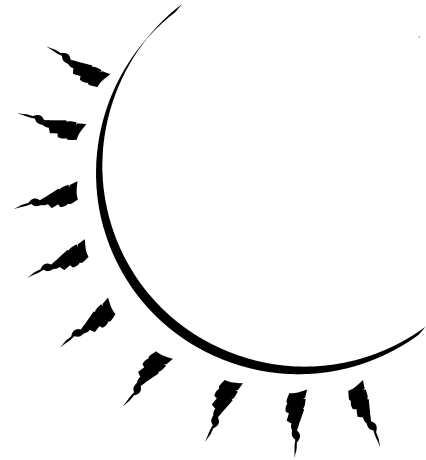




**Saskatchewan  
Health**



# **Population Health Promotion Practice in the Primary Prevention of Type 2 Diabetes**

**Prepared for:  
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Saskatchewan Health  
Canada

# **Population Health Promotion Practice in the Primary Prevention of Type 2 Diabetes**

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## **Population Health Promotion Practice in the Primary Prevention of Type 2 Diabetes**

Most of the research in diabetes has focused on the individual who already has diabetes or has the early signs. The emphasis has been on medication and lifestyle changes. There has been very little focus on the prevention of diabetes in populations. This initiative is a focus on primary prevention and health promotion in populations as a whole – including those in specific high risk groups and those who are at low risk. What can we do to improve the health of the whole community so fewer people develop diabetes or other diseases that have some of the same risk factors? How do we improve the ability of individuals and communities to deal with diabetes when it occurs to improve the quality of life and health?

### **1. Primary Prevention**

The purpose of primary prevention is to limit the number of people who develop a disease by controlling causes and risk factors for the disease. Efforts are directed toward improving the general well being of the individual while also including specific protection against selected diseases.

Primary prevention may include, but is not limited to, the promotion and adoption of healthy lifestyles: improving nutritional status, physical fitness, immunization against infectious diseases and promoting safe environments. With a health promotion focus, primary prevention works to ensure the optimum conditions to improve and sustain health and reduce the risk of disease or injury. Primary prevention can be accomplished by the promotion of health and the reduction of risk factors through personal and community-wide efforts.

Primary prevention can be a “hard sell” because its success is marked by a non-event. A person who doesn’t develop a disease or illness is rarely aware of or grateful for not developing the disease. On the other hand, to reduce risk, a person usually needs to change behavior. The personal costs of changing behavior may be in time, effort or money. These costs are immediate. The benefits usually take a longer time to show.

## 2. Reducing the Risk of Developing Diabetes

Primary prevention of diabetes includes the promotion and adoption of healthy lifestyles: e.g.

- ✓ increasing physical activity
- ✓ achieving and maintaining healthy body weights
- ✓ establishing healthy eating patterns.

These are lifestyle risk factors that can be modified. Research shows that reducing these risk factors is effective in prevention. There is also some research in the use of medication to prevent diabetes among those at extremely high risk but results won't be known for several years. Considering side effects of medication, this would not be a feasible strategy for whole communities.

## 3. High Risk Approach vs a Population-based Approach to Diabetes Prevention

For the prevention of diabetes, there are two approaches that can be used. One is to focus mainly on those who are at high risk of developing diabetes. The other approach is to deal with populations as a whole including those at high, medium or low risk of developing diabetes. For greatest success in reducing the incidence and prevalence of diabetes, both a high risk and a population-based approach are needed. This initiative focuses on the population-based approach.

### High risk approach

A high risk approach means that one would:

- Identify those at highest risk and focus on these individuals.
- Focus on changing the individual by adapting diet and increasing exercise.  
Medication might be used if there was an effective one available to reduce risk.

However, it is recognized that:

- We're surrounded by high fat, high calorie, low fibre foods.
- Today's lifestyle is still one of low activity rates in spite of efforts to promote physical activity.
- Only half the people take medication as it is prescribed<sup>1</sup> so, even if an effective one were available, its impact would be limited.
- There's no way of accurately predicting who will develop diabetes.

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<sup>1</sup> Wright EC. "Non-compliance—or how many aunts has Matilda?" *Lancet* 1993; 342: 909-313. In: D. Simmons, J. Voyle, B.Swinburn, K. O'Dea. "Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus." *Diabetic Medicine*, 1997: 14: 519-526.

[An HSURC study on "Adherence to Cholesterol-lowering Drugs in Saskatchewan," showed that a third of patients never fill a second prescription, and only a quarter are still taking the drugs after one year. Health Services Utilization and Research Commission Summary Report No. 9, September 1997]

### **Population-based approach**

A population-based approach:

- ✓ Promotes healthy lifestyles for people of all ages within the entire community, and recognizes the importance of community involvement.
- ✓ Looks for small changes made by a large percentage of the population. This will often show up as greater improvements in a population's disease index than would large shifts made by only a few people.<sup>2</sup>
- ✓ Has as its ideal, "a healthy lifestyle in a healthy environment."
- ✓ Results in some individuals benefiting much more than others, although ideally everyone gains.
- ✓ Aims to reduce risk factors for diabetes, particularly physical inactivity and obesity, across the whole population.
- ✓ Hopes to prevent high risk individuals from developing Type 2 diabetes, but also prevents low risk individuals from becoming high risk.
- ✓ Promotes lifestyle changes in the population that would also have benefits beyond diabetes reduction, in terms of cardiovascular disease, hypertension, and many other non-communicable diseases.
- ✓ Develops and supports environments that improve health and encourage low risk behaviors by making healthy choices the easier choices.
- ✓ Provides benefits that are difficult to test and take a long time before one can see results.

## **4. Population Health Promotion**

Population health promotion is about looking at what determines health and taking action on these determinants to reduce risk factors and ultimately increasing health in a whole community. It is a socio-environmental approach confronting root causes of illness. It means creating environments for people where primary prevention can be achieved through a population or community-based approach.

### **Thinking population health promotion**

When the term "population health promotion" is used it means to:

- ✓ think "big picture" – the broad environment influencing lifestyle choices and health outcomes
- ✓ think determinants – the factors that affect health
- ✓ use evidence – statistics, epidemiology, research, experience
- ✓ think empowering practice and participation – community participation in decision making

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<sup>2</sup> Rose G. *The strategy of preventive medicine*. Oxford: Oxford University Press, 1992.

- ✓ think capacity building
- ✓ think multi-sectors
- ✓ think multi-strategies

### **Applying principles**

Health promotion action is guided by the following principles:

- Striving for equity in health – removing barriers that make it harder for some people to be healthy than it is for others.
- Working towards empowerment and public participation – helping people gain greater control over decisions and actions that affect their health.
- Forming new strategic partnerships – working co-operatively with other sectors for support and greater effectiveness.

### **Choosing strategies**

Since the determinants of population health are many and diverse, a broad range of strategies is needed to address them by working at all levels of society from the individual to government by:

- building healthy public policy
- creating supportive environments – physical, social, political
- strengthening community action by:
  - developing needed skills
  - helping people learn how to access resources
  - building effective infrastructure
  - developing strong social networks
  - helping people evaluate and learn from their efforts
- developing personal skills – so people have greater control over their lives.
- reorienting health services – so people take more control over their health.<sup>3</sup>

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<sup>3</sup> *A Population Health Promotion Framework for Saskatchewan Health Districts*. Saskatchewan Health 1999. (Based on information from the Ottawa Charter of 1986)

## **5. Features for Successful Primary Prevention of Diabetes Interventions**

For a primary prevention of diabetes intervention to be successful, it must include the following:

- ✓ Community initiation of the program and continuous involvement in it
- ✓ Awareness of the determinants of health
- ✓ Formation of partnerships with existing groups in the community
- ✓ Ongoing long term support rather than a one time or short term intervention
- ✓ Flexibility of the program to meet different needs
- ✓ Making the intervention part of daily life rather than a special activity
- ✓ Promotion of and supports for individual responsibility for self-management
- ✓ Offering financial and human resources to initiate new programs
- ✓ Making changes in the physical environment which promote healthy lifestyles, such as increased availability of good food and safe places for physical activity.<sup>4</sup>

## **6. Main Features of Past Successful Strategies**

Research shows that there are some common elements in past interventions that have been successful in addressing a variety of health issues. The following chart identifies the feature that was important for success and an example of the strategy where this is evident. It must be noted that each strategy does not contain all the features for success.

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<sup>4</sup> Based on: *Background Paper for the Development of a National Aboriginal (First Nations, Inuit, and Metis) Diabetes Strategy: Report of the Working Group*. Draft. January 1999.

## Main Features of Past Successful Strategies<sup>5</sup>

Feature of strategy	Some Examples
Adequate duration and persistency	<p>Finland has a world famous program to reduce the risk of coronary heart disease. Changes in the first 10 years of the campaign were not spectacular, but recent years have seen marked improvements in CHD risk factors.</p> <p>[Vartiainen E et al. Twenty-year trends in coronary risk factors in north Karelia and in other areas of Finland. <i>International Journal of Epidemiology</i>, 1994, 23:495-504]</p>
A slow and staged approach	<p>Campaigns to change single behaviors, e.g. cigarette smoking, have required a series of strategies over time in order to support the transition from awareness, through motivation to change; experimenting in adopting a change; and maintaining that changed behavior. This suggests that it is unrealistic to expect rapid changes in complex behaviors such as eating and exercise.</p> <p>[Borland R, Owen N. Regulatory innovations, behaviour and health: implications of research on workplace smoking bans. <i>International reviews of health psychology</i>, 1994, 3:167-185.]</p>
Legislative action	<p>In some instances, such as with seat-belt use and anti-drunk-driving efforts, legislative action has been used with education campaigns aimed at changing behaviour and attitudes.</p> <p>[Reynolds C. Legislation and the new public health: introduction. <i>Community health studies</i>, 1989, 13:397-402]</p>
Education	<p>Improved immunization rates for many childhood diseases have required a systematic co-ordinated approach including both education and regulation. Education can encourage and support a change in behaviour while avoiding the feeling that change is being imposed without reason.</p> <p>[LeFebvre CR, Flora JA. Social marketing and public health intervention. <i>Health education quarterly</i>, 1988, 15:219-315.]</p>
Advocacy	<p>Strong advocacy from respected elements within all sectors of society has been a key feature of reduced smoking rates and reduced exposure to passive cigarette smoke.</p> <p>[Puska P et al. The community-based strategy to prevent coronary heart disease: conclusions from the ten years of the North Karelia Project. <i>Annual review of public health</i>, 1985, 6: 147-193.]</p>
Shared responsibility by consumers, communities, food industry and governments	<p>In Portugal, concern for the high prevalences of hypertension and stomach cancer led to a national campaign to reduce the salt content of the diet. This involved educational measures to reduce cooking salt use, to reduce consumption of salted codfish and salted sausage and, with local bakers, to reduce the salt content of bread. Strong local support was obtained from village leaders, doctors and nurses. After one year, salt consumption had fallen markedly (by 50%) with a 5 mmHg reduction in average blood pressure.</p> <p>[Forte JG. Salt and blood pressure: a community trial. <i>Journal of human hypertension</i>, 1989, 3: 179-184.]</p>

<sup>5</sup> Table 9.1 *Obesity: Preventing and Managing the Global Epidemic. WHO Consultation on Obesity*, 1997 p. 196.

## 7. Initiatives Using a Population Health Promotion Approach in the Primary Prevention of Type 2 Diabetes

In 1974, the document *A New Perspectives on the Health of Canadians*,<sup>6</sup> commonly called the Lalonde Report, first identified the term health promotion. This report identified that factors other than medical care determine health. The result was the Health Field Concept in which four “fields”: Human Biology, The Environment, Lifestyle, and The Availability of Health Services were the places for health promotion intervention. The Lifestyle field was the easiest one to act on and was therefore generally the chosen field for health promotion action. This emphasis on changing individual behaviors persists even today.

In 1986 the *Ottawa Charter for Health Promotion*<sup>7</sup> identified five strategies for action. These were to:

- Build healthy public policy
- Strengthen community action
- Develop personal skills
- Create supportive environments
- Reorient health services.

This Charter recognized that a multi-sectoral approach is needed to create health. However, over the following years, and even now, the emphasis continues to be on “Developing Personal Skills”.

There is growing recognition that lifestyles we choose are conditioned by the social environment around us. Young people in particular follow the patterns of their peers. If their peers wear bicycle helmets, they will feel comfortable wearing bicycle helmets too. If their peers are physically active, they will feel comfortable being physically active, too. Most individuals find it hard to behave differently from their peers. Therefore, it would seem that if we can make healthy behavior the norm in society, then maintaining the healthier habit would no longer require effort from individuals. If wearing bicycle helmets is the accepted norm of behavior in society, then it becomes easier for all to wear bicycle helmets.

Facilitating changes in personal life-styles may require the *provision* of services such as recreational facilities or the *removal* of obstacles to choice such as the fees to use the recreational facilities. In the end, though, it is still up to the individual to accept or reject what is available in their environment.

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<sup>6</sup> Lalonde, M. *A New Perspective on the Health of Canadians*. Ottawa, Ontario: Health and Welfare Canada, 1974.

<sup>7</sup> World Health Organization, Health & Welfare Canada, Canadian Public Health Association, *Ottawa Charter for Health Promotion*. Ottawa, Canada. 1986.

One of the objectives of a broader population health approach is to put more emphasis on the strategies other than individual skill development:

- Build healthy public policy
- Strengthen community action
- Create supportive environments
- Reorient health services

The following are a few examples of the traditional behavioral approach and broader population health approaches taken to address the key issues in the prevention of diabetes: reducing fat content in diets, increasing fibre consumption, increasing physical activity, and maintaining healthy body weights.

### **Issue: Reducing fat content in diets**

<b>Traditional (Individual) Approach</b>	<b>Population Health Approach</b>	<b>Example of Population Health Approach</b>
Tell people to restrict fat consumption to no more than 30% of energy as fat and no more than 10% as saturated fat	Working with meat producers to produce leaner meat	Australian pork industry has cut fat content of pork by 50%.  Mann NJ, Gazenbeek J, Warrick G, O'Dea K, Sinclair AJ. Composition of Australian pork: results of 1991 retail study. <i>Food Australia</i> 1992; 44: 508-510. [In: D. Simmons, J. Voyle, B. Swinburn, K. O'Dea. "Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus." <i>Diabetic Medicine</i> , 1997: 14: 519-526.]
Reduce fat consumption by reducing the intake of foods high in fat	Reducing the total amount of fat in the food supply.	<i>Minjilang project</i> –an Aboriginal community on an island in northern Australia. Improving the quality of the food supply in the community store to increase consumption of fruits and vegetables and decrease consumption of sugar and of fat from meat.  Lee AJ, Bailey APV, Yarmir D, O'Dea K, Mathews JD. Survival tucker: improved diet and health indicators in an Aboriginal community. <i>Aust J Publ Health</i> 1994; 18: 277-285. [In: D. Simmons, J. Voyle, B. Swinburn, K. O'Dea. "Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus." <i>Diabetic Medicine</i> , 1997: 14: 519-526.]
Tell people to restrict or eliminate foods high in fat.	Influencing the food supply.	<i>North Karelia Project</i> -- Stimulating a local sausage factory to create a new product, replacing some of the meat and fat with mushrooms.  McAlister A, Puska P, Salonen JT, Tuomilehto J, Koskela K, Theoy and action for health promotion: Illustrations from the North Karelia Project. <i>Am J Publ Health</i> 1982;72: 43-50. [In: D. Simmons, J. Voyle, B. Swinburn, K. O'Dea. "Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus." <i>Diabetic Medicine</i> , 1997: 14: 519-526.]

**Issue: Improving diets**

<b>Traditional (Individual) Approach</b>	<b>Population Health Approach</b>	<b>Example of Population Health Approach</b>
Inform people of the importance of fresh fruits and vegetables in the diet.	Making quality fresh and nutritious fruits and vegetables available in the neighborhood at a not-for-profit price.	<p><i>The Good Food Box.</i> A box of fresh and nutritious fruits and vegetables is delivered to the neighborhood drop-off site, ready for pick up, every two weeks. Payment for the small, medium or large food box is collected in advance. The Good Food Box also contains food preparation tips, recipes and nutrition information.</p> <p>Regina Food Security Project, Box 482, Regina, SK. S4P 3W7. Tel: (306) 347-3224 Fax: 347-0943.</p>
Work with the health sector to make changes.	Developing intersectoral healthy public policy to reduce the prevalence of obesity.	<p><i>Norwegian Nutrition and Food Policy</i> ratified in 1976. Integration of agricultural, economic and health policies in agricultural production, manufacturing processes, and marketing practices.</p> <p>Klepp KI, Forster JL. The Norwegian Nutrition and Food Policy: an integrated policy approach to a public health problem. <i>J Public Health Policy.</i> 1985; 6: 447-463. [In: D. Simmons, J. Voyle, B. Swinburn, K. O’Dea. “Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus.” <i>Diabetic Medicine</i>, 1997: 14: 519-526.]</p>
Food banks	Strengthening community action by forming a network of community based organizations and human services departments of government to address issues of food security for all.	<p><i>Food for All Coalition.</i> This is a rural network of 3 government agencies and 9 non-government partners in north east Saskatchewan (Melfort-Nipawin region). The Coalition adopted a three stage work plan. Stage one involved the development of the Coalition and a long range work plan. Stage two involved organizing and hosting a free one-day Fall Food Forum to identify food security issues and begin mapping resources and initiatives. Stage three consists of community development initiatives such as community gardens, collective kitchens, Good Food Box programs and school food programs under the direction of a Food Security Project Co-ordinator.</p> <p>Food for All Coalition, Box 6500, Melfort SK, Canada S0E 1A0. Contact: Yvonne Smelt (306) 862-2543.</p>
Inform/Educate people about the need to reduce calorie and fat content in diets.	Creating supportive environments to increase choices for healthy eating by promoting healthy eating in schools, workplaces, lunch bars and the community.	<p><i>Heart Healthy</i> food choices on menus identified with a special logo. Educating restaurant owners about the benefits of menu labelling. Have their menus analyzed. Label menu choices as “Low fat”. Work with the cooks to modify recipes. Supermarket labelling that identifies healthful choices.</p>

**Issue: Increasing activity levels**

<b>Traditional (Individual) Approach</b>	<b>Population Health Approach</b>	<b>Example of Population Health Approach</b>
Inform people that they need to accumulate at least 30 minutes of activity on most days of the week.	Creating healthy public policy in workplaces by providing activity breaks.	Japanese model where exercise breaks are part of the regular work day.
Focus on individual physical activity routines.	Creating supportive environments by supporting physical activity in the outdoors coupled with concern for the environment.	<p><i>Active Living – Go for Green.</i> This program supports and encourages Canadians to engage in responsible, healthy and active outdoor physical activities that are environmentally friendly, and to enhance their collective capacity to preserve or create quality environments for active living. For example: working with employers to implement a financial incentive program that rewards people who give up their parking space and/or providing awards or incentives to those who regularly walk or cycle to work.</p> <p>The four major objectives include: Partnerships; Participation/Education; Safety/Accessibility; and Active Transportation.</p> <p>Available: [<a href="http://www.activeliving.ca/activeliving/go4green.html">http://www.activeliving.ca/activeliving/go4green.html</a>] July 16, 1999.</p>
Give seniors instruction sheets on appropriate exercises.	Providing free one-to-one fitness program to seniors in their home environment. Helping seniors find ways to be active daily, making them aware of resources available and giving them more confidence to participate in seniors' exercise groups.	<p><i>Seniors In-Home Fitness Program</i> involves initial client work by the program co-ordinator. The client is then matched with a specially trained upper year student from the Faculty of Physical Activity Studies who visits the client twice weekly over a three month period to supervise and assist with simple, safe exercises to increase strength and mobility. Progress is recorded and assessed.</p> <p>Contact: Pat Mazur, Regina Health District (306) 766-7731</p>
Plan activity sessions. Send out programs listing times, dates and cost of activity programs.	Creating supportive environments by providing free access to community recreational facilities.	<p><i>On the Move</i> program (developed nationally) combines physical activity with health promotion while building positive self-esteem. The program encourages healthy life-long active living. It provides a fun filled, non competitive atmosphere for various age groups – Girls on the Move (originally for non-active girls ages 10-14), Boys on the Move, Women on the Move (luncheons and activity nights).</p> <p>(East Central Health District, Val Churko (306) 786-0627.)</p>

**Issue: Improving diets and increasing activity levels**

<b>Traditional (Individual) Approach</b>	<b>Population Health Approach</b>	<b>Example of Population Health Approach</b>
Work with individuals with diabetes.	Implementing a community wide approach with multiple strategies in multiple sectors	<p>New Zealand initiative. This program offers exercise activities, diabetes support groups, diabetes awareness, nutrition and cooking sessions.</p> <p>Simmons D, Fleming C, Innes J, Cutfield R, Patel A, Wellingham J. The Diabetes Care Support Service for general practitioners in Auckland. <i>NZ Med J</i>; 110: 48-50.</p> <p>Simmons D, Fou F, Leakehe L, Voyle J, Dee J, Gatland B, Fleming C. A pilot church based diabetes control programme among Pacific Islands people: The South Auckland Diabetes Project. <i>Annales d'Endocrinologie</i> (in press)</p> <p>Swinburn BA, Simmons D. The epidemiology and prevention of non-insulin dependent diabetes—a Polynesian perspective. <i>Proc Nutrition Soc Australia</i> 1995; 19: 20-24.</p> <p>[In: D. Simmons, J. Voyle, B. Swinburn, K. O'Dea. "Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus." <i>Diabetic Medicine</i>, 1997: 14: 519-526.]</p>
Give out pamphlets about obesity and heart disease.	Implement multiple educational activities to help people change health behaviors.	<p><i>Stanford Three Community Project</i> and <i>Stanford Five City Study</i>. These projects used mass media, interpersonal education and community organization to increase awareness and knowledge about heart disease and to teach skills required for behavior change. Started as research and demonstration projects, these are now run by community groups.</p> <p>Infomemo: Special Edition Fall 1990. National Heart, Lung, and Blood Institute. 4733 Bethesda Ave. Suite 530, Bethesda MD 20814 (301) 951-3260.</p> <p>Mittelmark MB, Luepker RV, Jacobs Dr, et al. Community-wide prevention of cardiovascular disease: Education strategies of the Minnesota Heart Health Program. <i>Preventive Medicine</i> 15:1-17, 1986.</p> <p>Farquhar JW, Fortmann SP, Macoby N, et al. The Stanford Five-City Project: Design and Methods. <i>American Journal of Epidemiology</i> 122:323-334, 1985.</p>
Provide information to at risk individuals.	Implement a broad multi-strategy approach including mass media, grocery store tours, collective kitchens, educational material, support groups.	<p><i>Sioux Lookout Diabetes Program</i> in Ontario, a community of 1500. This program includes mass media, grocery store tours, collective kitchens, in-store educational material, walking and weight loss support groups, a foot care programme and workshops for community health representatives.</p> <p>McIntosh K, Mullen P, DeMare D. A grocery store nutrition education programme for diabetes. <i>Third Diabetes and Indigenous Peoples Conference</i>. Winnipeg 1995; abstract 103. [In: D. Simmons, J. Voyle, B. Swinburn, K. O'Dea. "Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus." <i>Diabetic Medicine</i>, 1997: 14: 519-526.]</p>

<p>Work with individuals diagnosed with diabetes.</p>	<p>A comprehensive community program.</p>	<p><i>Sioux Valley Diabetes Prevention Project</i>, an on-reserve population of 1200. Initiatives include nutrition education, healthy baby programmes, collective kitchen groups, shopping tours, weight loss classes, a school lunch programme, home education for young mothers, physical activity groups, and building coalition with other community resources.</p> <p>Mustard C, Cantin B, Hamilton L, Barre P, Wasicuna T, Scheuer C, et al. Souix Valley Diabetes Prevention Project: a summary of programs in a primary prevention demonstration trial. <i>Proceedings of Third Diabetes and Indigenous Peoples Conference</i>. Winnipeg 1995; 96-104. [In: D. Simmons, J. Voyle, B. Swinburn, K. O’Dea. “Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus.” <i>Diabetic Medicine</i>, 1997: 14: 519-526.]</p>
<p>Develop supports for individuals who have been diagnosed with diabetes.</p>	<p>Community directed comprehensive program focused on prevention.</p>	<p><i>Kahnawake Schools Diabetes Prevention Project</i>, a Mohawk reserve in Quebec, with a population of 7500. Program is directed by a community advisory board and involves the development of a health education program for school children ages 5-11 years. There is an associated mass-media awareness program.</p> <p>Potvin L, Desrosiers S, Leduc N, Rivard M. The Kahnawake Schools Diabetes Prevention Project; evaluation. <i>Proceedings of Third Diabetes and Indigenous Peoples Conference</i>. Winnipeg 1995; 80-83.</p> <p>Macauley AC, Cross Em Saad-Haddad C, McComber AM, Kirby R, Paradis G. The Kahnawake Schools Diabetes Prevention Project: intervention. <i>Proceedings of Third Diabetes and Indigenous Peoples Conference</i>. Winnipeg 1995; 83-85.</p> <p>[In: D. Simmons, J. Voyle, B. Swinburn, K. O’Dea. “Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus.” <i>Diabetic Medicine</i>, 1997: 14: 519-526.]</p>
<p>Find a ‘good’ diabetes program and implement it.</p>	<p>Implementing a partnership approach to a community lifestyle intervention – especially written for the local community. To help people be strong in body and spirit – to help people eat healthy foods (less fat and sugar) and increase physical activity.</p>	<p><i>Native American Diabetes Project</i> was specifically designed for the Rio Grande Pueblo people. The project involves community members, tribal leaders, and Indian Health service staff. It is an educational program (5 meetings over a year) designed to improve the health of people with diabetes and that of their families.</p> <p>Diabetes Wellness Connection. Native American Diabetes Project: Strong in Body and Spirit. Available: <a href="http://www.laplaza.org/dwc/prof/nadp/">http://www.laplaza.org/dwc/prof/nadp/</a> [July 7, 1999]</p>

<p>Have a diabetes educator work with individuals diagnosed with diabetes.</p>	<p>Promoting healthy food choices through the local food store; adapting the school curriculum to increase activity levels.</p>	<p><i>Sandy Lake Health and Diabetes Project</i> in an Ontario community of 1500. At the community level, healthier food choices are promoted at the one and only local store. The mass media will be used and screening, counselling, and referral services are underway. There is also a school intervention strategy involving changes to the school curriculum, increasing physical activity and increasing the availability of nutritious food at school. Community physical activity leaders are being trained.</p> <p>Harris, S, Sinman B, Wolever T, Hanley A, Gittelsohn J, Krista A, et al. The Sandy Lake Health and Diabetes Project: Phase II Intervention Strategies. <i>Proceedings of Third Diabetes and Indigenous Peoples Conference</i>. Winnipeg 1995; abstract 24.</p> <p>Gittelsohn J, Harris S, Whitehead S, Kakagamic L, Wolever T, Logan A, et al. Using qualitative and quantitative information to develop diabetes interventions among Ojibwa-Cree Indians in Northern Ontario. <i>Proceedings of Third diabetes and Indigenous Peoples Conference</i>. Winnipeg 1995; abstract 28.</p> <p>[In: D. Simmons, J. Voyle, B. Swinburn, K. O’Dea. “Community-based Approaches for the Primary Prevention of Non-insulin-dependent Diabetes Mellitus.” <i>Diabetic Medicine</i>, 1997: 14: 519-526.]</p>
	<p>A school-based, multidisciplinary program that includes physical activity, diet behaviors, classroom curriculum, and family involvement.</p>	<p><i>Pathways</i>. This is a randomized intervention trial for the primary prevention of obesity in American Indian children. This is a five year program involving &gt; 2000 third-grade children in 41 schools in 7 American Indian communities. After 3 consecutive years of intervention, the average percentage body fat in children in the control and intervention schools will be compared. The effect of the program on physical activity, knowledge, attitudes, and behavior and dietary intake will also be evaluated.</p> <p>[Preventing obesity and its complications is a long journey. Programs and health professionals can only point the course and help clear the path -- hence the name <i>Pathways</i>.]</p> <p>“Pathways” <i>American Journal of Clinical Nutrition</i> 1999; Nutr Suppl 1999: Vol 69: Number 4S. USA. American Society for Clinical Nutrition.</p>

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