9.2 APPENDIX B**B. Biographical information**

Biographical information:

Sex: M _____ F: _____

Age: _____

Marital status: _____

Occupation: _____

Number of people in the household: _____

Number of dependent children in household: _____

Formal education achieved: _____

Favourite activities: _____

Language used (or preferred) in
interview: _____

Medication: _____

9.3 APPENDIX C

The Paraphrase

The paraphrase for informants with diabetes

Title of the Project: Nêhinaw (Cree) Understandings of Type II Diabetes Mellitus.

Investigators: My name is Jocelyn Bruyere, daughter of Beatrice Wilson. I will be doing the research. I am a graduate student in the department of Community Health Sciences, Faculty of Medicine, University of Manitoba. My phone number in Winnipeg is: (204) 775-4652 or at Opaskwayak, (204) 623-5132.

My supervisor, Dr. Linda Garro can be contacted at the: Department of Community Health Sciences, Faculty of Medicine, University of Manitoba, 750 Bannatyne Avenue, Winnipeg, Manitoba, R3E 0W3. The phone number is: (204) 789-3365

Purpose of Study: The purpose of this study is to learn how Nêhinaw understand and talk about diabetes mellitus, as a part of the course work I am doing. As the investigator I will be interviewing 20 people at Opaskwayak Cree Nation who have been diagnosed with diabetes. I am interested in how and what people think about their illness, and how they express these within our language.

Selection of Interviewees: Only 20 people with diabetes will be interviewed. The people who are being asked to partake in this study are selected by chance. Numbers will be assigned to names and a random sample will be selected through an objective process. I will be given the names of the people to be interviewed only after they have been selected, asked, and have agreed to be interviewed for the study. I will not be involved in the selection process.

The interview: The study is based on an interview which will take about two hours. We can meet at a time and place convenient, private, and comfortable for you. I will ask about your comfort level in speaking with me in Cree or a mixture of English and Cree. I will then ask you to tell me about your understandings and experiences with diabetes.

The content of some of the questions which I will be asking are as follows. I will ask when it started, what might have caused it, what you have done to treat it, and how having this illness has affected your life and your family. I will also ask you what sorts of things you have been told about this illness. There are no right or wrong

answers. I am interested in what you think.

With your permission, I will tape record the interview. I want to tape record this interview for two reasons. In the first place, the interview results will be more accurate and will better represent your responses if your actual words and expressions are recorded instead of having me just write down a summary. Second, I cannot write as fast as people speak and the interview will go more smoothly and take less of your time if it is done this way. The tape recordings will be kept in a locked place and kept by the researcher for five years. After this, the tapes will be erased.

Confidentiality: Records of the interview with you will be coded only with a number and not your name, so that any records pertaining to your interview could only be identified by myself as the investigator. No other person will be allowed to have unauthorized access to any of the interview data or to these records. The report will neither mention your name nor link personal identifiers with the information. I will treat the tape recording of the interview in the same way, as a confidential part of your record. A secretary may translate and type the interview, but will not know who you are. Personal information will be kept confidential. I will probably use some quotes from the interviews to clarify the concepts which are being put forward, but individuals who said those words will not be identified. Quotes are more accurate and will have more impact than if I interpret the explanations.

Participation: Joining the research is completely up to you. I hope you will agree to be interviewed, but you are under no obligation to join the study. If you decide to be interviewed, you can drop out at any point in time you feel that you must. If you decide not to talk to me, this project will not make any difference in the way you are getting services now.

Risk and Discomfort: In all research projects carried out by the University, the researcher must point out if there are any risks or discomfort involved for the participant. I do not think that this will involve risk or discomfort, unless there are questions which will make you uncomfortable to answer. You may skip any questions which are uncomfortable for you.

Benefits: All university projects must clarify if there are any benefits to the informants. This project will not influence what services you are receiving from the Otineka Health Centre. There is no payment for participation. When completed, this research project could help the Opaskwayak First Nation learn what ways Nêhinaw (Cree people) think and

talk about diabetes. This may help the band get a better picture of what our people, as a whole, understand about diabetes.

After this project is completed, a summary of the results will be submitted to the Opaskwayak Cree Nation.

If have any additional questions about the project, please feel free to contact me. My telephone number in Winnipeg is 775-4652, or, in Opaskwayak, 623-5132. If you wish to contact my supervisor, Her name is Dr. Linda Garro, and her number is (204) 789-3365.

9.4 APPENDIX D

Consent form-English: Consent form for people with diabetes
Consent to participate in the study: Code: _____
 Study: Nêhinaw Understandings of Type II Diabetes Mellitus.

I understand that I am being asked to take part in a study about Nêhinaw understandings of diabetes. The interviewer will ask me questions about what I think and understand about diabetes. This interview will take about two hours. I have been given the information about the study, how my name was selected, and have been approached as to whether I want to participate or not. I have been given the investigator's name, telephone number, and address. I have been given a chance to ask questions. I understand that I can ask more questions at any time.

I understand that my identity will not be revealed and answers to all questions will not be linked to me. The tape recordings of the interview will be kept in a locked place, and these will be erased five years from now. If a secretary is used to type the recordings, they will not know who it is on the tape, as numbers will be assigned to the informants and will only be identified by this number. As a part of the study, the investigator may be using some of my comments but without identifying me.

I understand that I can choose to take part, or not to take part in this study and that I can stop the interview at any time. My decision to take part or not to take part will not affect the services that I or my family receive. I have been told that this study may not directly benefit me in any way. However, my participation will help to add to the knowledge about diabetes and concerns that our people have about this problem.

My signature below indicates that I understand and have consented to participate in this study.

Name: (print) _____

Signature of informant _____ Date: _____

Signature of witness: _____ Date: _____

I have given information to _____ on the purpose and nature of the project as described on the information sheet which has been given to the participant. I have asked him/her if he/she has any questions about the study and have answered these questions to the best of my ability.

Signature of investigator: _____ Date: _____

Jocelyn Bruyere (775-4652 or 623-5132)

9.5 APPENDIX E

Consent form-Cree: Musinigun tapwe apukitinisowyan ta wechihiwayan. Code: _____

Ni Ni sitoten a koketchimikayan ta wechihiwayan kan tonikatek tansi Nêhinawak (ininiwuk) ka isi kiskenetakik oma diabetes kaitchikatek. Owa kantonak na kokwechimik tansi ayteneetuman akwa ayishikiskeneetaman oma itaspineywin. Neeso tipikan pooko inikook ni ka ayuminan. Nikee weetumak kakinow kekon tawekiskeneetuman oma ta ispanik akwa mena tatitootak owa. Akwa mena, ni kee weetumak tansi a ke isi otinekatek neweeinwin, akwani nikeepa koketchimikawin mati ke note wechihiwayan ta peekiskotikowean oma ochi diabetes. Akwa ni keemeanikawin oweenowin, tante ayayat, owa kaatoskatak omenew, akwa mena tanti ta ke tapotak. Ni ke wetumak mena takokwechimuk keespin kakon kotuk wekiskenetumani. Akwa nake kwokwetchimaw kekon no ta kiskeneetuma ani pokooispeek.

Ni kiskenitan aka niweenowin ta apachitikatew akwa nanaskowimewa kakinow moch kootak ayayuk ta menow. Oho recordings ta kannowhenischikatewa akipapikyikatek ekota, akwa wena pooko awa takanoweneetum. Aweeuk kotak apachietchi moch ta kiskeneetum aweniwa kaayuminit unta tape. Tapokoni numbers poko ta menaowuk uniki kaayume hichik. Musinahaki maka owa, tansi ka uti itwayan takeepachitaw. Takanawenechikatewa Oho tape recordings nehanan aski, akwoni ta kase pa ka ta wa.

Ni kiskeniten pukitinuk i owa ta kwa kwetchimit ta achimostawuk tansi ayisi kiskeneetuman oma diabetes kaitchi katek, a kachi aka pukitinuki, moch kakon nantow taispanew. Moch nantow ta kwiskipanew tansi asi ustumakowak. Mona mena kewan semak na ka opaten. Akwa mena moch ni ka ti pamakawin. Maka ni kiskeneeten wechiukik oko, Keenanow Nêhinawuk ki ta ti kiskeneeten nan ow tansi aisi kis kenit tumak akwa tansi ininiwuk ka isi opatekik oma diabetes ka itchi katek.

Ni musinahen ni weenowin, akiskeneetuman tansi e we itapachichitaniwak ka we weetumowuk owa.

Oweenowin: _____

Wenoowin

musinahahum: _____ Akospeek: _____

Wennowin kotak owa ka wapatak a musinahamunit oweenowin:

Akospeek: _____

Ni ki wetumouwow tansi e we itapchitayan oma ka we witumuwit oma kekon. Ni keemeenow mena musini kan a weetumakoot ayweeuk oma kantonikaniwak. Ni keekow ketchimaw mena kakon kiapitch we kiskeneetaki ta ke ko kwitchimit. kwaesk ni kee kocheetan ta nuskosiuk kweusk.

Niweenowin

nimusinahayen: _____ Akospeek: _____

Jocelyn Bruyere (775-4652, or 623-5132)

9.6 APPENDIX F

F. Consent form-Syllabics

Lr a Δ b' C V. ∇ < P Λ σ τ γ' C Δ Γ Δ ∇ γ' Code.
 σ σ τ 2 U' ∇ Δ b γ. Γ Γ b Δ γ' C Δ Γ Δ ∇ γ'
 P C a) σ b U' C σ Γ Δ σ Δ' (Δ σ σ Δ')
 9 Δ Γ σ Γ C P' Δ L Δ b Δ' Λ σ Δ' (diabetes)
 b. Δ Γ b U' Δ Δ. 9 a) Δ' σ Δ. b γ. Γ Γ'
 C σ Γ ∇ P U σ C L'. ∇ b. ∇ Γ P' 9 σ C L' Δ L
 Δ C' Λ σ Δ'. σ Δ P < Δ b' Δ Δ Δ σ Δ' σ b Δ γ Γ Δ'
 σ P Δ C L' b P a. 9 b' C Δ P' 9 σ C L' Δ L
 C Δ' < σ' ∇ b. Γ a. C Δ Γ C' Δ Δ. ∇ b Γ a σ P
 Δ C L' C σ Γ b P Δ Γ Δ Λ σ b U' Δ Δ Δ Δ' Δ σ Δ'
 ∇ b. σ P σ < σ b γ. Γ Γ b Δ' L P 9 σ U Δ Γ Δ ∇ γ'
 C Δ P' b' Λ b Δ γ' Δ L Δ Γ Δ b Δ' Λ σ Δ' (diabetes).
 ∇ b. σ P Γ σ b Δ' Δ Δ σ Δ', Δ U Γ a ∇ Δ P'
 Δ Δ. b σ b σ' b' Δ Γ σ', ∇ b. Γ a C σ U C Δ Γ.
 U < C'. ∇ Δ Γ Γ a Δ σ P b σ P' b Δ L' σ P
 Γ σ' C σ U C U < C', Γ a P' Λ' 9 b' Δ.
 b γ. Γ L P. ∇ b. σ P b γ. Γ L' 9 b' σ U
 P' 9 σ C L' σ Λ Δ Δ' Λ'.

(4<7<σ<7*)

σ ρ<9σU' ∇ḃ σ ΔΩΔ' C Δ<ρρ̇ḃU°.

∇ḃ .e'dJΔ'∇.Δ'e 6ρa° l̇- ΔΔ.γ* C Γ̇°

DA recordings C 6a∇.σΓ̇ḃUΔ. ∇ ρ<ρ̇ḃΔḃU

∇dC, ∇ḃ Δe 1d ΔΔ. C 6a∇.σC'. σγ̇Δ'

Δ°ḃ° 1d C 6a∇.σC l̇*. ∇ḃ.σ C 6rΔVΔḃUΔ

ΔσΔ tapes. ΔΔγ* dC* Δ<ρ̇Ċρ̇ l̇- C

ρ<9σC' Δ∇.σΔ' ḃ ΔγΓσ' Δ'C tape.

numbers 1d C Γ̇ΔΔ' Δσρ 9 ΔγΓΔρ* ...

LΓaΔρ l̇ḃ ΔΔ, CσΓ 9 ΔΠ ΔU.γ', C ρ

Δ<ρ̇Ċ. C 6a∇.σΓ̇ḃUΔ. DA tape recordings,

σγ̇Δ' Δ°ḃ°, ∇ḃ.σ C 6rΔVΔḃUΔ.

σ Ρ^οΓ^οΣ^ο ∇ κΡηα^ο ΔΔ. C 69.Γ.Γ' C
 ΔΓΔ^ο (Δ^ο CσΓ ∇ ΔΓ Ρ^οΓσC L^ο DL diabetes
 (Δ^ο Δ^ο Λ^ο Δ^ο) βΑΓβU^ο, Δ.∇.β.Γ ∇β κΡηαΡ,
 L^ο 96^ο α^ο C^ο C Δ^ο Cσ^ο. L^ο α^ο C^ο C

9^ο Ρ^ο Cσ^ο CσΓ ∇ ΔΓ Δ^ο C L Δ^ο Δ^ο. Ja Γα
 96^ο 4L^ο σ β Δ^ο C U^ο? ∇β. Γα L^ο σ β
 ηCΔLβΔ^ο. Lβ σ Ρ^ο ΓσU^ο Δ.Γ.ΔΡ' ΔΔ.

ΡΔα^ο α^ο Δ^ο Δ^ο Δ^ο ΡCη Ρ^ο ΓσU^ο β β^ο CσΓ ∇ ∇Γ
 Ρ^ο ΓσC L^ο, ∇β. CσΓ ΔσσΔ^ο 9 ΔΓ Δ^ο C^ο Ρ^ο
 DL diabetes (Δ^ο Δ^ο Λ^ο Δ^ο) βΑΓβU^ο.

σ Λγα Δ' σ Δο Δ', ∇ Ρ' 9 σ CL' Cor ∇
Δ' ΔCκ Ρ' σ Δ' 6 Δ' Δ' CL Δ' ΔΔ'

Δ Δο Δ'

Δο Δ' Λγα Δ' ∇ Δ' Λ'

Δο Δ' ΔCκ Δ' 9 Δ' Cκ ∇ Λγα Δ' Λ'

Δο Δ': ∇ Δ' Λ'

σ Ρ ΔCκ Δ' Cor ∇ Δ' ΔCκ Ρ' ΔL 6

(Δ' ΔCκ Δ' ΔL 96', σ Ρ Γα° Γα Λγα Δb'

∇ Δ' Cκ Δ' ΔL Δ' ΔL 9' Δσ β' σ Δ' σ Ρ

69. ΡL° Γα 96' 94Λ Δ Ρ' 9 σ Cκ Ρ CΡ

69. ΡL' ΓΔσ σ Ρ Ρ' ΔC' C Δ° β' ΔL Δ'

6. Δ'

σ Δο Δ' σ Λγα Δ' ∇ Δ' Λ'

Jocelyn Bruyere (775-4652 or 623-5132

9.7 APPENDIX G

Information Regarding the Project for NATOTAWIN

INFORMATION ABOUT THE PROJECT.

Appendix G

Jocelyn Bruyere, daughter of Beatrice Wilson, is doing a research project on Nêhinaw (Cree) understandings of diabetes. She is a graduate student in the department of Community Health Sciences, Faculty of Medicine, University of Manitoba.

The purpose of this study is to learn how Nêhinaw (Ininiwuk) understand, and talk about diabetes mellitus. She will be interviewing 20 people at Opaskwayak Cree Nation who have been diagnosed with diabetes. She is interested in how and what people think about their illness, and how they express these within our language. The people who are being asked to participate in this study are selected by chance. Numbers will be assigned to names and a random sample selected through an objective process.

The interview will take about two hours, and held at a time and place convenient, private, and comfortable for the interviewee. Some of the questions which she will be asking include topics such as when the person's diabetes started, what might have caused it, what the person has done to treat it, and how having this illness has affected the interviewee's life and family. There are no right or wrong answers.

With permission, she will tape record the interview. The interview results will be more accurate and will better represent interviewees' responses if their actual words and expressions are recorded instead of the investigator just writing down a summary. Records of the interview will be coded only with a number and not the name, so that any records pertaining to the interview can only be identified by the investigator. Personal information will be kept confidential. Some quotes from the interviews will be used to clarify the concepts which are being put forward, but individuals who said those words will not be identified.

Joining the research is completely up to the person. The researcher hopes that those who have been selected will agree to be interviewed, but no one is under any obligation to join the study.

When completed, this research project could help the Opaskwayak First Nation learn what ways Nêhinaw (Cree people) think and talk about diabetes. This may help the

band get a better picture of what our people, as a whole, understand about diabetes.

After this project is completed, a summary of the results will be submitted to the Opaskwayak Cree Nation Chief and Council.

If have any additional questions about the project, please feel free to contact Jocelyn Bruyere. Phone number in Winnipeg is 775-4652, or, in Opaskwayak, 623-5132. If you wish to contact the thesis supervisor, her name is Dr. Linda Garro, and her number is (204) 789-3365.

9.8 APPENDIX H

Opaskwayak Cree Nation

P.O. Box 297 P.O. Box 4000 The Pas, Manitoba R9A 1K4



Telephone: 623-6483
623-6484

Acc'l Fax No.: 623-6263
Chief's Office Fax No.: 623-3818

July 18, 1996

Jocelyn Bryere
181 Maryland St.
Winnipeg, Mb.
R3G 1L5

RE: Permission to interview diabetics

Dear Ms. Bryere:

This is to confirm that the Council has granted you permission to interview diabetics on the Opaskwayak Cree Nation reserve. This decision was reached by Council at its meeting of July 23, 1996.

In ensuring that you and your interviewees are protected, the Council would like you to have each interviewee sign a consent form.

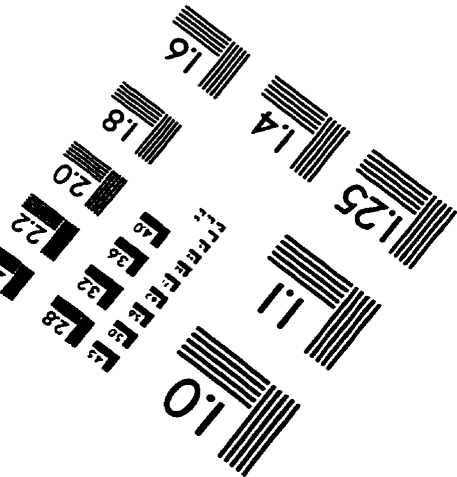
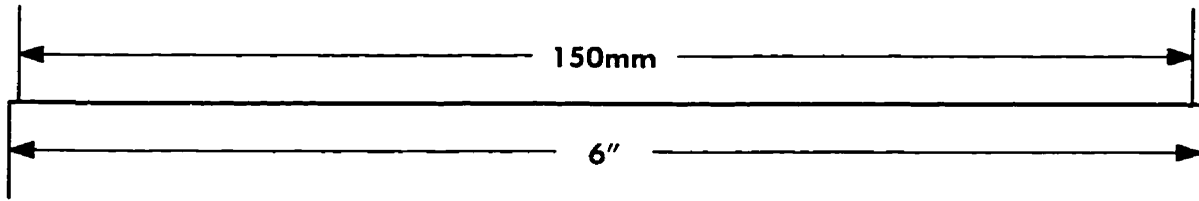
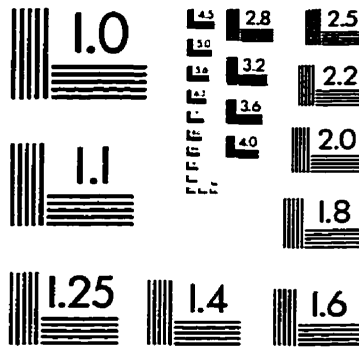
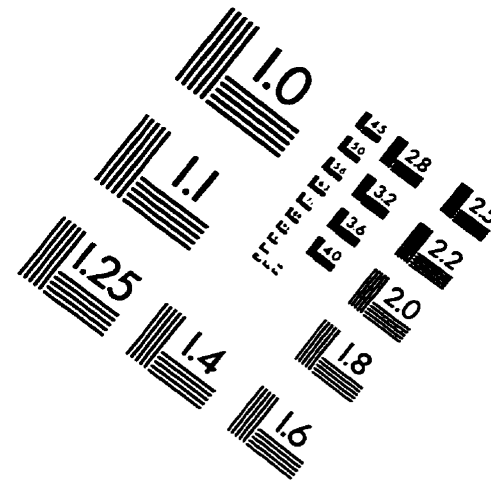
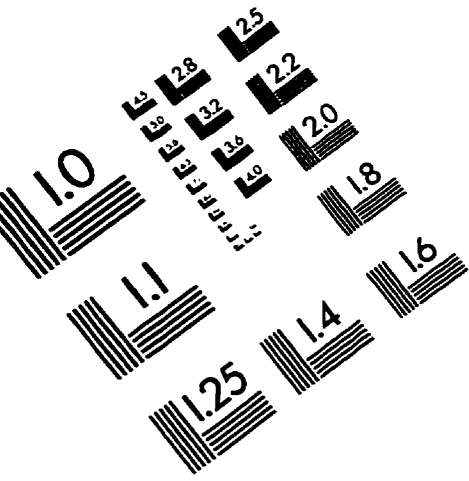
If you have questions to the above, please contact the undersigned.

Sincerely,

Robbie Niquanicappo
General Manager Assistant

cc: Chief Francis Flett
James Smith, General Manager
File

IMAGE EVALUATION TEST TARGET (QA-3)



APPLIED IMAGE, Inc
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

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