PREVENTION OF DIABETES IN EEYOU ISTCHEE:
An evaluation of community priorities for Diabetes Prevention and Clinical Pre-Diabetes Services Delivery in Waskaganish.

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1. INTRODUCTION

1.1 The Setting

The Regional Diabetes Initiative (RDI) of the CBHSSJB was established in 2001 following increased funding from the Ministere du Sante et Service Socieux du Quebec (MSSSQ). The RDI is responsible for providing clinical care to patients with diabetes, as well as to facilitate clinical and community initiatives aimed at primary prevention of diabetes. The implementation of the RDI has been slowly evolving as housing for health care workers becomes available, and the required human resources are posted and hired. The RDI primary and secondary diabetes prevention strategies follow the recommendations of the Canadian Diabetes Association Clinical Practice Guidelines (2003).

Clinical care of pre-diabetes has focused on education of local health care workers (nurses, doctors, nutritionists, Community Health Representatives (CHRs)) on the significance of pre-diabetes, and the increased risk of diabetes through two regional conferences for health care professionals. This care includes diabetes prevention counselling through nutrition and activity recommendations to patients, as well as annual screening for diabetes to ensure early detection and treatment. Efforts to coordinate community initiatives are based on the Cree Diabetes Network (CDN). The CDN includes Community Health Representatives, Band members, media and other members from each of the community. They meet every month via teleconference. Successful initiatives include the 100 mile club, 800 mile club, as well as various other community activities done on the local or regional level. The first Regional Diabetes Prevention conference was held in Mistissini from Nov 28-30, 2006. The objective of this conference was to stimulate discussion among community representatives to determine priorities for their specific communities related to community-based diabetes prevention strategies. The current evaluation is a continuation of the work started at the Mistissini Conference within the Cree Nation of Waskaganish.

1.2 Evaluation Overview and Goal

The boundaries for the evaluation have been set as to include all diabetes prevention services in Waskaganish, including specifically those services delivered to community member at VHR of acquiring diabetes in Waskaganish. These services include those delivered by clinic staff (nurses, doctors, nutritionists, CHRs, Public Health workers (e.g., Public Health Officer, Diabetes Educator, nutritionists, psychologist), Community Health workers (e.g., cook class instructors) and community groups (Recreation Department, Fitness Center).

This is an evaluation that aims to:

1) describe what is currently being done by the various stakeholders/entities with respect to diabetes prevention;
2) identify if these services are accessed by the community, any problems encountered by those delivering the services and encountered by the community, as well as suggestions from both of these group for service improvement; and
3) provide a set of realistic and feasible recommendations that reflects the opinions of service providers, the community and the evaluators towards improved diabetes prevention.

The goal of the evaluation is to establish if programs/initiatives/services currently being provided for diabetes prevention at the community level are successful with respect to both performance and community satisfaction. This will be done by conducting the evaluation at both the clinic and

community levels, as well as prioritizing participation from all relevant stakeholders. The evaluation will describe the services and programs currently provided in Waskaganish to prevent diabetes at the community and clinic levels, as well as provide a set of recommendations for future program development.

2. PROCESS FRAMEWORK

2.1 Relationship Development

At the Mistissini Conference, Waskaganish community representatives offered their commitment to participate in the design and implementation of a diabetes prevention evaluation in their community. After recruiting a few other key community and clinic representatives, the Planning Team members were encouraged to offer their support where they found it appropriate according to their position/role in the community. One of the community representatives on this Planning Team initiated contact with their local Band Council to introduce the evaluation and obtain a Band Council Resolution is support of the initiative. The planning team had weekly teleconference meetings to discuss how to appropriately design and implement a strategy to promote community participation in the fieldwork activities (discussed bellow). Prior to the commencement of fieldwork activities, a focus group was conducted with the Planning Team to discuss the questions they would like to see answered through the community consultation strategy. Team Members designed and coordinated a community meeting to kick off the fieldwork in the community, and assisted in the facilitation of focus group sessions. A wide range of community interests are represented by this team as it includes members working in: clinical-based health promotion and treatment; community-based health promotion; Band services; and Youth and Elder Programs Coordination.

Community involvement in program development is essential for the successful promotion and implementation of a consultation strategy. Planning Team Members were responsible for designing radio announcements to inform the community concerning the objectives of the evaluation activities, as well as to invite community members to assist their community by participating in the activities. Ideas contributed by the Planning Team Members in this respect were then used for the development of a brochure to promote the evaluation in the community. Due to the efforts of the Planning Team, over 250 pamphlets were passed out in the community. This group was also responsible for setting an agenda, inviting speakers from the community, and chairing/conducting a community meeting for information delivery. Information transmitted to community members present at this meeting included: the diabetes statistics for the Cree Region; results of a study assessing the healthy eating and physical activity behaviour of school children in the Cree Nation of Waskaganish; and a description of the community diabetes program objectives and a summary of the evaluation fieldwork activities.

A close relationship between the researchers and the Community Contact Person was established for the implementation of this evaluation. The CCP was brought onto the project team to provide necessary support in terms of promoting the evaluation activities in the community, as well as assisting in all aspect of the fieldwork including the design of the implementation strategy, contacting potential participants, facilitating focus group discussions and providing translational assistance.

2.2 Fieldwork Activities

Overall Evaluation Summary

The overall evaluation includes: 1) a Clinical Evaluation of diabetes prevention services delivered to the community in the Healing Center; and 2) a Community Evaluation of diabetes prevention and pre-diabetes services delivered to the community/individuals by other stakeholders/entities in the community.

Community Evaluation

The Community Evaluation includes: 1) a review of diabetes prevention services delivered by stakeholders/entities outside of the community Healing Center; and 2) a series of focus groups held with community members to assess the awareness level of diabetes prevention services provided by community stakeholders/entities.

Review of Services

Each individual identified by the Planning Team as having a part to play in supporting diabetes prevention and the promotion of healthy-lifestyles in the community was asked by the researcher to participate in a face-to-face interview. In-depth interviews were held with the community representatives to determine what support they provide to the community, the problems they encounter in delivering this support, and improvements that can be made to their initiatives and the initiatives of the community as a whole to prevent diabetes. Interviewees were asked to discuss their knowledge of the overall diabetes prevention environment in the community, the concerns they might have for the successful delivery of a community-based diabetes prevention strategy, as well as to recommend improvements for all aspects of diabetes prevention in the community. Additions to the interview list were made when their involvement was indicated or suggested by those initially considered (snowball sampling procedures).

Focus Group Discussions

Focus group discussions were held with various groups from the community. Groups include: general community members (Youth, middle-aged, Elders) and individuals at VHR (diagnosed with pre-diabetes or GDM) (= 4 focus groups). With the entire community identified as high risk for acquiring diabetes, community member were invited to participate in the focus groups over the radio, and interested individuals were requested to visit the Community Contact Person for more information and to be given the day, time and location of their focus group. Individuals having been diagnosed with pre-diabetes or previously diagnosed with gestational diabetes (i.e., at VHR) were identified from the CDIS. For the focus group with community member at VHR, potential participants were approached by phone for transmission of information concerning the purpose of the focus group and what was required of them in terms of participation.

Focus groups were asked to discuss their knowledge and use of diabetes prevention services and programs delivered in the community. The groups' perceptions of these services and programs were discussed, as well as how the services and programs might be improved to enhance access and ensure success in preventing diabetes on the individual and community levels.

Clinical Evaluation

The Clinical Evaluation includes: 1) a review of diabetes prevention services, including those for community members at VHR, delivered by staff at the community Healing Center; and 2) an audit of medical records for individuals at VHR (not presented here).

Review of Services

In-depth interviews will be held with all relevant clinic staff to discuss in what manner they are involved in diabetes prevention services, the problems they encounter in delivering these services, and improvements that can be made at the clinic level. Where each individual receives their mandate from will be determined, as well as the origin and content of any guidelines and/or training they have received for the conduct of their work. Depending on the role of the interviewee, questions will be asked to ascertain such things as: what services and/or education they deliver, how the services are delivered, who is targeted (risk group, but also groups or individuals) and how, indicators for beginning service/treatment, and the goal for each indicator or priority. The degree of integration between the various service providers will be ascertained. Interviews will also include discussions concerning the services the individual has provided in the past, the reasons for their changing, and the services they would like to deliver or see implemented in the future. Interviewees will be asked to discuss their knowledge of the overall diabetes prevention services delivered in the community, the concerns they might have with the successful delivery of these service and their ability to prevent diabetes, as well as to recommend improvements for all aspects of these services delivered by all stakeholders/entities.

Audit of Medical Records (not presented here)

The study population for this audit includes all community members diagnosed with pre-diabetes between the years 2000-2004 (Cree Diabetes Information System). These individuals were followed up by auditors from day of diagnosis to present, thus a minimum of 2 years of clinic follow-up. The chart review was conducted to determine and assess the clinical services received with respect to:

- Counseling received from the clinic and by whom;
- Types of advice/information given;
- Indicator levels at time of treatment decision (i.e., reason for starting treatment; fasting glucose, glucose tolerance, etc);
- Weight change since diagnosis of condition; (weight loss of greater that 5% since diagnosis pre-diabetes)
- Change in glucose tolerance and/or fasting glucose since diagnosis;
- Change in blood pressure, cholesterol and lipid profile since diagnosis;
- Annual diabetes screening performed; and
- Use of adjuvant medications (metformin).

2.3 Data Analysis

Overall Evaluation Analysis

The Clinical and Community evaluations together provide the description necessary to create a Diabetes Prevention Community Services Network Diagram, a map of all services and programs

provided by various stakeholders/entities in the communities and the relationships between them. Individually, the evaluations reveal insights concerning the success of these services and programs, and provide recommendations for service and program improvement from the perspective of all stakeholder/entity groups.

Community Evaluation

Analyses of observations made during the focus group discussions were conducted using qualitative methods. Themes were identified in the focus group and interview transcripts so that general observations could be made to describe the knowledge level of community members with respect to their understanding of healthy eating the need for physical activity, as well as what services and programs they are aware of in the community, their level of satisfaction with these services and programs, the ability of these services and programs to transmit community diabetes education, and the service and program improvements that might result in diabetes prevention success in the community.

Clinical Evaluation

Only the results from the Services Review are presented here, results from the Audit of Medical Records will be reported under separate cover. Themes were identified in the interview transcripts so that general observations could be made to describe the services and programs delivered by stakeholders in the community, the success of these services and programs, and recommendations for service and program improvements at the community and stakeholder-specific levels.

3. RESULTS

3.1 Focus Group Discussions

Due to difficulties with enrolling participants, scheduling conflicts, and a number of deaths in the community, only one focus group was held with both Youth and Middle-Aged community members. It was possible to meet with the Elders groups on two occasions. It was evident that the Youth and Elders focus groups were made up of predominantly Youth Council and Elders' Council members. The number of community members present for the Youth, Middle-Aged and Elders focus groups were 8, 6 and 15, respectively.

Focus Group with Youth

Needs for Information and Motivation

- Youth as a whole do not understand diabetes well, what it is and how it affects the body.
- Youth know that they need to have daily physical activity and eat healthy to prevent themselves from acquiring diabetes.
- Knowledge of healthy eating:
  - Traditional Foods
  - Foods low in fat, but don't know how much fat is bad, or why it is bad.
  - Stay away from junk food like pop and chips
  - Eat fruit and vegetables.
- Grandparents/parents say: don't eat this, don't eat that.
  - no explanations, no understanding

Needs for Promoting Healthy-Living Behaviour Change

- Youth don't know that diabetes can affect them, they think they don't have to worry about it until they get older. They need to see the statistics because people don't talk about it, so nobody knows there are Youth with the disease.
- Should teach about how to prepare healthy meals in schools. They learn about the different food groups, but don't really now how to prepare food or put together healthy meals.
- Should teach about physical activity in the schools. They play sports in school, but don't learn about the importance of physical activity and why it is needed every day.
- Make diabetes part of the Personal and Social Development class curriculum.
- Should be workshops at events like hockey/broomball tournaments.
- Have a booth at the Youth General Assembly.
- Youth radio talk show:
  - Youth mentors telling their experiences
  - Elders talking about their experience, the knowledge they have gained
  - Health specialists (CHR, Nutritionist, Wellness) give information
  - Have Youth call in and ask questions
  - Youth council would be willing to do a weekly radio show.
- Youth going into classes in the schools:
  - Youth Council telling stories and educating
  - Bring Elders in to talk
  - Essay contest about diabetes:
    - What do you know about Diabetes?
    - How does diabetes affect your family?
    - Give a number of topics the students can write about.
    - Can publish in Nation? Community Newsletter?
- Community diabetes website:
  - Youth are using the internet a lot
  - Information
  - Questionnaires
  - Diagrams
  - Use Beebo, can have Youth send each other the information.
- Ribbon campaign
  - People will ask them when they are walking: "what is the ribbon for?" This will create opportunities for community members to talk with each other about diabetes.
- Entertainment nights with skits, funny songs, silhouette act, hip-hop dance competitions
  - Could sneak healthy information into the messages.
- When there are walking events, traditional walks or snowshoeing:
  - Meet the people as they are coming back to town and give them healthy lifestyle education. Walk with them for 20 min and say: "This is only how much you need to exercise each day"
- Need somewhere that women can go to do fitness, like a Curves. People are very shy and the gathering place is too busy and doesn't have change rooms.

- Recreation should get new sports going for all age groups. It is important that community members do not need to buy equipment or pay for the activities. Successful leagues would include: football, floor hockey, soccer baseball, baseball and volleyball.
  - Coaching would be required as community members don't really understand the rules of many sports.

Focus Group with Middle-Aged Community Members

Knowledge and Understanding

- Youth have the knowledge that diabetes is a problem, but are not interested in taking care of their bodies with eating healthy and exercising.
- Youth misinterpret the meaning of diabetes, they believe that if you eat lots of sugar, you are going to be diabetic. In other words, when you eat sugar you will have diabetes on the spot, there is not the understanding that it is a chronic disease that is acquired over time.
- In the Middle-Aged group, pretty much only the people who have diabetes have the knowledge, people only learn once they are told they have diabetes, or if they have gestational (pregnancy) diabetes.
- Community members know that an active life prevents it because before on the land they were active and did not have the disease.
- Community members understand the exercise and healthy diet is needed to prevent diabetes, but don't really know how much exercise or what type or intensity, or how to eat healthy.

Needs for Information and Motivation

- Understanding of healthy diet:
  - only learn once you have it, to do a diet change
  - in tradition, the bigger you are the more attractive you are
  - don't understand "metabolism" – and how it slows down with age
  - only cook the fastest way:
    - have to teach how to cook healthy food quickly
    - Cree are lazy to stand at the stove and cook
    - Like having things to throw in the stove and not worry about it.
- Families need to motivate each other.
- Need to sensitize the community to exercise so they don't make fun of people
  - people don't feel comfortable exercising because they will be laughed at.
- Need to learn to exercise for the health of our bodies, not only for winning, don't have to be good, just have to have fun.
- Need motivational speakers from the community to spread the word:
  - people taken out of their community (to Montreal, Chisasibi) for treatment and their experience
  - people that have lost their limbs, or their eye sight
  - talk about how they felt, being in denial and in shock, to open peoples' minds
  - talk about what the disease is doing to them

- have a talk show, some people get emotional, can feel comfortable in a small group or on the radio
  - community members, doctors/nurses
  - tape it and play it over again
  - people don't talk much about diabetes, have to make it something that the community can talk about.

Needs for Promoting Healthy-Living Behaviour Change

Healthy Diet

- Cafeterias in the school – kids just go to the restaurants for lunch and eat poutine.
- Very hard to tell people how to eat, people don't like this.
- Advertising what is healthy eating; why are vegetables good for you?
- Letting people know that it is hard to start eating vegetables because Cree are not used to the taste, but they will start liking it after a while as you have to get used to it; have to get used to the texture of not so much oil.
- People need to learn that it is alright to cheat sometime, like at feasts, you don't have to be perfect; there are good days and bad days.
- Placemats at the restaurant with nutritional information on them:
  - Plate method – half veggies, quarter meat, quarter starch
  - A sheet with nutritional information about the meal you ordered, can compare this with the information on the placemat
  - Can explain calories, show spoons of fat or sugar in the different menu items, and show comparisons of different menu items.
- Hold a community dinner where you can show healthy food and proper portions. People would show up and pay $10-$20 if there is entertainment, including music and plays/skits.
- Brochure, book, newsletters – send them to all the houses – may not read it all right away, but it is there and they may use it more and more over time.
- Contests, like making the most nutritious meal plans.

Physical Activity

- Need to promote that physical activity is for everyone, and is needed just for being active, not only about competition and being good:
  - Kids are scared/shy to play because of this
  - Older people think they are too old for physical activity.
- For league sports, too much emphasis on hockey and broomball, nothing else for people who are not interested in hockey or broomball. This keeps kids out of sports.
- Youth: Soccer, football, basketball, baseball, snowshoeing:
  - should have a seasonal program that includes organized leagues
  - kids would show up regularly if it is organized/scheduled and promoted
  - need coaching/training so they can learn the rules, and need to have practices so that they can get better.
- More swimming in the summer with lifeguards and teach children how to swim.

- More than 2 periods of gym class in each school cycle, sometimes they only have 1 gym class in a week.
- Middle-Aged: bicycling, dancing
- Currently volunteering is gone. It is even difficult to find coaching, coaches will only show up for the championship game of a tournament.

Focus Groups with Elders

Knowledge and Understanding

- Diabetes comes from eating a White-man's diet and not being active.
- The Cree are not made to eat the same food as White people, they are not able to handle all of the sugar.
- Cree have to go back to a traditional diet to prevent themselves from acquiring diabetes.
- Cree were healthy before because they were active all day, not like today where the kids sit down all day school, and then sit in front of the television all night.
- Need to focus on preventing the disease because it is hard to be physically active after diagnosis because you already have so much weight and so many habits.

Needs for Promoting Healthy-Living Behaviour Change with Elders

- Elders visiting with other Elders, bring back some of the traditional ways. For some elders it's hard for them to talk about diabetes and healthy lifestyles and hard to ask about advice, it's a sensitive issue.
- Encourage community members to take the advise of the clinic staff.
- Have someone teach the Elders how to read food labels so they are able to understand.
- Have small commercials announced on the local radio.
- Encourage community members responsible for taking care of Elders to cook them traditional food, and help them stay away from sweets, junk, etc.
- Recommend that the community have a local TV station to inform about diabetes prevention by showing pictures of ways people can prevent diabetes.
- Having Elders passing on their knowledge and experience with healthy eating and being active to others (other Elders, Youth, middle age)
- Use the local radio (and regional CBC) to air more messages on how to prevent diabetes, eat healthy and be more active
    - Have a trivia show related to diabetes; use Cree words that are hard to understand.
    - Best air time for CBC is 7:00 to 9:00 a.m. (Mistissini)
    - Too much bingo on local station, at least have commercials about diabetes prevention during the bingo time instead of too much country music.
- Only about 50% of elders can read Cree syllabics, approximately 35% can read English, so written materials are not always helpful for
- Best way to help elders to understand is listening and having materials explained in Cree.

- Make a CD/DVD showing elders demonstrating some of the traditional activities done in the past; such as wood cutting, etc., activities that show how others could be active and to help them to prevent the onset of diabetes. Distribute these to other Elders.
- Most elders use cassettes, therefore this would be good for elders to listen to pre-recorded messages on diabetes by other Elders.
- Have a gathering with the doctor, to have a question period on diabetes.
- Have a cultural site; could then do cultural activities and teachings by Elders and feast could be held more often.
- Have walking trails for the purpose of physical activity for everyone including Elders.
- Could have a presentation and information about what is happening in the community for diabetes prevention, healthy eating and physical activity. Could also present what other communities are doing. For example, the restaurants in Eastmain that are not frying foods any more.

3.2 Interviews – Representatives from Community Groups

Involvement of Community Stakeholders in Diabetes Prevention

The interviews revealed that some community groups try to educate on healthy lifestyle behaviours, and others provide physical activity opportunities, but there are currently no community groups[1] involved with diabetes-specific education or prevention in the community outside of the Clinic (involvement of the Clinic is discussed in Section 3.3). Community groups such as the daycare and both schools have teaching for healthy eating, including the Canadian Food Guide, and the importance of getting foods from all food groups, decreasing portion sizes, and cutting out junk foods and pop. Other groups such as the Recreation Department and the Gathering Place provide opportunity for youth sports and other recreational physical activities in the community. It was also found that Band and Community Wellness representatives are more involved in social and spiritual health education and promotion, and so do not have programs and activities targeting physical health issues directly. Not all community representatives interviewed are currently involved in community health issues; their input is more relevant to identifying barriers and needs and can be found in the next 2 sections ("***Barriers***" and "***Recommendations***"). In total, 15 interviews were held with representatives from: the Recreation Department; restaurants; grocery stores; Head Start Program; 3 religious groups; Waskaganish Band and Community Wellness; Day Care; as well as Elementary and Secondary Schools.

Healthy Lifestyle Education and Promotion

Daycare

Healthy Eating

- The cook at the day care has received training to provide healthy meals and snacks for the children. The daycare used to offer only fast foods, but they now make their meals from scratch and serve a variety of meats and vegetables. Healthy snacks include fruits, vegetables and social tea biscuits.

[1] "Community Groups" as used here does not include the involvement of the community Healing Center, their contributions are described in Section 3.3.

Physical Activity

- Children attending the daycare have 30-60 minutes of playtime per day, and physical activity is promoted by having special events such as skating days in the winter (2 times per year), nature weeks (1 time every week weather permitting), and holding "Summer Games" with events such as tobogganing, running, snowshoeing and potato sack races (2 times per year).

HeadStart Program

Goal

- Enroll families with children from 0-5 years of age to train parents and the community to help achieve the needs of children. This includes parenting classes focusing is 6 focus areas: culture/language; education; health promotion; nutrition, social support; and parental involvement. The vision is to provide quality education programs that promote social growth and development in the community and its families. Services are delivered at both the day care and the residence of the individual families. Other programs/services offered include: how to stimulate infants, school readiness training (preparing toddlers for attending school), and babysitter training.

Healthy Eating

- Nutritional information is discussed with the family of children enrolled in the program once per month as part of the monthly home-visit schedule. Information discussed at these meetings concerns the need for children to have a balanced diet including foods from all of the food groups and how to prepare proper portion sizes. Discussions are also had concerning how to identify junk foods and to avoid having children drink soft drinks. It was also revealed that the workers visiting the families in their homes are not well informed themselves about healthy eating behaviour and the need for physical activity, so not much attention is paid to this aspect of the program and monthly education sessions on the topic are not held consistently.

Physical Activity

- A social event is held with all children involved in the program 1 timer per month and involves games and playing in the gym. There is no active promotion of the importance of, or need for physical activity.

Primary School

Diabetes Education

- The teacher of the Junior Kindergarten and Kindergarten classes spends 1 month with the students explaining and discussing a diabetes booklet that was given to her by Dr. David Dannenbaum. The booklet has drawings and uses simple examples (a guy pushing a wheelbarrow full of sugar along the veins) to help explain how sugar is transported in the body, and what happens in the body to make an individual become diabetic (cell = lock; insulin = key). The tool is effective in teaching the children the concepts and students are able to explain the process after the 1-month of teaching.

Healthy Eating

- Students in grades from Junior Kindergarten through Primary 4 have 1 unit of teaching per year concerning the importance of selecting foods from all food groups (emphasis

is put of fruits and vegetables) and eating proper portion sizes. In Grades 5 and 6 students take "The Human Body" as one of their courses, and in this class the teachers begin to discuss how the human body works, and explain such subjects as sugars, fats, vitamins and calories.

- Teachers of all grades emphasized that even outside of curriculum, reminders are given frequently throughout the year to their students to eat breakfast, eat healthy and to stop drinking pop.
- There is a no-junk food policy at the school.
- The Nutritionist visits classes with the CHR in Diabetes Month (March)

Physical Activity

- All classes have 2 periods of gym class in a 6-day cycle. The Physical Education teacher was not present to discuss the details of how the classes are structured.

Secondary School

Diabetes Education

- In Biology class (Secondary 3), type-2 diabetes is discussed an example of a disease that is caused by eating behaviours.

Healthy Eating

- Secondary 2 students take a Home Economics class where they are taught information concerning eating healthy, including subjects such as vitamins, calories, sodium, fat, protein. In Secondary 3, student then take Biology where nutritional needs, the breakdown of nutrients, and nutrient-associated diseases are discussed. The Biology teacher asks students to keep a diet diary for a week and students are surprised when they discover they ingest very little nutrients through their diet (participation is also very low).
- Health education in Secondary 4 and 5 is focused on social (e.g., sex, violence, self respect, alcoholism, smoking) and spiritual health (e.g., Medicine Wheel) in courses such as U2 and Personal Social Development.

Waskaganish Band and Community Wellness

Diabetes Education

- In an annual 6-week substance abuse retreat, participants receive information and participate in activities on 3 days of the program concerning the possible contribution of alcoholism to acquiring type-2 diabetes (high calories and not active = diabetes). Doctors, nurses and public health professionals provide the information about diabetes at the retreat. The services of an acupuncturist are also made available for treating symptoms of participants with diabetes.
- For the Director of Community Services, Public Health Officer and the Community Wellness department, their health promotion focus is on social and spiritual health issues (e.g., counseling, justice, substance abuse, violence).

Physical Activity Opportunities

Recreation Department

- The Recreation Department has 9 employees: 2 coordinating the James Bay Minor Hockey (JBMH) league, 4 field monitors for minor hockey (2 males and 2 females) who provide assistance with time- and score-keeping, and 3 Managers. Youth are the sole target of all activities coordinated by the Recreation Department. They are currently involved in hockey, broomball and a summer sports camp.
- The Recreation Department coordinates the JBMH League games and practices in the community, as well as the Recreational Hockey League for community members that are above the age limit for minor hockey. The salary for a hockey trainer who offers free lunch power skating and helps at team practices is also paid from the Recreation Department budget.
- The field monitors attempt to organize opportunities for women in the community to participate in broomball. These events are not well promoted and have only limited successful.
- Local tournaments and tournaments in other communities are successful. Community members must try out for the teams and their travel and expenses are covered by recreation.
- A summer camp offered each year enrolls Youth in the community into 1-week sessions of softball, badminton, volleyball, floor hockey and basketball. This 6-week program is very successful and approximately 50 Youth participate in each week weekly session. Different Youth turn up to different events based on their comfort with the sport and skill level.
- Karate was also introduced to the community and proved successful for 4 months; the karate instructor came to the community 1 week per month to hold classes. This activity attracted around 80 Youth, but due to the high cost the budget was only sufficient for 4 months.

Gathering Place

- The Gathering Place consists of a gymnasium, a fitness center with 2 exercise rooms, a pool hall and 2 meeting rooms accessible to community members and groups.
- The Gathering Place Manager attempts to keep the gymnasium open to physical activity for Youth as much as possible, balancing gym time with community events (e.g., meetings, conferences and weddings). There is no formal schedule or structure, Youth are invited to come and use the provided sport equipment for their entertainment. Equipment is provided for sports such as volleyball, indoor soccer, floor hockey, badminton and basketball. The gym is also offered to community such as the CBH staff that use the gym every Tuesday and Thursday night to play volleyball.
- The Fitness Center is available to adults in the community at a rate of $30/month for males and $20/month for females. Special rates are also offered throughout the year for couples and friends, as well as on special occasions such as Mother's Day and Father's Day. The Fitness Center includes: 1) a cardio room that includes treadmills and other exercise machines; and 2) a weight training room that includes benches and free weights for muscle building

Barriers to Success of Strategies

Schools/Day care

- When healthy eating and physical activity activities are conducted, it is not really taught as a concept of healthy and active living
- Definition of resources, teachers do not seek out the resources available in the community including the nutritionist/CHR/Wellness, wait for them to come to their classes
- Fitness not a focus of physical activity, sports are only for the elite
- Hard to get community members and families to attend activities and workshops, lots of rescheduling due to last-minute cancellations

Gathering place/Recreation

- Have tried having leagues with kids and adults, Volleyball, baseball, baseball, don't work:
  - Don't want to pay ~$20/season to play (gym rental, referees/umpires, etc)
  - Not due to lack of interest, if it was free, people would show up, they show up until you make them pay, then stop going
  - Have to call people up to remind them so people will show up to play sports (except hockey), even for leagues
  - If you advertised a baseball league that was free for 3 months, people would show up.
- Kids don't get involved in sports:
  - Lazy
  - Big kids don't play hockey
  - Not interested
  - Don't know the rules of most sports, so can't play on their own (learn in the camp, but no continued leagues if any kids want to continue playing).
- Sports become too competitive, people get angry and verbal, for example the baseball league had to stop:
  - League started as a few guys talking, 2 teams, ended with 7 teams
  - Start not being fun for people who aren't such good players.
- People don't like to do activity in the gathering place because of the bleachers and the pool hall, people are shy and would like for no one to see them exercising
  - Exercise isn't an excepted thing in the community, people will make fun.
- People don't know what they need to stay active through life, sports are for kids.
- Community needs to help, volunteer to help coordinate the activities, take on clubs
  - Activities stop because no one will take over coordination when someone leaves.
- A lot of people in the community have sore knees and back because they have too much weight.

Recommendations for Future Program Development

All community representatives interviewed discussed the need for a community approach to diabetes prevention in the community and all expressed interest in being a part of team or committee that works together, everyone helping each other and doing what they can to help fight the disease. It was also stressed that a coordinator dedicated to this initiative would be required to build the relationships between community groups/stakeholders and coordinate the community initiative, as there is a history of well-intentioned strategies falling apart due to lack of support. Interviewees revealed the perception in the community that diabetes prevention is the sole responsibility of the CBH and suggestions were made to correct this. Many community representatives (e.g., Day Care, Head Start Program, Jacob's Restaurant, and the community-run grocery store) expressed interest in learning about diabetes and prevention so that they can better understand how they can contribute. Interviewees identified things they as a representative of their community entity/group could do to help with community education and motivation, and also made suggestions for other groups/entities to consider.

Education and Motivational Needs

Representatives interviewed established consensus that the community, in general, does not know what type-2 diabetes is, how it affects their body, or how it can be prevented. It seems that the perception in the community is that acquiring diabetes is inevitable because the proper information is not available or accessible in the community for individuals to understand they can prevent it. For example, community members know they need to eat "healthy" and be physically active, but the community in general does not know how to prepare a proper meal and is not motivated to seek out opportunities for physical activity. This is highlighted by interviewees discussing the perceptions of community members with respect to french fries being healthy because they are potatoes, or the confusion caused by diabetics not being able to eat bananas because they are too high in sugar (so then fruit isn't healthy?). Issues surrounding physical activity include both the lack of understanding concerning the need for the body to be physically active and lack of motivation to be active. As well, interviewees suggest there should be more variety of organized/league sports available for all age groups.

The interviewees described the need for basic health information in relation to diabetes, which will include more visual and practical examples. A communication strategy would aim to introduce small amounts of information at one time, with education occurring over a longer period of time; constant communication was identified as a priority. With respect to diet, the concepts of sugars/carbohydrates, good and bad fats, vitamins and minerals, as well as calories are for the most part not understood in the community. With respect to physical activity, it was suggested the community needs to learn that our bodies are made to move and physical activity/exercise are required to maintain good health. The perception in the community is that if physical activity is not necessary, then why would you do it? A symptom of this, identified by the majority of interviewees, is the amount to which community members drive around the community instead of walking, including parents dropping their children off at school. Community members need to understand that it is difficult to start being physically active, but after 2-3 weeks it will be come much easier as the body needs time to adjust. With changes in

both eating and physical activity, the concepts of moderation and progression are also not well understood: you don't have to run to the water intake and back the first time, or drastically cut your meal portions; start with small changes and increase your efforts over time.

Not only do community members need information and understanding concerning diabetes and prevention, they also need motivation. All interviewees identified the need to have community members who have direct experience with diabetes and diabetes prevention to give personal testimonies and share their experiences. These individuals could be community members who: have acquired diabetes; are in wheelchairs, have lost limbs or are on dialysis; or have lost weight, decreased their blood sugar levels, or lowered their blood pressure. It was suggested these individuals could talk about the struggles they have had with accepting their condition, with maintaining a healthy-living routine and keeping weight off, and how they needed the support of their friends, family and community to change their life and become healthier.

The following are ways identified by interviewees to effectively distribute health and motivational information to the community in general.

- Pamphlets, newsletter and posters: these could include health-related information, personal testimonies, healthy recipes, pictures, and calendar of community events.
- Radio Show: this could include information given by health experts in the community, health-related skits, personal testimonies given live on the air, motivational speakers, quiz shows for health-related Cree translations, call-in shows to ask questions and give personal testimonies.
- Healthy Cookbook

It was suggested a committee of community representative could meet once each month to design a monthly strategy, including a monthly newsletter.

The following are ways identifies by interviewees themselves to target specific groups with health and motivational information.

- HeadStart Program: could incorporate diabetes and diabetes prevention initiative in the home-visit program (healthy diets, activity); teach kids while they are young and involving their parents.
- Religious Organizations: could work together to design and produce sermos, pamphlets and newsletters that fit healthy eating and physical activity messages with scriptures and teaching from the Bible. Religious representatives could also deliver these messages at community meetings, workshops and on a weekly radio show. The Bible teaches the need for both spiritual and physical health.
- Primary School: teachers suggested the curriculum for health education in their school needs to be upgraded. The current health curriculum focus on dental health, diabetes-related information is not found in their health binder. The teachers suggested community health representatives could deliver information and community members could give testimonies at special assemblies at the schools. Other suggestions for diabetes-related activities include: getting students involved in poster-making; an essay

contest; public speaking; and having the students draft letters to their own parents concerning how to keep them healthy. It was also recommended that the teachers could put a skit together to present at health-related assemblies.

- Secondary School: Teachers suggested classes could take turns creating placemats for the restaurant; holding an essay contest (after provide background and education, as well as why the topic is important to them and the community); for an assignment, having students interview someone their family with diabetes experience and/or describing how diabetes effects them, their family, and the community as a whole.

Healthy Lifestyle Promotion

Healthy Eating

- Healthy Feasts: educate on types of foods and recommended portion sizes
- Restaurants: healthy section on the menus, smaller portion sizes and serving traditional foods
- Day Care: could plan classes/workshops with families on food preparation and the importance of physical activity. The Day Care has funding available for these types of activities with parents, but would like help in designing and cost-sharing with other organizations
- HeadStart Program: collective kitchen nights for the families enrolled in the program.
- Primary School: would like to have a canteen at school to make available healthy foods and education. Could also have a breakfast club as the teachers identify the majority of students do not have breakfast at all before attending school.
- Secondary School: would like to have vending machines or a canteen with fruit and healthy snacks (junk food eating perceived as an access issue: kids will eat healthy food just don't bring it from home and don't have access to it at school), or a cafeteria (kids get money for lunch and they just go to the restaurant and buy junk food, makes kids late for school). Water machines should also be available in classrooms are fountains are not very clean and the community doesn't like tap water. Implementing the provincially funded breakfast program, "Petit Dejeurner" was also recommended. Teachers revealed that the "no junk food" policy in the school is not enforced, and also that the school should purchase air poppers and limit the amount of butter and salt used for popcorn on Fridays. It was stressed that opportunities to involve parents in healthy-lifestyles education should be created.
- Northern Store: a number of interviewees suggested that healthy foods should be made cheaper and junk foods more expensive. Problems with the how fresh the fruits and vegetables were also discussed. The teachers discussed a program run by the Northern Store that has been cancelled that allowed them to give out coupons to students so that they could purchase apples single apples for 25 cents. It was also recommended that more whole grains should be brought into the Northern Store. There is a strong feeling that the Northern Store should play a bigger role in actively promoting healthy eating by running education sessions, putting more health information and moving junk food away from the front of the store and the check-out aisles.

Physical Activity

- Organized sport activities and leagues targeting different age groups.
- School gym should be more accessible to the community; always require formal permission which is difficult, especially in the summer.
- Summer students hired by the Recreation Department should be doing more, many of the interviewees noted that the students mostly sit around.
- Primary and Secondary Schools: there should be more gym class, and gym class should including more types of sports. It is also important that students learn the rules of the different sports so they can play outside of class. It was also recommended that gym class should focus more on the promotion of physical activity and include education on its importance as a regular part of life. Other sports gym class should include: jogging, running, track and field, and visiting the fitness center. Also, it was suggested there should be an after-school fitness program for the Elementary School, like the one run by the Day Care for secondary school students.
- Recreation Department: basketball and volleyball leagues were successful when there were volunteers to help coordinate. Not sure why broomball doesn't work, but maybe there should be a broomball camp to promote and get the interest higher in the community as it is very successful in other Cree communities. It must be stressed that community sports are for fun and all community members are welcome regardless of their skill level. Different people show up for different sports, so it is important to offer a wide-range of programs and leagues.
- Suggested activities include: walking around the community instead of driving, closing a few roads of for the whole summer for cycling and walking due to dust, organizing community snowshoeing trips to the point, cross-country skiing, square dancing, and a roller-hockey leagues

3.3 Interviews – Clinic Staff

Involvement of Clinic Staff in Diabetes Prevention

Diabetes Services are delivered at the community healing center with a multi-disciplinary approach. Promoting diabetes prevention at the clinic level includes: doctors and nurses, Community Health Representatives, a nutritionist, home care staff, a physiotherapist and psychologists. Through a patient-oriented approach, the staff and the patient together determine the best course of action for education, motivation and follow-up.

Clinic staff are under the coordination and management of the Local Clinic Coordinator, who is also responsible for the Administration of the healing center, organization and implementation of new programs and positions, as well as liaising between other community groups such as the Band, Wellness, recreation, school, and Youth and Elders groups. In this capacity, the Local Clinic Coordinator informs other community groups about program developments and funding opportunities, and also assist in the facilitation of integrating community services with activities such as workshops and short programs.

The Diabetes Team in the clinic is made up of: the doctor(s) currently in the community, nurses, CHRs and the nutritionist. (The Diabetes Team attempts to meet every Friday afternoon to discuss the follow-up of individual clients and other issues related to diabetes prevention and

treatment activities in the clinic and community.) The point of entry for a community member interested in determining if they are at risk of acquiring, or have acquired diabetes, is through a random blood glucose test and an appointment to discuss the results with a doctor or nurse. Community members are asked to fast overnight and present to the clinic on Wednesday morning when an open-clinic is held for blood sampling. The individual is also given an appointment with the doctor or nurse for the next week to receive their results. At this appointment, the doctor or nurse informs the individual of their blood sugar levels, and whether they: have diabetes, are at high risk of acquiring diabetes, or have normal blood sugar levels. Blood pressure, pulse and weight of the individual is also recorded and explained. Depending on the profile of the patient, a blood test for cholesterol and lipid profile may be ordered.

Doctors and Nurses

What is discussed at this first appointment with the doctor or nurse with respect to diabetes prevention depends on the how ready the patient is discuss their condition and ready to make changes in their lifestyle. The approach with patients that have been diagnosed with pre-diabetes and those not yet at high risk is to discuss what the patient would like to do to improve their diet or increase their physical activity. The idea is to explore what the patient likes to eat and likes to do, and discuss how to plan for including these activities into their daily life and making a routine.

With respect dietary advice, the doctor or nurse discusses with the patient the Plate Method[2] to encourage appropriate portion sizes, reducing fats and increasing nutrient intake. Patients are advised they can eat everything that they enjoy, the important thing is to slowly cut down portion sizes; it doesn't have to mean drastic changes. For physical activity, the patient is advised to aim for being physically active for at least 15 minutes per day. Advise for increased physical activity includes walking to work, playing hockey or broomball, or getting up and walking around the house while commercials are on during Opera. If the patient is interested, the doctor or nurse can discuss with them what they currently eat or the physical activity that they do to see little changes can be made emphasizing the things they already do and enjoy.

For continued follow-up, the patient is asked if they would like to be referred to see the Community Health Representative or the Nutritionist, or if they would like to continue meeting with the doctor or nurse to receive more information about their condition and how to prevent themselves from acquiring diabetes. Appointments can be made with any of these individuals at time intervals determined by the patient. If no further follow-up is requested, the individuals diagnosed with pre-diabetes are scheduled for a 1-year follow appointment and they are informed they can return to speak with clinic staff whenever they would like to.

Community Health Representative

The time of the Diabetes Program CHR is split in half between treatment and prevention activities. Their treatment/clinical duties include walk-in sugar and weight monitoring, consultations with individuals having diabetes to provide educational and motivational

[2] Plate Method:

support, training patients how to properly use glucose monitoring devices, and provide translation assistance for the doctors and nurses. For diabetes prevention, the CHR receives referrals of pre-diabetic community members from the nurses and doctors. The CHR attempts to fulfill the educational needs of the patient with respect to understanding their condition and how to prevent their progressions to the onset of diabetes. The approach for transmission of information to the patient is to enter a conversation with the patient beginning with what they already know about diabetes and its prevention. The pace for the consultation is set by the patient, the CHR using the asking of questions to show motivation on the part of the patient to learn and understand the information. If little response is received from the patient, the CHR will use yes/no questions to engage the patient in the education process. It is reinforced that the CHR and the patient are a team and questions are asked such as: Where are <u>we</u> going? What would you like to do?

Nutritional/dietary information given to the patient will include a demonstration of the Plate Method, and a description of the Canadian and Traditional Food Guides. The emphasis here is on reducing portion sizes, getting foods from various food groups each day, use less-fat cooking methods, and eating traditional foods. For both diet and physical activity, the CHR discusses with the patient what they are currently eating/doing and asks them how they would like to eat better or be more active. The CHR establishes where the patient is in terms of knowledge of diabetes and healthy lifestyles and lets the patient decide what foods they would like to eat, what physical activity they would enjoy doing and how these can fit into their schedule. The focus is on gradual changes, for example, starting obese patients with 10 minutes per day of walking or being active around the house and suggesting they increase the time and intensity, as they feel able.

The Diabetes Program CHR has a public health mandate which makes them responsible for designing, coordinating, assisting and participating in activities and programs in the community outside of the clinic conducted by community groups (including the CBH) with respect to healthy lifestyles, diabetes and diabetes prevention support. The CHR and Nutritionist work closely together on most activities. Programs and activities that have been successful include: the Weight Loss Challenge – teams of community members were enrolled and competed to lose the most amount of weight in a given time period; radio shows – CHRs and Doctor provided information and performed dialogues and skits to educate the community; sledding on PED days during the winter for school children; and cooking classes for children. Programs and activities that have not been successful include: cooking classes for adults, community gym nights, and store tours to teach the community members how to read food labels and select healthier food. Successful activities are ones that have prizes for attendance and participation and those that involve children without the presence of their parents. During Diabetes Awareness Month, The Diabetes Program CHR and the Nutritionist set up a diabetes awareness and prevention booth in the clinic and the Northern store, hold grocery store tours (not successful), and visit the 2 daycares and classes in the Elementary School.

Nutritionist

Like the CHR, the Nutritionist also divides their time between clinical and community health-promotion activities. Clinical services provided by the Nutritionist include conducting 1-on-1 counseling with community members who are interested in eating healthier and/or losing weight. This group also includes individuals diagnosed with pre-diabetes on referral from the CHR, doctors and nurses. Three days per week are reserved for 1-on-1 counseling, and the approach in the consultations is to emphasize that the goal is not to lose weight; it is to be healthier in general. The emphasis is on how to eat healthy, and how to motivate the client to invest in their own health, and the health of their family. Because of the "Healthy-Lifestyles" approach taken by the Nutritionist, emphasis is also placed on discussing the importance of daily physical activity.

In the first appointment with a new client, the Nutritionist begins discussing healthy eating by first asking questions concerning the current diet of the client, and different types of foods the client would be willing to eat. The Nutritionist highlights good eating habits in the client's description of their diet and encourages the client to eat more of the healthy foods that they enjoy already enjoy. The Plate Method is introduced with emphasis on reducing portion sizes, how to select healthier foods at the restaurant, and the important of cutting down on sugar drinks. It is stressed that hunger and thirst adapt over time, and the client should stick with it to allow the body time to get use to the changes. When a client returns for a second appointment, the nutritionist is then given the opportunity to begin presenting information to the client concerning the food groups, good (chicken) and bad (wieners) proteins, vitamins and nutrients. A return for a third visit is quite rare.

The same process is followed for discussing physical activity with the client. The Nutritionist asks questions concerning the activities the client currently conducts to have a more active lifestyle, and discusses with the client how they may be able to increase their physical activity level through doing more of what they already or enjoy, or taking up a new initiative. During these discussions, the Nutritionist explains to the client that they should exercise at a pace that raises the heart rate for 20-30 minutes every day. It was stressed in the interview that there are misconceptions in the community as to what it means to be physically active, as clients often discuss their household chores as their daily exercise, and most males in the community will have 1 hour of hockey per week as their only source of physical activity. With some clients, the Nutritionist will bring out a calendar and help the client schedule more physical activity into their weekly schedule. The Nutritionist and client discuss if the client is willing to do more, what the client would want to do, and how the activity can be fit into the client's schedule. It is stressed that it takes tie to build the habit of exercising and being active, but at some point it will be something that you enjoy and very happy to do.

The community health-promotion activities the Nutritionist is involved in are presented in the last paragraph of the CHR Section above.

Physiotherapist, Psychologist and Homecare Staff

These three Clinic Stakeholders are indirectly involved in diabetes prevention to a limited extent. The Physiotherapist works with clients who have diabetes or pre-diabetes who find it

difficult to exercise and be active due to muscle and joint pain. A relationship was developed between the Physiotherapist and doctors/nurses so that clients with diabetes/pre-diabetes could be referred to the Physiotherapist and would be given special accommodation in the form of a decreased wait time for an appointment so the individual can more quickly recover and start/return to being active.

There is a Psychologist available in the community for roughly half of the year. On a small number of occasions the Psychologist interviewed has clients referred for the treatment of emotional eating disorders. Sometimes people need help to understand the reasons why they over eat so that they can change their habits, or address the underlying issues that cause them to feel sadness, anger and depression.

The Home Care staff conducts random glucose tests on all of their clients one time every month. At the same time, Home Care staff ask the client what they have eaten in the past day and try to find reasons in their diet for elevated sugar levels. The Home Care staff do not provide information to their clients with respect to healthy eating or physical activity, but do stress to their clients they should try to be physically active, including walking around the community.

Barriers to Success of Services and Activities

The most important barrier to the delivery of services identified by clinic staff is poor appointment attendance. It is suggested by 80% of community members will attend their first appointment, with this percentage dropping to 50% and 30% for second and third follow-up appointments, respectively. A fourth appointment is very unlikely. This becomes an issue as the clinic staff affirms that it is difficult to explain diabetes and diabetes prevention to community members, and the ideal approach would be to teach less at each appointment, but over more time. It is suggested that diabetes prevention is a difficult concept for the community understand as there are no clear messages of what to do and what not to do, more about moderation, making a lifestyle routine, and making more wise choices with respect to healthy eating and being active. Reasons given for poor appointment attendance include: denial of condition; afraid of becoming diabetic so ignore it; not motivated or curious to understand their condition and change their behaviour; and also some people are worried about the confidentiality of their medical information. It is the feeling of the clinic staff involved in diabetes prevention that the diabetes prevention services in the clinic are deliver well and in a manner appropriate to best accommodate community members in their educational and motivational needs. All clinic staff emphasized that the community is aware of the services delivered in the healing center for diabetes prevention and thus this is not a barrier to the success of services. Clinic staff suggest there is lack of knowledge on which to base motivated: community doesn't really know how diabetes affects the body; community knows one quarter of the population has the disease, but you can't really tell that they are sick; community doesn't understand healthy eating very well (e.g., what is good food? fruit = sugar = bad? Fruit juice bad? Bread turns into sugar? How to cook good food, including vegetables?).

The CHR and Nutritionist find it difficult to increase the knowledge level in the community about diabetes, healthy eating and physical activity in both the clinical and community-health

settings. They describe that 2 or 3 appointment with community members concerning diabetes prevention does not result in a significant knowledge increase. After the first or second appointment, the next time the client will be seen is after they are diagnosed with diabetes. Community members are also not motivated or interested in attending/participating in events in the community such as community meetings, workshops, baby food making, cooking classes and grocery store tours. Significant time and resources are required for promoting, registering participants, calling to remind participants on multiple occasions, and trying to convince potential participants to prioritize the event/activity. With the Diabetes Program CHR being involved in so many activities and trainings for various other health issues/programs in the community, they do not have the time to focus on community strategies for diabetes prevention or developing their own activities and programs. Both the CHR and Nutritionist report that their clinical obligations do not allow the amount of time that would be required to initiate and/or coordinate a community effort to prevent diabetes, although both agree this would probably be the most successful approach. Activities that are organized (e.g., weight loss challenges) are successful, but after prizes are awarded and participants are no longer supported by organized activities, participants tend to lose interest in their efforts and slip back into bad habits. Community members are not interested in coordinating activities to continue programs; support always has to come from the clinic. There is lots of money available for activities and programs, but there is no motivation in the community to offer their time and effort to coordinate events to help themselves or the community as a whole live more healthy.

Another common them in the Clinical Evaluation Services Review was that the goal for health program activities should not include prizes for participation or competition, but should instead emphasize: “Prize: Your Healthy, and the Health of Your Family”. It should to be stressed that community members need to become involved in health education and promotion activities for the purposes of investing themselves in their health and the health of their families and not on winning a prize, because once the prize is removed the individuals motivation for behaviour change is also removed.

Recommendations for Future Program Development

Clinic Level

Clinic staff agree that services and activities should be designed to target the community, households, schools and new mothers. The need for these types of diabetes prevention services stems from the notion that diabetes prevention needs to start before the patient comes to the clinic. The responsibility for these types of initiatives lies with the CHR and Nutritionist, and recommendations from both were given to increase their capacity to better be more involved in community health strategies. The CHRs suggested that if the Diabetes Program CHR was able to work solely on diabetes prevention and treatment they would be able to have more time for community-based program development. The current situation has both CHRs working as a team on all health issues, and both attending all workshops and trainings. Much time has also been spent with the training of the new CHR, and assistance with designing and conducting training would be helpful. This would allow the Diabetes Program CHR to plan a schedule to include equal time for clinical and community diabetes prevention activities, as is mandated by their job description. It was also recommended by the CHRs that one nurse be dedicated to

diabetes prevention who could make themselves available for weekly radio shows and community meetings and events.

The CHR and Nutritionist suggested that CHR and Nutritionist Coordinators would be helpful in providing guidance and support for the design and implementation of strategies in all communities. This would also be helpful to promote continuous training and provision of new materials and information concerning diabetes prevention, as well as other health issues. Specifically for the Nutritionist, they do not receive training during their schooling to work in Aboriginal health or community health, so when nutritionists start in the communities they should receive training of what to expect during 1-on-1 counseling with community members, as well as how to appropriately design and conduct activities for health promotion and disease prevention in the community. A coordinator would be helpful for generating ideas and providing examples of activities that have been successful other places. Having a secretary to review files and help with patient follow-up would also help the Nutritionist create time for community education and health promotion.

Another suggestion for community education activities comes from the physiotherapist and includes holding classes with community members, as well as visiting sports teams, to teach the importance of stretching and flexibility to keep the body healthy, teaching why the body needs to move and be active, how to prevent injuries, and could also have groups sessions for knee and back therapy.

With respect to clinical services for diabetes prevention, the nurses brought up the possibility of trying new strategies with patients including the introduction of Glucophage and also taking a more aggressive approach to education and motivation. The nurses suggested that community members do not like to be on medications, so they may be more willing to change their behaviors to get off of the drugs. This might be effective in making the client more aware that their condition is serious even though they can't feel that they are ill, or feel they are at risk of becoming ill. Other staff suggest the following for the cervices they deliver to better educate and prevent clients with respect to diabetes: the home care staff suggest they could including diabetes education and prevention information in their monthly schedule with all of their patients; and the psychologist could receive more patients who are identified as having emotional eating disorders that put them at risk for diabetes.

It was also suggested by the majority of clinic staff that more visual tools are required to better explain to clients and community members what diabetes is, how it effects the body, and how it might be prevented. It was emphasized that diabetes is a very complex disease and that education is difficult as concepts and terms are difficult to explain and express with the current level of knowledge and understanding in the community, which is compounded by the difficulty of explaining and expressing this information using the Cree language as is required. This includes pictures, examples and tools that community members and clients can use to visualize their organs and the flow of sugar and blood in the body. An example of this is using a kitchen strainer to demonstrate the function of the kidney and what effect diabetes has kidney function.

Community Level

Clinic staff emphasize that preventing an increase in cases of diabetes in the community would require participation and support from as many community entities and groups as possible. To ensure the initiative is sustained a full-time coordinator would need to be hired to provide support and collaboration in the form of education, promotion and coordination. In this respect, one study participant offered: "The most important thing for getting others involved is communication. Communication is a component that is necessary, knowing what others are doing, inviting them to participate." The clinic staff suggested the coordinator could be involved in training representatives from the community (day care, schools, restaurants, grocery stores, etc) who are interested in actively promoting diabetes prevention and health lifestyles in their respective roles. As a starting place for assembling a community planning committee for a diabetes prevention strategy, the clinic staff suggested it might help to bring the Health and Social Services Committee back into action, this committee includes representatives from the Band, Health and Wellness, Cree School Board, the clinic and the general community.

Most clinic staff brought up the need for having community members talk about their experiences with diabetes, successes in treatment and prevention of diabetes, and successes and troubles associated with weight loss diet change. This can be done using a radio show that could also include education and information of healthy lifestyles and diabetes prevention from representatives in the community. The radio show could even be played or the newsletter discussed on the radio during the "smoke breaks" on bingo nights. Community meetings and a monthly newsletter were also offered as other suggestions to make sure that multiple communication channels are used. After some time of such a campaign, community members could be asked to phone and talk about their experiences. The goal with this would be to make diabetes an issue people can talk openly about in the community, and motivate people to find the information they need to help themselves make preventative lifestyle decisions. Events such as special dinners that serve a healthy/traditional meal and provide entertainment related diabetes education were predicted to be successful. Entertainment could include describing why the food is healthy, funny skits about diabetes prevention, having community speakers talk about their experiences with diabetes, and also a fiddle dance (the community would pay $15-20 to attend the event). Audio and video from educational events and activities could be put on a CD and distributed. A community calendar of activities, sports and events would also be helpful for planning activities and programs to optimize community participation, as well as having real examples of activities the clinic staff can provide to clients for discussing what physical activity or educational events they might be able to attend.

The clinic staff also provided suggestions that other entities/groups in the community could use to better promote healthy lifestyles in the community. The clinic staff feels that the Recreation Department should focus more resources on initiating and coordinating other sports in the community for Youth and middle-age groups such as baseball, basketball, volleyball and floor hockey. Offering a wide range of activities will allow community members that do not play hockey or broomball, or make the team to attend tournaments, have physical activity they can participate in. Instead of focusing on high-level competition, the Recreation Department should focus their message on the importance of being active, and doing sports and exercise for fun. It was suggested that Recreation Staff should be motivated to be more active in their jobs as

leagues and activities need to be coordinated and well scheduled to be successful; managers need to show leadership and make sure the employees are busy planning and coordinating activities for the benefit of the community.

Concern was also expressed for the success of the Fitness Center in the Gathering Place. Clinic staff explain there are too many kids around the Gathering Place and little monitoring of the fitness center is provided. This becomes a problem as a large number of community members are shy and would rather not be disturbed, or have it general knowledge that they are exercising. The accessibility of the Fitness Centre is frequently a problem because the Gathering Place is shut down so frequently for weddings, deaths and community events. Routine building is so important when trying to motivate a population to change their behaviour. The Fitness Center also lacks educational support on how to use the fitness equipment, and this can lead to injuries because the individual does not know how to correctly use the machine or free-weights.

Other suggestions included: paving the roads (more walkers in Wemindji); more gym class in the schools then 2 sessions in a 6 day cycle; restaurant placemats with diabetes and healthy eating information; sugar comparisons (pictures of tablespoons) in the grocery store; promoting employers to enforce/encourage workplace physical activity; and conducting all activities and programs free of charge to the community. Clinic staff agree that the focus should moved away from providing prizes and monetary incentives to encourage participation in health-related education and motivation activities, instead using slogans such as: “GRAND PRIZE: Your Health!!!.

4. OVERALL CONCLUSIONS AND RECOMMENDATIONS

1) Low level of knowledge/understanding of diabetes and diabetes prevention in the community;
2) Low level of motivation to change unhealthy behaviours and participate in activities and education events in the community; and
3) Need to spend time providing information/education and motivation before community will prioritize services/activities/programs to address the diabetes issue (e.g., community meetings, workshops, physical activity events, cooking classes, grocery tours).

- The Clinic cannot be the only community groups/stakeholder working in diabetes prevention; needs to be a community approach.
- Relationships need to be built in the community so that all groups/stakeholders can help in accessing the greatest number of community members with the dissemination of information/education and motivation.
- Capacity needs to built in the community to come around an issue and work together for its resolution, including how to work and sustain themselves in a committee of interested representatives.
- A trained community representative is required to coordinate the initiative with respect to community relationship development, strategy/program design, as well as strategy/program implementation.
- The community coordinator would need to be trained in relation to: type-2 diabetes and its prevention; how to inform themselves about health information using internet and other

information sources; how to build and sustain relationships in the community; how to properly coordinate a community strategy including scheduling committee meetings, facilitating meetings; creating agendas; drafting minutes; designing health promotion activities; and effectively communicating with committee members and community representatives.

> "1) EDUCATION! 2) MOTIVATION! 3) ACTIVATION!"
>
> - Interview Participant