Diabetes and My Nation

Community Based Diabetes Prevention and Management Program

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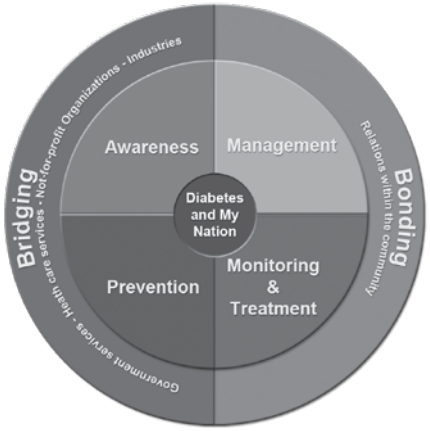
Introduction

Diabetes and My Nation initiative is a community based health management program to achieve evidence based outcomes for the prevention and management of diabetes (Type 2 Diabetes Mellitus – T2DM) in First Nations communities. It applies culturally appropriate holistic methods that bridge between Traditional and Western medicines, applies conventional healthcare methods and E-health to deliver awareness, prevention, education, monitored self-management, and treatment of diabetes to all age groups.

Phase I
The Development of Diabetes and My Nation educational materials (10 DVDs and website) about diabetes prevention and treatment presented in a holistic approach (Spiritual, Mental, Emotional, and Physical aspects of diabetes management).

Phase II
Diabetes Awareness and Screening Gatherings, and the introduction of the program to different communities to explore potential approaches for its implementation, and communities that are prepared for a pilot project.

Phase III
A pilot project at the Haisla First Nation, British Columbia for the community based diabetes prevention and management program, including the development of Best Practices and Sustainability Plan.



Methods

Advisory Group
Learned from First Nations Elders who either have diabetes or have family members with diabetes, First Nation youth, healthcare professionals, and government officials with experience working with First Nations in the field of diabetes prevention and management.

Barriers

Identified potential barriers to the delivery of education and healthcare services to the First Nation communities.

These include a review of motivational approaches appropriate for the community, of community and healthcare system resources, and of local resistance to change.

Partnership
The pilot project was funded by the First Nations and Inuit Health Branch, Health Canada. Partnerships were formed with Provincial health services, BC Ministry of Sports and Healthy Living, and Pharmaceuticals companies to assist in the implementation of the project.

Educational Program
Developed a culturally appropriate educational program presenting a holistic approach to diabetes prevention and management. The majority of contributors were First Nations health care professionals and community members.

Awareness & Screening
Diabetes awareness events were held at 15 First Nations communities in British Columbia. Approximately 850 people were screened for Type 2 diabetes and hypertension. These events were organized as traditional gatherings.

Pilot Project
The Health Department of the Haisla First Nation expressed interest to join the Diabetes and My Nation program and to pilot the program at the Kitimate Village community. The Chief and Council endorsed the project and allocated the required resources.

Community Involvement
Consulted and worked with the elders, health departments, social services, and school board to customize the program components for the Haisla First Nation. The community elders guided the project team throughout the different stages of the pilot project.

The Program
Started the three main components of the program:

- Adult program - The Circle of Diabetes Self-management
- Youth Program - Our Spirit Lives
- School Program - Health Warriors

Monitoring

Participants in the Adult program were monitored on a monthly basis by the local diabetes nurse educator and home care workers, supported by a diabetes specialist. The project manager worked with the health team and other community members to promote the program.

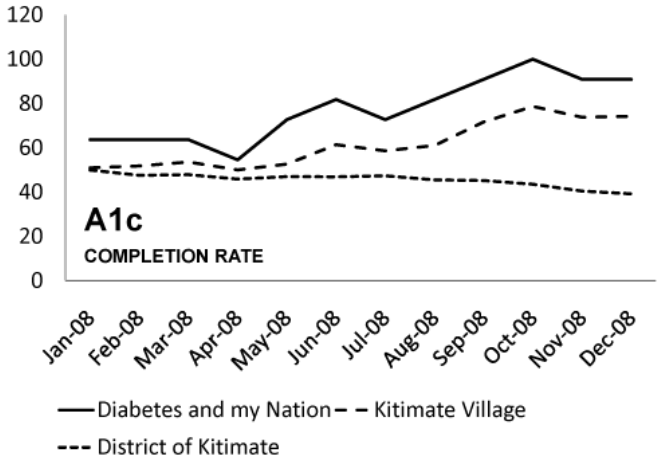
Sustainability

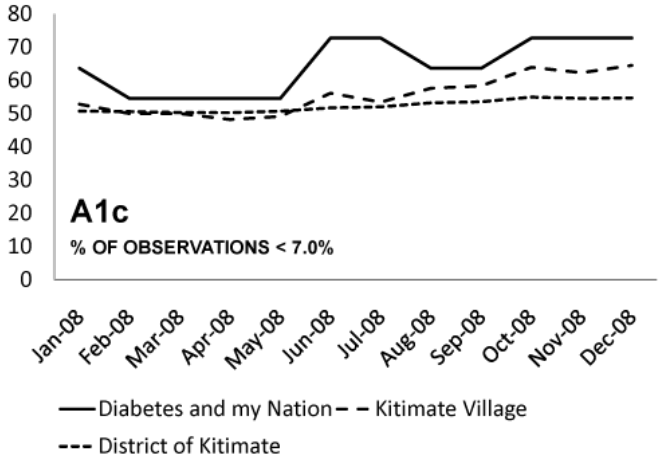
Worked with the community to develop a sustainability plan to continue the program, relying on local resources and support from local health services, local businesses, and the community.

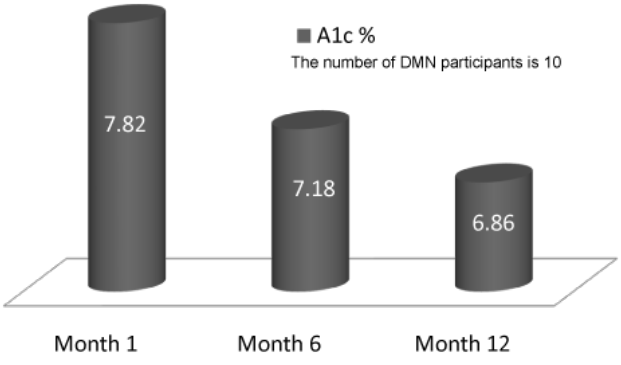
Results

The impressive reduction in diabetes clinical parameters achieved (A1c, Lipids, BP,etc.) would be predicted to result in major reductions in renal impairment, cardiovascular disease, other disabilities, and hospitalization costs downstream in the Diabetes and My Nation group. However, the striking finding of the improvement in the same parameters in the community as a whole in those who did not participate in the intense program, demonstrated the spill-over effect of such a program in the community as a whole. Over the same time period, this program advanced the care of First Nations people significantly compared to the care of people in the adjacent community of non-First Nations people. The entire community now demonstrates a remarkable understanding and awareness of the risks of this disease and of methods to reduce this risk.

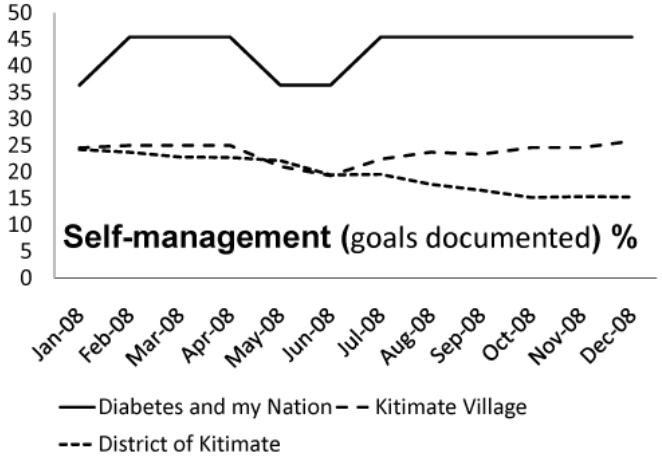
Population	2008
District of Kitimate	9120
Diabetes in District of Kitimate	806
Kitimate Village	720
Diabetes in Kitimate Village	62
Diabetes and My Nation	11

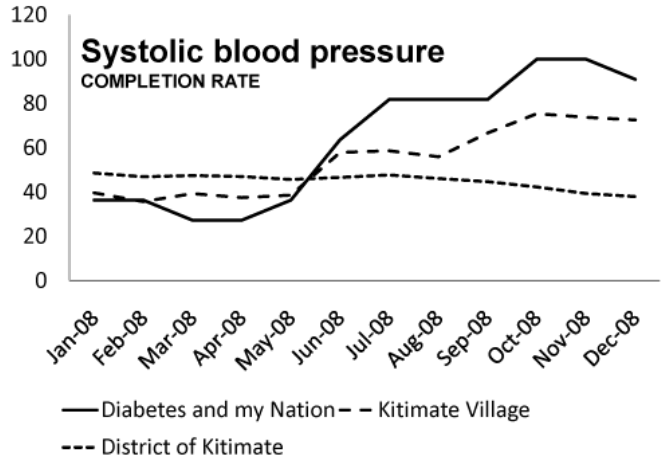


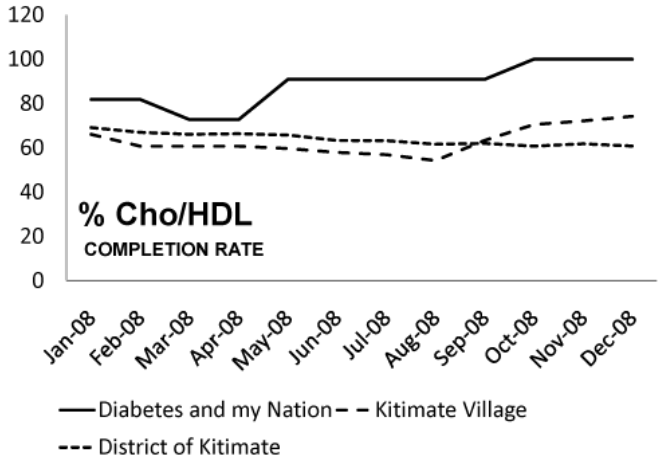




Changes in A1c DMN Participants




Systolic blood pressure
COMPLETION RATE
120
100
80
60
40
20
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08
Diabetes and my Nation
Kitimate Village
District of Kitimate


% Cho/HDL
COMPLETION RATE
120
100
80
60
40
20
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08
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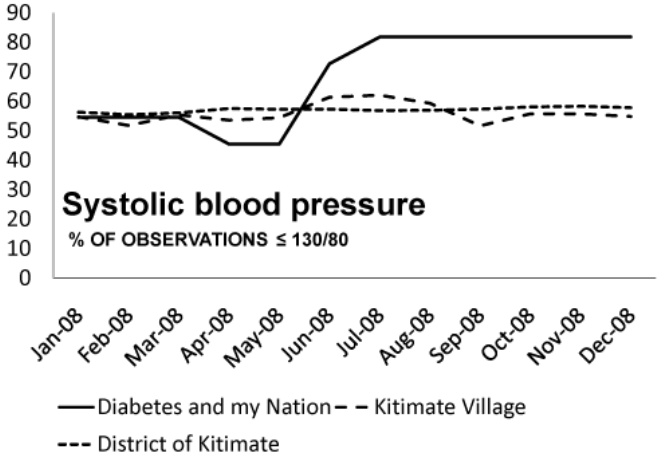
Systolic blood pressure
% OF OBSERVATIONS ≤ 130/80
90
80
70
60
50
40
30
20
10
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08
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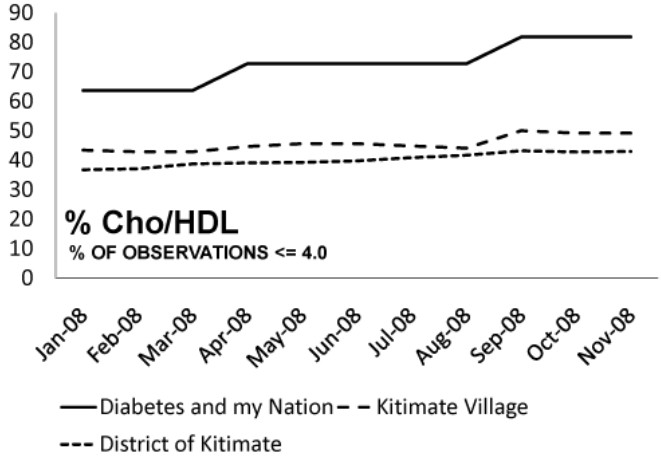
% Cho/HDL
% OF OBSERVATIONS <= 4.0
90
80
70
60
50
40
30
20
10
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08
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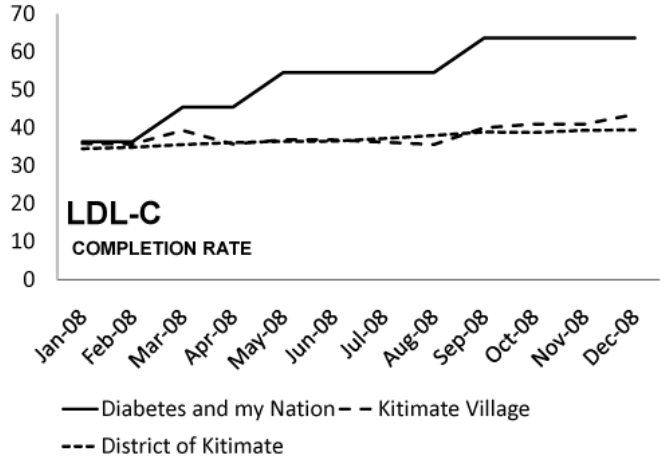
LDL-C
COMPLETION RATE
70
60
50
40
30
20
10
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08
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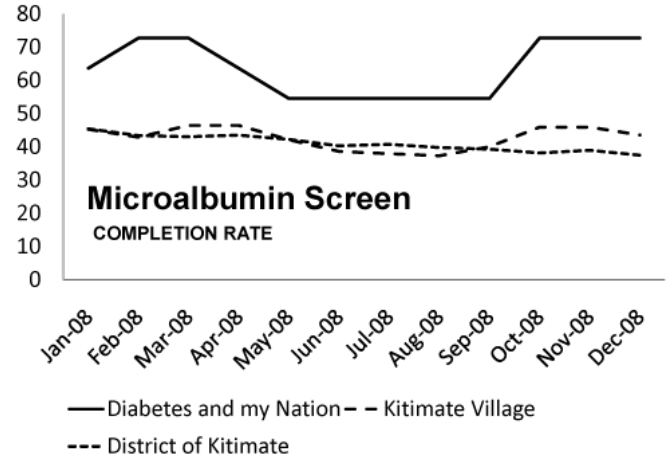
Microalbumin Screen
COMPLETION RATE
80
70
60
50
40
30
20
10
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08
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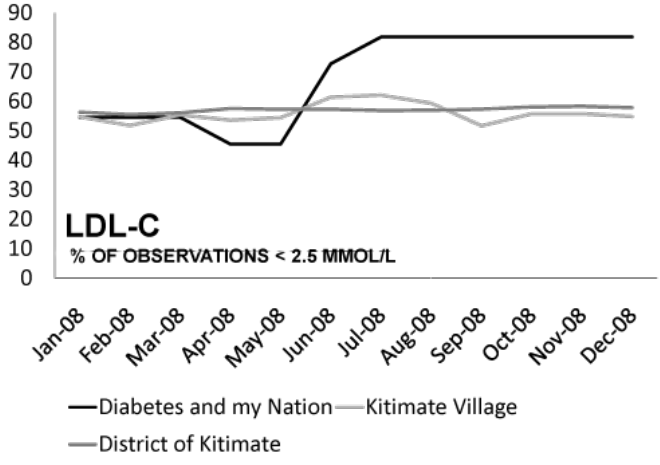
LDL-C
% OF OBSERVATIONS < 2.5 MMOL/L
90
80
70
60
50
40
30
20
10
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08
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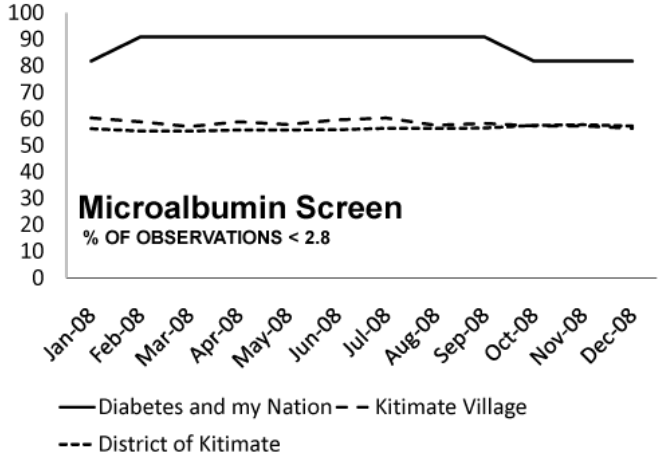
Microalbumin Screen
% OF OBSERVATIONS < 2.8
100
90
80
70
60
50
40
30
20
10
0
Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08
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Conclusion

The key outcome was the ownership of the disease, its prevention and management by the community members. The number of participants in the Adult Diabetes Self- Management Program averaged 22.5% of total people with diabetes in the community. Regular monitoring of blood sugar levels and blood pressure was accomplished. Notable changes in lifestyle, particularly in diet and physical activity (e.g. formation of the walking club), and reduction of A1c levels was achieved

At the beginning of the project, four youths from the Haisla First Nation joined the program; today they are twelve. Changes in behaviour included the reduction (in some cases elimination) of soft drinks and “power” drinks, adhering to a healthy diet with the elimination of white flour and sugar. Members of the group joined traditional physical activities such as canoe building, dancing, and food gathering events etc.; along with activity programs at the community gym.

The pilot project was completed in March 2009. The community has maintained all programs without any financial support.

Diabetes and My Nation Program can be replicated in any other locales if the following are included:

a. Respect for local culture and customs.

b. A holistic approach to include youths community events, and activities leading to ownership by the community members.

c. A dedicated Nurse advocate accepted by the community is provided.

d. An electronic medical diabetes record for medical history, physical findings, and laboratory data generated by health professionals and delivered by e-mail or the web to desired recipients in the form of consultation reports.

e. Western medicine as well as indigenous medicine is included.

f. Full education in brief segments is provided at acceptable times.

g. Self monitoring (glucose) for self management and empowerment as well as Point-of-Care lab for immediate feedback.

h. Close cooperation with local Health care physicians and support groups.

i. Cooperation and partnership with Industry, Provincial Health, Federal Health, and other Health Care/Wellness programs.

Summary

Diabetes is not only a medical problem. It is a socioeconomic challenge to the community. We have demonstrated a successful program that integrates all aspects that affect the person with diabetes, from motivation to social support with constant monitoring by the health care professionals. It is not only the responsibility of health authorities; it is the responsibility of all stakeholders, from community leaders, educational authorities, sports and healthy living groups and industries. Empowerment of patients through culturally appropriate education, supporting the communities through establishing an infrastructure of trained healthcare providers and healthcare system, and developing long-term strategies are the key components to the comprehensive diabetes prevention and management program.

This program has demonstrated that Diabetes Nurse Educators must play an integral part in the implementation of the program as the main point of contact for monitoring patients and coordinating treatment activities. They provide intimate motivational access to healthcare which permits alternative and cost effective approaches to all aspects of diabetes management. Finally, this program has demonstrated that E-health for education and monitoring of patients must be applied to sustain the quality of services as the number of people with diabetes is increasing at an alarming rate not matched by the increase in human or financial resources to deal with it.

Acknowledgement

Diabetes and My Nation team would like acknowledge the First Nation and Inuit Health Branch for funding this project, and the Vancouver Coastal, Interior, Vancouver Island, and North Health Authorities, and the BC Ministry of Sports and Healthy Living for their support. Also Merck Frosst Canada, GSK, LifeScan, and Shopper Drug Mart were among the supporter of the program. Siemens Canada donated 4 DCA 2000 analyzers to the communities. Special thanks to the Haisla people, and their Chief and Council and the Health Department, Social Department and School; and all other First Nations in BC and members of the community, and volunteers who have participated in this project.

For more information:

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