



Saskatchewan
Health

THE PROVINCIAL DIABETES PLAN

**“Supporting Saskatchewan People
To Achieve Their Best Possible
Well-Being”**

ACKNOWLEDGEMENTS

The Provincial Diabetes Plan is the result of over three years of consultation and collaboration with stakeholders to identify expectations, activities, deliverables and potential outcomes for a comprehensive province wide diabetes program.

The foundation of the plan was built on the findings and recommendations of the Saskatchewan Advisory Committee on Diabetes as presented in “*Diabetes 2000, Recommendations for a Strategy on Diabetes Prevention and Control in Saskatchewan.*” The Provincial Diabetes Coordinator and Aboriginal Diabetes Consultant, charged with the development of the plan, worked with the membership of the Provincial Diabetes Advisory Body (appendix 2) and its working groups to produce this document.

Other stakeholders along with the regional health authorities also reviewed the document regarding the roles and responsibilities identified for their involvement in implementing the plan.

Our thanks and appreciation is extended to all individuals who shared their expertise, experience and time in the development of the Provincial Diabetes Plan.

TABLE OF CONTENTS

| | |
|--|------------|
| ACKNOWLEDGEMENTS..... | iii |
| TABLE OF CONTENTS..... | v |
| BACKGROUND | 1 |
| Diabetes – and The Challenges | 1 |
| Previous Work..... | 3 |
| Current System..... | 4 |
| The Need for Change | 5 |
| The Provincial Diabetes Plan –Overview | 6 |
| Implementation Of The Plan..... | 8 |
| Tracking Progress on Diabetes | 8 |
| Summary | 9 |
| Assumptions..... | 10 |
| THE PROVINCIAL DIABETES PLAN | 11 |
| 1. PRIMARY PREVENTION OF TYPE 2 DIABETES | 13 |
| 2. OPTIMUM CARE FOR PREVENTION OF DIABETES COMPLICATIONS..... | 16 |
| 3. EDUCATION FOR HEALTH CARE PROVIDERS..... | 20 |
| 4. DIABETES SURVEILLANCE (Database) | 23 |
| PROVINCIAL PROGRAM OBJECTIVES AND RESPONSIBILITIES | 25 |
| Table: Preliminary Responsibility for each Program Component/Objective | 26 |
| DEDICATED DIABETES FUNDING ALLOCATIONS | 29 |
| GUIDE FOR DEVELOPMENT OF REGIONAL DIABETES PLANS | 30 |
| PROGRAM LOGIC MODELS..... | 33 |
| Primary Prevention of Type 2 Diabetes | 35 |
| Optimum Care for Prevention of Diabetes Complications | 36 |
| Education for Health Care Providers | 37 |
| Diabetes Surveillance..... | 38 |
| APPENDICES | 39 |
| Appendix 1 – What is Diabetes..... | 41 |
| Appendix 2 Diabetes Advisory Body info..... | 44 |
| Appendix 3 Saskatchewan Primary Prevention of Type 2 Diabetes Projects..... | 46 |
| Appendix 4 - Glossary | 51 |
| Appendix 5 References | 55 |

BACKGROUND

Diabetes – and The Challenges

Diabetes is a serious health problem that affects a growing number of Canadians. The Canadian population is aging, physical activity is decreasing, and rates of obesity are rising. All of the factors contribute to the dramatic rise in the prevalence of diabetes.

Diabetes may impose a heavy burden on persons with diabetes, their families and care providers. Diabetes may be caused by either loss of the body's ability to make insulin (type 1 diabetes) or the inability of the body to respond to the insulin it makes or both (type 2 diabetes). Diabetes may result in a variety of complications. These complications involve most of the body systems and major organs and are more common with inadequate control of blood glucose, blood pressure and lipids. Long-term elevation of the blood sugar level (glucose) is the defining feature of diabetes. Chronic high blood glucose levels affect the eyes, kidneys, nerves and blood vessels. Major complications include diabetic eye complications, kidney disease, nerve damage, heart disease and stroke, increased risk of lower extremity amputations and premature death.

Saskatchewan Facts About Diabetes

- 38,124 people were diagnosed and living with diabetes in the province in 1996 (9% Registered Indians and 91% general population)¹. By 2000/2001, the number of people diagnosed with diabetes was 42,167².
- 3,200 new people are diagnosed with diabetes each year, with a net increase of about 1,500 affected people, taking mortality and emigration into account¹. It is estimated that today there are approximately 47,000 persons diagnosed with diabetes in Saskatchewan. National and international studies have suggested that the percentage of undiagnosed persons with the disease may be between 35-44%³.
- The age and sex adjusted prevalence rate of diabetes for Registered Indians is three times the rate of the rest of the population¹.
- The average age at diagnosis of diabetes for an Aboriginal person is 48.7 years compared to an average age of 61.4 years for the rest of the population¹.
- 53.7% of Saskatchewan residents aged 20 to 64 (excluding pregnant women) were considered overweight and/or obese in 2001⁴.
- As many as 60% of Saskatchewan residents are insufficiently active for optimal health benefits. From 1981 to 2000, physical activity declined by 10%⁴.
- From 1991 to 1996, the total cost for dialysis procedures rose from \$2.5 million to \$5.7 million as the number of individuals with diabetes who required dialysis increased⁵. The cost of dialysis is estimated at approximately \$55,000 per person per year.
- The prevalence rate for Registered Indians in 2000/2001 was 51.4 per 1,000 people while the prevalence rate for the general population was 39.6 per 1,000².
- The average annual cost of care for individuals not yet diagnosed with diabetes (but who would later become diabetic) was approximately 40 to 50% of the total costs of

active cases of diabetes. Early recognition of risks and regular screening provides an opportunity for more timely diagnosis, reducing the incidence and severity of complications⁵.

- In 1996, the annual total cost for prescription drugs and testing supplies, physician services, hospitalizations, day surgeries and dialysis for people with diabetes was \$134.4 million. The total average annual estimated cost per person diagnosed with diabetes in Saskatchewan was \$3,524 of which 89% (\$3,151) was absorbed by Saskatchewan Health. Not included were the costs associated with the provision of services by regional health authority staff for diabetes education, dietary management, podiatry, counseling and support that are also funded by Saskatchewan Health⁵.
- Higher rates of hospitalization and increased frequency and severity of diabetic complications lead to higher cost of care for Registered Indians with diabetes than for the general population with diabetes. The cost of care for Registered Indians was four times higher than for the general population⁵.
- The number of individuals with diabetes in the general population in Saskatchewan excluding Registered Indians is expected to rise from about 47,000 in 2003 (predicted value) to 71,150 in 2016⁵.
- Health care costs for persons with diabetes in Saskatchewan are expected to increase from \$166 million in 1996 to \$250 million in 2016. The initial projection model shows that if the increasing prevalence of diabetes follows the present trends, the costs of diabetes in Saskatchewan will increase by 50% between 2000 and 2016⁵.

The cost to the individual and to society is high. The high rate of complications and the high cost of diabetes health care are major challenges that face Saskatchewan Health.

Risk Factors for Diabetes

Type 1 diabetes has no risk factors that can be modified at the present time. Non-modifiable risk factors include race (Type 1 diabetes is most common among Caucasians), geography, a family history of diabetes and related autoimmune diseases.

Type 2 diabetes has several modifiable risk factors including diet, physical inactivity, excess body weight, gestational diabetes management, smoking, alcohol⁶ and stress⁷. Non-modifiable risk factors include a strong genetic predisposition, membership in an ethnic group at high risk for diabetes, a family history of diabetes, and persons over 40 years of age.

| Type of Diabetes | Risk Factors | |
|----------------------|--|---|
| | Modifiable | Non modifiable |
| Type 1 Diabetes | None | Genetic predisposition Family history of diabetes |
| Type 2 Diabetes | Diet Inappropriate Body weight (especially abdominal obesity) Physical Inactivity Stress Gestational Diabetes Management Smoking Alcohol | Genetic predisposition Gender Age Family history Gestational diabetes |
| Gestational Diabetes | Diet Inappropriate Body Weight Physical Inactivity Stress Smoking Alcohol | Genetic predisposition Gender Age |

Previous Work

In the past three to four years, initiatives have started that will impact diabetes care and prevention:

- The Canadian Diabetes Strategy (CDS) has received federal funding over the past 5 years, ending March 2004. The CDS provided an opportunity for many community organizations to develop community-based pilot projects. Some examples include the creation of new resources to address the prevention of Type 2 diabetes and innovative education strategies for people with diabetes and health care providers. In addition, First Nations communities have been provided with funding from the CDS Aboriginal Diabetes Initiative to develop and implement community diabetes plans based on specific community needs.
- Seven Population Health Promotion Demonstration Sites for the Primary Prevention of Type 2 Diabetes were provided provincial funding from the Population Health Branch (Appendix 3). Funding of these initiatives ended in March 2003. This initiative provided an opportunity for individuals, organizations and communities to increase their knowledge and skills in using a population health approach to address health issues. A final report on the projects *Using a Population Health Approach: Lessons Learned from the Population Health Promotion Demonstration Sites for the Primary Prevention of Diabetes, 2003* is available at http://www.health.gov.sk.ca/ps_diabetesT2_lessons.pdf.

Current System

A Population Health Promotion (PHP) Strategy is in development to improve the health status of Saskatchewan residents by creating environments that support healthier. This will be an important way for health regions and their partners to implement some of the recommendations related to primary prevention in this report (Provincial Diabetes Plan). It is important to note that the PHP Strategy will not necessarily cover all of the goals and objectives identified in the Diabetes Plan because the emphasis will be on population change rather than individual lifestyle change.

Saskatchewan Health and the health regions are actively involved with other government departments and agencies to increase efforts, reallocate resources and to strengthen partnerships with community groups to plan and deliver more responsive, culturally sensitive and integrated services. Some of these initiatives include:

- School^{Plus} to ensure that all Saskatchewan children and young people have the supports they need for well-being, learning and life.
- Kids First Program a targeted community-based program to support vulnerable families in developing the capacity to nurture their children. The program focuses on children prenatal to age five and their families who are most vulnerable due to their social and economic circumstances.
- A Physically Active Saskatchewan! A Strategy To Get Saskatchewan People In Motion – to support the provincial/territorial target of reducing physical inactivity by 10% by year 2005.
- Integrated Pan Canadian Healthy Living Strategy – to support healthy living in all communities including rural, remote and northern areas.

In 1998, twenty-one primary health care demonstration sites were established in the province. These sites offered the opportunity to assess and evaluate a different approach to the development and delivery of primary health services and to contribute to an improved health status.

The *Action Plan for Saskatchewan Health Care* released in 2002 was developed to change the way health services are delivered. In follow-up, the Saskatchewan Action Plan for Primary Health Care was developed to create a wholistic approach to care and service, a continuum of services, inclusion of a range of health care providers, involvement of the public and recognition that health is influenced by many factors.

Saskatchewan Health and the Regional Health Authorities (RHAs) have made considerable progress in primary health care. A Director of Primary Health Care has been hired in each RHA and each RHA has submitted a primary health care plan that included a diabetes plan. HealthLine, a 24-hour toll-free telephone line that offers immediate access to health advice began offering service in August 2003.

Diabetes care begins with early diagnosis and timely access to diabetes services. Primary care physicians currently provide the majority of diabetes care, but they cannot do all that is required alone. Other care providers assist in such areas as providing telephone and other forms of contact to support clients and to encourage and facilitate self-management,

optimal blood glucose levels, and behavioural interventions, risk factor reduction and health promotion.

All RHAs except Athabasca Health Authority provide diabetes education, information and support services. However, there is inconsistency in the availability of services, in how services are delivered and obtained, and in the knowledge and skills of care providers. Many of these services, programs and initiatives exist independently.

The Need for Change

The prevalence of diabetes and the many costly and complex complications associated with it affect how this chronic condition is managed and have wide spread effects in human, economic and social terms.

Intensive diabetes management is challenging. Success requires commitment, teamwork, frequent monitoring, the involvement of the appropriate medical specialists and, most important of all, the understanding and dedication of the person with diabetes. The inconsistency in the availability and delivery of services and in the knowledge and skills of care providers result in the clinical practice guidelines for the management of diabetes not being uniformly followed.

The need for change in diabetes management is well documented. Recent evidence points to the fact that type 2 diabetes may be preventable and that the long-term burden of diabetes and its complications can be diminished or deferred with appropriate management⁸.

A recent study conducted by the Institute of Health Economics (“Cost of Health Care for Diabetes Mellitus in Saskatchewan”)⁹ found that the total annual cost for an individual with diabetes is approximately 2 to 2 ½ times the total cost for the same individual not yet diagnosed with the condition. **This study emphasized that preventative treatment is cost effective compared with the downstream costs of failure to adequately treat diabetes.** However, prevention activities do require dedicated funding. It is important to consider the total costs associated with the condition when health care resource allocation decisions are being made. Optimal therapy must be delivered as soon as feasible because the cost of therapy to prevent complications is justified by its significant cost effectiveness.

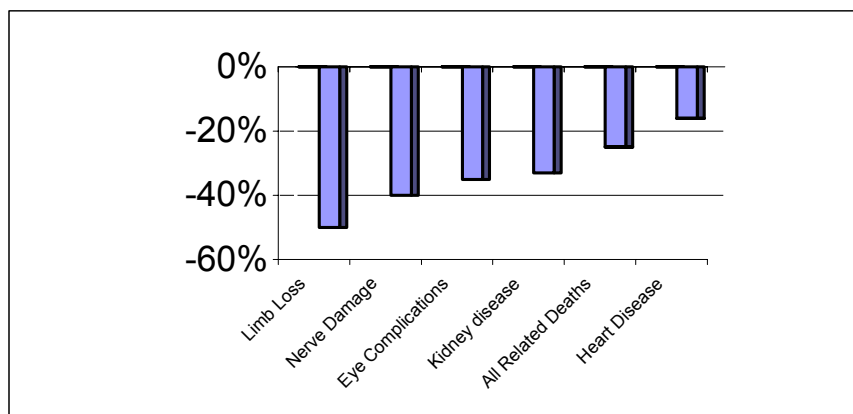
Major complications include eye problems, kidney disease, nerve damage, heart disease, increased risk of lower extremity amputations and premature death. Evidence shows that some of these complications are preventable through timely diagnosis, blood glucose control, blood pressure control and appropriate management of lipids.

Data from a number of longitudinal research studies demonstrates that appropriate care and management of diabetes can reduce or delay complications and control associated health care costs while improving the quality of life for individuals living with diabetes. The UK Prospective Diabetes Study⁸ (UKPDS) demonstrated that in type 2 diabetes, good blood glucose control and tight blood pressure control could prevent complications or delay their progression. In addition the risk of complications increased substantially with elevated blood pressure levels and with elevated LDL-cholesterol levels and reduced HDL-cholesterol levels.

The complications of diabetes are major cost drivers to the health system. Long-term diabetes control is assessed by the reduction in the HbA_{1c}. Based on large prospective population based studies, every 1% reduction in the HbA_{1c} will decrease:

- diabetic eye complications by 35%
- diabetic kidney disease by 33%
- nerve damage by 40%
- heart disease by 16%
- all diabetes related deaths by 25%
- amputations by 50% through the provision of foot care services

Figure 1. Impact of a 1% reduction in HbA_{1c} on diabetes related complications as identified by the UKPDS.



The complications of diabetes result in higher rates of disability; increases in the use of health care services; lost days from work; unemployment; shortened life expectancy and decreased quality of life. Diabetes complications impose a burden of disability on the individuals affected and on society as a whole. The human and economic costs of diabetes are significant and tragic.

An increasing burden of illness from diabetes and its complications, health system changes and the need for sustainable health services within defined budgets provides the context for the development of the Provincial Diabetes Plan. New and innovative approaches can strengthen capacity for a coordinated approach to diabetes prevention and care to meet the needs of persons with diabetes, their families and communities.

The Provincial Diabetes Plan –Overview

The Provincial Diabetes Plan, supported by the recommended changes in the *Action Plan for Primary Health Care*, provides the framework for a comprehensive and coordinated approach to diabetes management.

The Saskatchewan Provincial Diabetes Plan is designed to:

- Use team based initiatives to put into practice evidence that clearly demonstrates that when diabetes complications do occur their course can be favorably impacted by optimum (quality) care so that persons with diabetes can have continued or increased quality and productivity of life.
- Create opportunities to increase the knowledge of health care providers about diabetes care and prevention.

- Address the rapidly increasing incidence * of diabetes through primary prevention initiatives.

Central to the Plan are people with diabetes and their families in all Saskatchewan communities. The Plan encourages collaboration and consultation with diabetes stakeholders at all levels. (See glossary for definition of stakeholders).

The Plan fosters a wholistic (see glossary) approach to address the determinants of health by balancing the physical, emotional, spiritual and mental aspects of one's nature to maintain a healthy mind, body and spirit. A balanced healthy lifestyle is essential in diabetes prevention, education, care and support.

Determinants of health are key factors, and conditions, some of which are outside the health system, significantly impact on health. Key factors include income and social status, social support networks, education, employment/working conditions, physical and social environments, biology and genetic endowment, personal health practices and coping skills, healthy child development, health services, gender and culture.

The four program components of the Provincial Diabetes Plan that will be evolving over the next ten years are:

- 1. Primary Prevention of Type 2 Diabetes** - focuses on primary prevention and health promotion to stop or delay the development of type 2 diabetes. Health Promotion is carried out by and with people, not on or to people.
- 2. Optimum Care and Prevention of Diabetes Complications** - focuses on diabetes self- management education and treatment for people with diabetes, their families and communities. It also includes the development, implementation and evaluation of individual and community risk factor assessment and modification programs for people at greater risk of developing diabetes.
- 3. Education for Care Providers** - focuses on care providers who interact with persons with diabetes, their families and communities so they are knowledgeable about self-management education strategies, diabetes care and diabetes prevention.
- 4. Diabetes Surveillance**- focuses on continuous surveillance of diabetes and its complications to support planning, delivery and evaluation of programs and services. (See glossary for definitions of surveillance).

* Incidence is the number of new cases of disease, or events in a population at risk, over a particular period of time. One of the challenges is that the increased emphasis on early recognition and screening will significantly increase the incidence rate of diabetes before a decrease can be realized.

Implementation Of The Plan

Both Saskatchewan Health and the Regional Health Authorities are committed to reducing barriers to optimal diabetes care and diabetes prevention.

Saskatchewan Health and the Regional Health Authorities will assume responsibility for leadership, integration and problem solving to provide a coordinated and sustainable approach to diabetes prevention, care and education. The Provincial Plan is dynamic. It will be updated as needed when program and intermediate outcomes provide a direction to maintain or change program components.

Regional Health Authorities will use the framework to create diabetes plans and to work cooperatively with Saskatchewan Health on broader aspects of the plan. The implementation of the Provincial Diabetes Plan in Regional Health Authorities will require collaboration to provide coordinated team-based services. Consultation and collaboration among multi-disciplinary stakeholders providing services, people with diabetes, as well as high-risk groups, will assist in the identification of available services, current gaps and future programming.

The provincial plan is presented under each of the four program components on pages 13 to 23. For each component there is a brief introduction followed by the appropriate goals/benefits, program objectives, and long-term outcomes.

Each of the four components has a number of objectives that work towards achieving the goals and long-term outcomes of the plan. Each of the objectives requires commitment and responsibility for undertaking the task to achieve the desired outcome. The table on pages 26 and 27 provides a preliminary assessment of responsibility and suggests who should be the lead agency to achieve the objective. The lead agency takes responsibility for the initial actions and activities. Both Saskatchewan Health and the Regional Health Authorities have responsibility for keeping each other informed about progress, challenges and successes. As the Plan evolves there will be ongoing negotiations about areas of responsibility, shifts in responsibilities and changes in leadership related to particular objectives.

The Plan uses a logic model approach defining benefits/goals and outcomes. The long-term outcomes are to be realized by 2012. The program components for 2003-2005 address critical issues related to the primary prevention of type 2 diabetes, optimum care for the prevention of diabetes complications, education of health care providers and diabetes surveillance. Work on the Plan is ongoing as short-term program and intermediate outcomes for 2005 and the related indicators will be developed. The full program logic model is displayed on pages 35-38.

Tracking Progress on Diabetes

Major strides in information management, including database linkages, are allowing Saskatchewan Health to accurately assess and report on the performance of the health services system in responding to the care needs of people with diabetes. The leading edge work of the National Diabetes Surveillance System (NDSS) has improved Saskatchewan Health's capacity to use the wealth of information available through existing administrative databases. Using the NDSS software, Saskatchewan Health's Population Health Unit has just completed the development of a Saskatchewan Diabetes Profile. The Diabetes Profile uses data from the Person Registry System; hospital separation records; and the medical services records (physician billing records) to identify provincial and

regional results for prevalence of diabetes, health services utilization, including average length of stay in hospital, co-morbidities and procedures and provincial mortality rates.

Saskatchewan Health and the RHAs will be collaborating to develop a range of indicators to help care providers and Regional Health Authorities assess their progress in improving the quality of care, from the current standard of care to the optimal standard of care as outlined in the Clinical Practice Guidelines for the Management of Diabetes. Data from other provincial and national sources will also be used to track progress on behaviours that increase risk for type 2 diabetes.

Saskatchewan Health will explore collaborative opportunities with respect to health infrastructure initiatives. Improvements in chronic disease management will be facilitated through the development and use of clinically relevant information systems that support the delivery of integrated primary health care. Chronic disease management is a complex process. In addition, individuals with a chronic disease see many different care providers. Team members providing support for chronic disease management require access to real-time information about individuals and populations to guide care, monitor disease progression to support the development of individualized disease management plans, and for use in evidence based decision-making. Registries that list all persons with a chronic disease and that are tied to guidelines, which provide prompts for required services including reminders about missed follow-ups, would substantially support front-line care providers.

Summary

To support the development and implementation of the Provincial Diabetes Plan, developmental funding was provided to each RHA in March 2002 and March 2003. Ongoing funding allocations are expected to commence June 2003. Details of this funding are provided on page 29.

Several steps are being taken to initiate the program planning and the moving forward process:

- Preliminary areas of responsibility have been defined and are outlined on page 26 and 27.
- RHAs are developing regional diabetes plans specific to their needs and linked to the overall Provincial Plan goals, objectives and long-term outcomes.
- RHAs have been asked to develop regional team-based services that address their needs with a focus on people with diabetes, their families and communities.
- Diabetes Teams will be working collaboratively within their regions with those responsible for developing a Regional Primary Health Care Plan.
- The Plan contains actions to continue the planning and recommended actions for the establishment of working groups and a provincial meeting of regional diabetes teams.

It may be beneficial for each RHA to establish a “steering committee” to assist in the development of their diabetes plans, to address gaps and/or duplication of services with input from the broader community. The committee could be composed of consumers, government, non-government organizations, health professionals with expertise in diabetes, First Nations, Aboriginal, Métis Nation, Inuit representatives and persons with diabetes, their families, communities and care providers.

Assumptions

The provincial diabetes plan is based on the following five assumptions derived from current literature and research:

1. Primary Prevention (see glossary for definition) is possible and evolving research will add new ‘tools’ to diabetes prevention efforts.
2. Secondary Prevention (see glossary for definition) is achievable with optimal control of diabetes and its co-morbidities.
3. Tertiary Prevention (see glossary for definition) will improve outcomes of complications associated with diabetes.
4. Primary, Secondary and Tertiary Prevention will significantly reduce health care costs. Investment in present efforts will pay off in future savings for governments, and quality of life and productivity for people with diabetes, their families and communities.
5. Knowledgeable care providers working collaboratively and cooperatively in teams that have supports in care delivery and decision-making will facilitate self-management practices for people with diabetes, their families and communities.

THE
PROVINCIAL
DIABETES
PLAN

1. PRIMARY PREVENTION OF TYPE 2 DIABETES

The focus of primary prevention is to stop or delay the development of type 2 diabetes. The purpose of primary prevention is to limit the incidence of type 2 diabetes by controlling causes and risk factors through individual and community wide efforts. All care providers are encouraged to work actively with communities in the promotion of activities to reduce the incidence of diabetes.

Since a significant portion of Type 2 diabetes is preventable, environmental and lifestyle changes can make a difference in delaying or preventing diabetes onset. Changing environments, changing lifestyles and modifying behaviour are not easy tasks. This requires the cooperation of various sectors to work at creating social and physical environments that enhance healthy choices.

Goals:

1. To create an environment that empowers people to increase control over their health.
2. To strengthen the skills and capacities of individuals, groups, organizations and communities to take action on their health.
3. To promote and support healthy living activities.

Chief Guy Lariviere of Canoe Lake Cree Nation has said: “My father, Senator Jonas Lariviere, is 96 years old. He has lived a traditional lifestyle, including hunting, fishing, trapping and gathering. His diet consists of wild meat, fish, and berries. He did not have access to all the items in the Canada Food Guide. He does not have diabetes.” Healthy food... Physical activity.... Creating an environment where a balanced, nutritious diet and a moderate amount of physical activity is possible would go a long way to protecting ourselves from developing diabetes.

Strategies to prevent or delay the onset of type 2 diabetes are also strategies for prevention of other chronic illnesses such as heart disease, stroke and some cancers. For the prevention of type 2 diabetes and other chronic conditions, two approaches are suggested:

- A high-risk approach that identifies those at highest risk and focuses on individual change by encouraging healthier eating and increasing physical activity. Individuals are members of communities and will benefit from larger community-based initiatives and changes.
- A population-based approach promotes healthy lifestyles for people of all ages within the entire community and recognizes the importance of community involvement. This approach looks for small changes made by a large percentage of the population. Strategies must be developed, created and implemented in close collaboration with other sectors for supportive environments to improve health and encourage low risk behaviours by making healthy choices the easier ones.

Primary prevention of type 2 diabetes should include both a targeted high risk approach aimed at producing a significant reduction in the incidence of diabetes, as well as a population based approach promoting healthy living for the whole community. Targeted high-risk approaches have been proven to be highly effective and cost-effective. The results are usually apparent in a relatively short time.¹⁰

Related Long-Term Outcomes For 2012:

- Reduction in the incidence rate of type 2 diabetes using the 2000 –2001 prevalence rate of type 2 diabetes as baseline.
- Saskatchewan citizens should have:
 - Increased levels of physical activity.
 - A food intake based on Canada’s Food Guide to Healthy Eating.
 - Continued or increased quality and productivity of life for persons with diabetes and those ‘at risk’ of developing diabetes.
 - Culturally appropriate community policies, attitudes and practices that support healthy lifestyles in all Saskatchewan communities.

Objectives

- 1. To seek out evidence-based “best practices” and apply them in all RHAs to make healthy choices the easier choices.**
- 2. To implement strategies that create supportive environments, strengthen community capacity for action and build community-based healthy public policies.**
- 3. To develop linkages to increase public awareness, social marketing and public participation about the prevention of diabetes and the benefit of healthy lifestyles.**
- 4. To develop support mechanisms using a wholistic culturally sensitive approach to increase public participation and to promote healthy lifestyles.**
- 5. To develop, implement and evaluate individual and community risk factor assessment and modification programs for people at risk for diabetes.**

Note: The table on pages 26 and 27 provides a preliminary assessment of responsibility and suggests who should be the lead agency to achieve the objective.

Health promotion starts with the whole population within the context of their everyday lives. Building healthy communities includes some of the following population health approaches¹¹:

- Meaningful participation to encourage and enable all people to look at problems in their lives and living conditions, decide what is needed, set priorities and act.
- Taking action on a variety of health determinants.
- Creating and sustaining multi-sector collaboration and partnerships with multicultural partners outside the health sector, including, for example, education, recreation, social services, business and charitable organizations.
- Reducing inequities and removing barriers so that the healthy choices are the easier choices.
- Building community capacity and empowering practice.
- Focusing on taking action earlier – looking beyond the immediate issue or problem.
- Using evidence for decision-making.

Examples of health promotion activities that have been undertaken in Saskatchewan over the past few years and that may be a resource from which to obtain information and experiences are:

- Population Health Promotion Demonstration Sites for the Primary Prevention of Type 2 Diabetes – Seven sites received funding from Saskatchewan Health from 1999-2002. (See Appendix 3 for additional information).
- Aboriginal Diabetes Initiatives (ADI) for primary prevention and health promotion. Health Canada provided funding to support programs for Métis, Off-reserve Aboriginal and Urban Inuit Prevention and Promotion (MOAUIPP) and First Nations on-reserve and Inuit in Inuit Communities (FNOIIC). 20 ADI work plans are in place in Saskatchewan. (See Appendix 3 for additional information).

2. OPTIMUM CARE FOR PREVENTION OF DIABETES COMPLICATIONS

The person with diabetes is at the center of the diabetes team. It is essential for the individual with diabetes to actively participate in all decisions. Family members should be encouraged to be involved whenever possible.

Goals:

- 1. To ensure every person with diabetes in Saskatchewan has:
 - a. timely access to quality diabetes care that is client centered**
 - b. access to specialized services, as needed, in the diagnosis and management of diabetes and its related complications and associated conditions**
 - c. the necessary supports to achieve self-management to the best of his/her ability with inclusion of the family and support network**
 - d. culturally appropriate care, including self-management education, and support****
- 2. To ensure early detection of diabetes and its predisposing conditions and initiation of appropriate on-going care**
- 3. To reduce the impact of the human and financial costs for persons with diabetes, their families and communities**

Diabetes care includes:

- Ongoing education and support for early diagnosis, implementation of self-management for the person with diabetes, their families and communities. This includes the use of recognized national standards for diabetes education. Many care providers may be involved in self-management education.
- Ongoing treatment and management by care teams. Treatment and management are provided according to nationally recognized, evidence-based clinical practice guidelines. Teams are centrally coordinated and have networks and partnerships with other care providers.
- Health system and care delivery mechanisms facilitate and enhance diabetes care and decision making by persons with diabetes, their families and communities.

Diabetes Care begins with early diagnosis and timely access to diabetes services.

Primary care physicians currently provide the majority of diabetes care, but they cannot do all that is required by themselves. Other care providers can assist in such areas as telephone and other forms of contact, to support clients and to encourage and facilitate self-management, optimal blood glucose levels, on-going self-management and behavioural interventions, risk factor reduction and health promotion.

Members of a diabetes team should include individuals with the knowledge and expertise to provide the following services: primary care, culturally appropriate support, self-management education, nutrition advice and guidance, diabetes related medication advice, recreational/exercise therapy, foot risk identification and foot care, and other specialized services as required. The success of these teams requires access to secondary and tertiary care providers with expertise in the care of diabetes and its complications.

The National Standards for Diabetes Education in Canada¹² and the CDA Clinical Practice Guidelines For the Management of Diabetes in Canada are tools that have been developed and should be used to diagnose people and to guide the delivery of self-management education and care for persons with diabetes and their families. The diabetes team should attempt to provide services as close to home as possible for the persons with diabetes.

Teams need clear procedures to facilitate timely co-ordination of all required services. Co-ordination efforts need periodic reassessment to ensure continuity of care based on wholistic approaches, and patient/client satisfaction. Team members need to communicate with each other and the person with diabetes. Team meetings promote cohesion, consistent messages, and a common approach to care. Setting targets based on the CPGs and patient/client goals provides common ground for discussion of management strategies, collaborative goals, and evaluation of treatment outcomes.

Related Long-Term Outcomes For 2012:

Saskatchewan citizens will have:

- Increased levels of physical activity.
- A food intake based on Canada's Food Guide to Healthy Eating.
- Improved outcomes when complications do occur.
- An increase in appropriate self-management practices by people with diabetes
- Reduction in the barriers to optimal care for people with diabetes, their families and communities.
- Culturally appropriate care, including self-management education and support.

Objectives:

- 1. To create an infrastructure within each RHA, with senior leadership involvement, to support planning, financing, implementation and evaluation of optimal diabetes care for persons with diabetes, their families and communities.**

To support the development and implementation of the Provincial Diabetes Plan within RHAs, Saskatchewan Health provided one-time developmental funding in March 2002 and March 2003. On-going funding allocations commenced June 2003.

In addition, Saskatchewan Health provided funding to each RHA for a senior leadership position to oversee the implementation of the RHA Action Plan for Primary Health Care. Diabetes teams are primary health care teams and work closely with all care providers within the context of the associated network of providers and services.

2. To create diabetes teams to address regional diabetes care needs.

A diabetes team is a group of diverse care providers who communicate with each other regularly about care for persons with diabetes and their families and participate in service delivery for these people. At the centre of this team is the person with diabetes. The core diabetes team includes a diabetes nurse educator, dietitian and physician.

Diabetes teams will need to assess the regional care needs, establish priorities and set in place action plans for service delivery.

Diabetes teams will work with persons with diabetes and their families to create individualized management plans. The plan will include: lifestyle and treatment goals; diabetes related medication advice; nutrition advice and guidance; self-management education; monitoring (both day to day with blood glucose testing and regular monitoring tests to screen for diabetes complications); and a plan for ongoing care.

3. To develop relationships with primary care teams to ensure quality diabetes care and ongoing support for persons with diabetes and their families.

The Provincial Diabetes Plan uses a team approach for the provision of diabetes care, recognizing that the person with diabetes is responsible for self-management. The diabetes teams will have collaborative working relationships with those responsible for the delivery of primary care to persons with diabetes.

4. To participate in building networks between primary care providers and teams, diabetes teams and medical care specialists.

As part of the ongoing planning process both for the region and for individual care, diabetes teams will work collaboratively to promote continuity of care, access to specialized care and services amongst all care providers for all residents.

5. To encourage and formalize processes and systems that ensure follow-up care for all regional residents with diabetes. This will require collaboration with on-reserve care providers to establish specific processes to serve First Nations on-reserve populations.

Diabetes is a chronic illness that requires continuity of services and continuing management and self-management education. Established, evidence-based standards recommend a regular follow-up process.

6. To develop mechanisms to reduce barriers to optimal care.

Research has proven that optimal care reduces costly diabetes complications.

As part of each regional diabetes plan, barriers to optimal care will be identified and plans put in place to reduce those barriers.

In addition, in 2003, as part of the provincial diabetes plan, a provincial working group will be convened, that includes representative stakeholders. This group will develop action plans to address barriers that cross all health regions.

7. To use nationally recognized standards and guidelines in care planning and delivery.

Through the professional sections of the Canadian Diabetes Association, well-researched and evidence-based standards^{12,14} have been developed. Diabetes care must include the incorporation of these standards into the daily practice of all care providers.

8. To promote early diagnosis of 'impaired' glucose levels or diabetes and appropriate follow-up mechanisms.

Studies have shown that a significant number of people who have impaired fasting glucose or impaired glucose tolerance remain undiagnosed. A targeted screening program which consists of an initial health assessment, blood test and risk factor assessment to determine the degree of risk for developing diabetes, is followed by an appropriate referral to a primary care provider to facilitate further screening activities, early diagnosis and intervention, if applicable.

Note: The table on pages 26 and 27 provides a preliminary assessment of responsibility and suggests who should be the lead agency to achieve the objective.

3. EDUCATION FOR HEALTH CARE PROVIDERS

A guiding principle for the education of care providers is reflected in the orientation of culturally sensitive practices in the community where the service is provided.

In addition to the western medical model, there are many models and approaches to healing and wellness. Therefore, there should be awareness and recognition for other certification processes, including diabetes educators.

Goals:

- 1. To ensure practicing health care providers, who interact with persons with diabetes, their families and their communities, are knowledgeable regarding diabetes care and prevention**
- 2. To improve access to diabetes education and continuing education activities**
- 3. To improve access to quality diabetes care that is client centered and culturally appropriate**

Related Long-Term Outcomes For 2012:

Saskatchewan citizens will have:

- Increased levels of physical activity and healthy eating
- Reduction in the incidence and prevalence of diabetes and its complications
- Increase in appropriate self-management practices by people with diabetes
- Reduction in the barriers to optimal care for people with diabetes, their families and communities
- Continued or increased quality and productivity of life for those ‘at risk’ to develop diabetes
- Services that will meet or exceed expectations of persons with diabetes, their families, and communities

Care providers who interact with persons with diabetes, their families and communities need to be knowledgeable about diabetes care and diabetes prevention. Primary prevention of type 2 diabetes, optimum care for the prevention of complications is the responsibility of all care providers, within the scope of their professional practice. Self-management education strategies are an important component.

All care providers must ensure that they are working toward common goals with their clients and providing consistent and accurate information. The public needs to be better informed about early diagnosis of diabetes, the prevention of complications and the needs of those who are living with diabetes. The latter is crucial to ensure that people with diabetes are able to live healthy lives and be productive members of their communities.

Diabetes educators are health care providers who dedicate a portion of their work time specifically to diabetes care. They often provide continuing education to others as well as self-management education to persons with diabetes. Some health care providers provide diabetes care along with many other activities in their job description. (Examples include: home care nurses, home health aides, community pharmacists, podiatrists, and optometrists).

The Diabetes Educator Certificate Program, established by the Diabetes Educator Section (DES) of the Canadian Diabetes Association is regulated by an independent board. It provides a process to certify health professionals as diabetes educators. The certification process helps to ensure a standard of knowledge and expertise. Certification is available to the following professionals; registered nurse; medical doctor; registered dietitian; pharmacist; social worker; psychologist; and physical therapist.

All educators need current diabetes care and prevention information in order to act as a resource to others. Programs to enhance the knowledge and skills of diabetes educators are limited, and as a result there are a limited number of knowledgeable and skilled care providers available in the province to provide support for persons with diabetes.

Objectives:

1. To develop, implement and evaluate all provincial diabetes education programs for care providers.

In March 2002, Saskatchewan Health allocated funding to the Saskatchewan Institute of Applied Science and Technology (SIASST) Nursing Division For Continuing Education to enhance the knowledge, skills and abilities of care providers for:

- Development of provincial diabetes education programs.
- Development and delivery of workshops - “Risk Identification of the Foot in Diabetes”. Each Regional Health Authority was encouraged to host at least one of these workshops prior to March 31, 2003.

SIASST has developed curricula for two diabetes education programs, with input from an external advisory group, to meet the current learning needs of care providers. The advisory group consisted of representatives (care providers, managers) from regional health authorities, Health Canada, Saskatchewan Health, and First Nations, Métis, and Aboriginal communities including those on-reserve.

The programs are available through distance education making it accessible to a variety of health care providers. The two education programs are:

- Basic Diabetes Education for Health Care Providers – available to health care providers currently working in a health setting or service: home care/special care aides, community health representatives, community health workers, private care home operators etc. The initial program offering was March 2003.
- Advanced Diabetes Education Program For Health Care Providers - available to health care providers with a certificate, diploma, or degree: licensed practical, registered and psychiatric nurses, pharmacists, dietitians etc. The initial program offering was May 2003.

Both programs will be evaluated and necessary revisions will be made prior to the next offerings.

2. To support the participation of care providers in provincial diabetes education programs and continuing education activities.

As diabetes teams develop their regional plan, they will consider the learning needs of care providers and determine the best ways to take advantage of the new SIAST programs to enhance the number of care providers involved in diabetes care and to promote consistent information amongst care providers.

3. To establish processes to include the participation of educators and care providers from First Nations, Aboriginal, Métis Nation and Inuit communities.

When regional health authorities develop their regional plans, they are encouraged to include care providers and individuals from the First Nations, Aboriginal, Métis Nation and Inuit communities in the planning processes to determine the best ways to provide services to persons with diabetes, their families, and communities using an integrated approach.

Note: The table on pages 26 and 27 provides a preliminary assessment of responsibility and suggests who should be the lead agency to achieve the objective.

4. DIABETES SURVEILLANCE (Database)

Surveillance in this context refers to the collection of data that will include information on the incidence and prevalence of diabetes and its complications.

A comprehensive diabetes surveillance program will enable an ongoing provincial data management and utilization process for the monitoring of diabetes incidence and prevalence and the indicators for primary prevention, secondary and tertiary diabetes care and prevention of diabetes complications.

A provincial electronic database (to be developed) will facilitate information sharing and ongoing monitoring for diabetes care. Diabetes team members and others will have access to common information and all can contribute to care planning and follow-up care.

Any electronic database may cause concern within many Aboriginal communities. It is important to clearly state the intent in gathering information, the methodology used, how confidentiality will be protected, the purpose for which it will be collected, and the final disposition of the data. It will also be appropriate to state the advantages of participation both individually and as a community. Databases that exist may be accessible through formal agreement with the holder of the data.

Goals:

1. To establish and conduct ongoing and comprehensive surveillance of diabetes and associated conditions in Saskatchewan.
2. To provide a mechanism to use data to support decision-making
3. To establish an electronic mechanism to support the delivery of team-based services

Related Long-Term Outcomes For 2012:

- Increased evidence for creation of appropriate indicators for outcomes, evaluation and decision making
- Data generated from surveillance activities is used to support evidence-based decisions
- Increased evidence for the creation of appropriate indicators for evaluation and decision-making
- Enhanced capacity to do research in Saskatchewan

Objectives

1. To establish a provincial surveillance program.

Using administrative databases, Saskatchewan Health is already actively involved in diabetes surveillance and will continue surveillance of diabetes, identification of risk factors and associated conditions. Saskatchewan Health is working in partnership with Health Canada's National Diabetes Surveillance System (NDSS) and the Alliance of Canadian Health Outcomes Research on Diabetes (ACHORD).

2. To identify intermediate and long-term indicators of outcomes and develop data collection mechanisms and analysis.

Saskatchewan Health, with input and participation of the RHAs, will take a lead role in the development of data collection mechanisms and analysis for the long-term indicators in the provincial diabetes plan. Ongoing feedback will be provided to the RHA diabetes teams.

Early in 2003-04, Saskatchewan Health will convene a working meeting of RHA representatives to share the regional plans, determine common ground and begin the process of developing common intermediate outcomes. Saskatchewan Health will provide ongoing support in data collection mechanisms, analysis and feedback to the RHAs. In addition to the common intermediate outcomes, each RHA may have region-specific intermediate outcomes.

3. To develop, implement and evaluate an electronic system to facilitate team-based management of diabetes.

Saskatchewan Health will be establishing a secure internet-based computer system to assist diabetes teams with the on-going management of persons with diabetes. The proposed system will facilitate a proactive approach to diabetes care and early intervention as needed.

4. To establish processes that includes participation of First Nations, Aboriginal, Métis Nation and Inuit people in the development of an electronic system to facilitate team-based management of diabetes.

As regional health authorities develop their regional plans, they will include individuals from the First Nations, Aboriginal, Métis Nation and Inuit communities in the planning processes to determine the best ways to provide services to persons with diabetes, their families, and communities using an integrated approach.

In 2001-02, Saskatchewan Health allocated funds to RHAs to support the implementation of the computerized diabetes database.

Note: The table on pages 26 and 27 provides a preliminary assessment of responsibility and suggests who should be the lead agency to achieve the objective.

PROVINCIAL PROGRAM OBJECTIVES AND RESPONSIBILITIES

The Provincial Diabetes Plan requires collaboration between Saskatchewan Health and the Regional Health Authorities. As the Plan evolves there will be ongoing negotiations about areas of responsibility, shifts in responsibilities and changes in leadership related to particular objectives. At each point in the evolution there will be collaboration and partnerships with other stakeholders including First Nations, Métis Nation, Asian, Hispanic, African, Hutterite, other high-risk populations and special interest groups.

Saskatchewan Health recognizes the need for discussions and negotiations within other levels of government and jurisdictions that must take place to complement and facilitate implementation of the Provincial Diabetes Plan.

Each of the four components has a number of objectives that work toward achieving the goals and long-term outcomes of the plan. Each of the objectives requires commitment and responsibility to achieve the objective.

The table on the following pages identifies the lead agency for each of the objectives, and the responsibility for the initial actions and activities. Both Saskatchewan Health and the RHAs have responsibility for keeping each other informed about progress, challenges and successes. The lead agency often seeks input from various stakeholders. Saskatchewan Health, for example, is identified as the lead agency for the coordination of an electronic database. This leadership will ensure a common database and exchange of information. As indicated in the plan, Saskatchewan Health will involve the RHAs and their partners in decision-making via a working group process.

Table: Preliminary Responsibility for each Program Component/Objective

| Program Components/Objectives | Lead agency for objective | | |
|--|---------------------------|-----|----------|
| | Sask. Health | RHA | Shared * |
| PRIMARY PREVENTION OF TYPE 2 DIABETES | | | |
| 1. To seek out evidence-based “best practices” and apply them in all RHAs to make healthy choices the easier choices. | | | √ |
| 2. To implement strategies that create supportive environments, strengthen community capacity for action and build community-based healthy public policies. | | √ | |
| 3. To develop linkages to increase public awareness, social marketing and public participation in the prevention of diabetes and the benefit of healthy lifestyles. | | | √ |
| 4. To develop support mechanisms using a holistic, culturally sensitive approach to increase public participation and to promote healthy lifestyles. | | | √ |
| 5. To develop, implement and evaluate individual and community risk factor assessment and modification programs for people at risk for diabetes | | | √ |
| OPTIMUM CARE FOR PREVENTION OF DIABETES COMPLICATIONS | | | |
| 1. To create an infrastructure within each RHA, with senior leadership involvement, to support planning, financing, implementation and evaluation of optimal diabetes care for people with diabetes, their families and communities. | | | √ |
| 2. To create diabetes teams to address regional diabetes care needs. | | √ | |
| 3. To develop relationships with existing and developing primary care teams to ensure quality diabetes care and ongoing support for people with diabetes and their families. | | √ | |
| 4. To participate in building networks between primary care providers and teams, diabetes teams and medical care specialists. | | √ | |
| 5. To encourage and formalize processes and systems that ensure follow-up care for all regional residents with diabetes. This will require collaboration with on-reserve care providers to establish specific processes to serve First Nations on-reserve populations. | | | √ |
| 6. To develop mechanisms to reduce barriers to optimal care. | | | √ |
| 7. To use nationally recognized standards and guidelines in care planning and delivery. | | | √ |
| 8. To promote early diagnosis of ‘impaired’ glucose levels or diabetes and appropriate follow-up mechanisms. | | | √ |

* Shared in this context may refer to RHAs, Saskatchewan Health, other jurisdictions and partnering agencies.

Preliminary Responsibility for each Program Component/Objective

| Program Components/Objectives | Lead agency for objective | | |
|---|---------------------------|-----|----------|
| | Sask. Health | RHA | Shared * |
| DIABETES EDUCATION FOR CARE PROVIDERS | | | |
| 1. To develop, implement and evaluate a multi-level provincial diabetes education program for care providers. | √ | | |
| 2. To support the participation of care providers in provincial diabetes education programs and continuing education activities. | | | √ |
| 3. To establish processes that include participation of educators and care providers from First Nations, Aboriginal, Métis Nation and Inuit communities. | | | √ |
| DIABETES SURVEILLANCE | | | |
| 1. To establish a provincial surveillance program. | √ | | |
| 2. To identify intermediate and long-term indicators of outcomes, develop data collection mechanisms and analysis. | √ | | |
| 3. To develop, implement and evaluate an electronic system to facilitate team based management of diabetes. | √ | | |
| 4. To establish processes that include the participation of First Nations, Aboriginal, Métis and Inuit people in the development of an electronic system to facilitate team based management of diabetes. | | | √ |

*Shared in this context may refer to RHAs, Saskatchewan Health, other jurisdictions and partnering agencies.

IMPLEMENTATION OF THE PLAN

Both Saskatchewan Health and the Regional Health Authorities are committed to reducing barriers to optimal diabetes care and diabetes prevention.

Saskatchewan Health and the Regional Health Authorities will assume responsibility for leadership, integration and problem solving to provide a coordinated and sustainable approach to diabetes prevention, care and education. The Provincial Plan is dynamic. It will be updated at least annually as short-term program and intermediate outcomes provide direction to maintain or change program components.

Regional Health Authorities will use the framework to create diabetes plans and to work cooperatively with Saskatchewan Health on broader aspects of the plan. The implementation of the Provincial Diabetes Plan in Regional Health Authorities will require collaboration to provide coordinated team-based services. Consultation and collaboration among multi-disciplinary stakeholders providing services, people with diabetes as well as high-risk groups will assist in the identification of available services, current gaps and future programming.

The provincial plan is presented under each of the four program components on pages 13 to 23. For each component there is a brief introduction followed by the appropriate goals/benefit, program objectives, and long-term outcomes.

OUTCOMES

The current plan does not contain program, intermediate outcomes or their indicators. These will be written and developed for both the Saskatchewan Health and RHA components of the program once the RHA plans have been developed. The first intermediate outcomes and indicators will be for 2005. The fiscal year 2002-03 allowed time for RHA formation, creation of diabetes teams and preliminary planning efforts. Once the RHA plans are completed a stakeholder group will collaborate to determine both common provincial intermediate outcomes and indicators and RHA specific ones.

DEDICATED DIABETES FUNDING ALLOCATIONS

To support the planning and early implementation of the Provincial Diabetes Plan, the Department committed both one-time and on-going funding.

Saskatchewan Health Fiscal Year 2001-02

- In March 2002 a total of \$530,000 (one time funding) was allocated to RHAs to support the Provincial Diabetes Plan. To be eligible to receive funds, health districts within their respective Regional Health Authority area signed a letter of commitment to support the provincial approach to diabetes management. Funding was to support the:
 - Process of establishing diabetes teams to provide co-ordinated services to persons with diabetes.
 - Co-ordination and development of team-based services and the development of a proposal submission outlining the plan for the delivery of services. This proposal is for the delivery of on-going services in subsequent years.
 - Purchase of technical equipment (computer, printer and fax machine) necessary for the establishment of a diabetes database for on-going client monitoring and recall.
- One-time funding of \$120,000 was allocated to support professional training and continuing education to enhance the knowledge, skills and abilities of health professionals and care providers. This funding was used to develop the following:
 - Basic Diabetes Education for Health Care Providers
 - Advanced Diabetes Education for Health Care Providers
 - Risk Identification of the Foot in Diabetes workshop materials (presentation and workbook)
 - Pilot workshops were held in 7 RHAs. Each RHA will be provided a copy of the presentation (CD format) and a supply of workbooks to facilitate the on-going delivery of workshops. The objective of the workshop is to enhance the knowledge and skills of care providers so that they can identify and classify the “diabetic at risk foot” and make appropriate referrals to minimize or delay the onset of foot complications.

Saskatchewan Health Fiscal Year 2002-03

- In March 2003, a total of \$600,000 was allocated to Regional Health Authorities to support the continued development of regional diabetes plans for the delivery of regional team-based diabetes services.
- \$9,000 was provided for provincial initiatives to enhance training and skill development for care providers.
- \$41,000 was provided to support the consultation process for the development of a coordinated approach for diabetic foot care services in the province.

RHAs will be expected to submit annual reports with respect to meeting the Provincial Diabetes Plan objectives and long-term outcomes.

GUIDE FOR DEVELOPMENT OF REGIONAL DIABETES PLANS

The following provides an outline of information to include in the Regional Diabetes Plan proposal submission.

SECTION ONE: CURRENT STATUS OF SERVICE DELIVERY IN RHA

1. Regional Health Authority Demographic Information

- Estimated population and percentage located in rural areas, urban areas, and on reserve.
- Estimated number of persons with diabetes. (It is important to note that the stats provided by Sask. Health may be under-reported as numbers are gained from physician billings, hospital admissions etc.)

2. Identify current status of service delivery

- Number of persons with diabetes accessing services.
 - Services: (provide an overview of each service, include information on the following)
- Type of service (prevention of type 2 diabetes, diabetes education, diabetes care and treatment).
 - Target audience for above services provided (individual, group, care providers)
 - Service provider group - professional designation (nurse, dietitian, diabetes nurse educator etc.)
 - Frequency of service(s) delivered
 - Accessibility to services (where services are delivered) number of different locations/communities, rural/urban
 - Waiting lists

3. Identify current human resources by professional designation, and FTE

- Number of FTEs as applicable by:
 - Allocation specifically to diabetes programs or services within the regional health authority
 - Shared allocation to diabetes and other programs or services by professional designation, and FTE
 - Visiting services to another health authority
 - Visiting services to your health authority

4. Team Services- Identify existing teams and team based services (professional designation, FTE, and services provided).

- Identify current type of diabetes database or registry currently in use. What data is collected, and how is this information currently being used?

5. Current relationship with First Nations, Métis Nation, Inuit and other Aboriginal communities and agencies.

- Identify and describe RHAs current relationship with First Nations, Métis Nation, Inuit and other Aboriginal communities and agencies.

SECTION TWO: PROPOSED TEAM BASED SERVICE DELIVERY

1. Provide an overview or summary of your plan

- Demonstrate how the proposed initiative supports the goals and objectives of the Provincial Diabetes Plan.
- If goals, objectives, and/or a vision statement have been developed for the local plan, please provide.
- Describe how the community based programs such as Kids First, School^{Plus}, and Home Care will be integrated into the components of the regional diabetes plan.

2. Identify diabetes team members- professional designation, and the number of FTE as diabetes team members

- Total number and location of diabetes teams to be established.
- Indicate number of physicians or nurse practitioners who will be part of the team(s) or who have indicated a willingness to work co-operatively with team(s).

3. Identify other team members, their role and involvement

- Number and location of culturally relevant resource people.
- Other relevant professional service providers.

4. List partnerships established

A true partnership reflects joint ownership of decisions, collective responsibility for future direction and an interdependence of partners. For each partnership provide information about:

- The role and/or responsibility
- Any contributions to the partnership - resources, expertise, physical space, equipment etc.
- Any operating principles established to ensure joint decision-making.

5. Identify any Steering or Advisory Committee (if applicable) that has been established, identify membership and explain roles/responsibilities

6. Identify Regional Health Authority Diabetes Plan

- What services will be delivered – disease prevention, diabetes education, care and treatment? Provide an overview for each.
- Identify the target groups for each service.
- Describe how services will be delivered (type of care provider, communities where services will be provided, and how frequent).

7. Identify proposed database or diabetes registry, if applicable. Does the RHA have an existing diabetes database or registry? What data is or will be collected and how is it (or will it be) used?

8. Work plan

- Provide a general outline of anticipated major activities and their respective timelines for the years 2003-12 and any additional anticipated measurables (progress indicators) over the next few years.

9. Evaluation

- Describe the evaluation process RHAs currently use to evaluate:
 - Effectiveness of teams
 - Quality of services delivered
 - Client satisfaction
 - Effective delivery of services for the control of diabetes and its complications

10. Contact Person

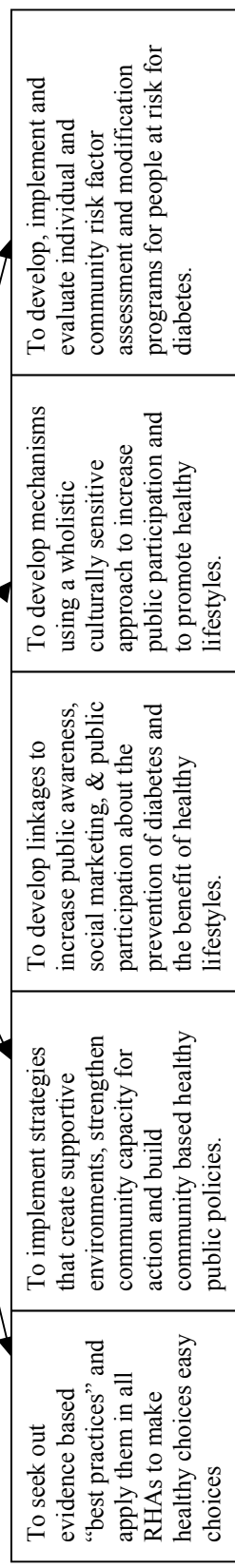
- Please provide the name(s) of individuals who may be contacted about the proposal submission, funding provided by Sask. Health for diabetes initiatives, service delivery, monitoring and evaluation.

Program Logic Models

Primary Prevention of Type 2 Diabetes

**Program Component #1
Primary Prevention of
Type 2 Diabetes**

Objectives



Intermediate Outcomes

Indicators to be developed- # of strategies implemented

Indicators to be developed- # of partnerships developed

Indicators to be developed- # of strategies implemented

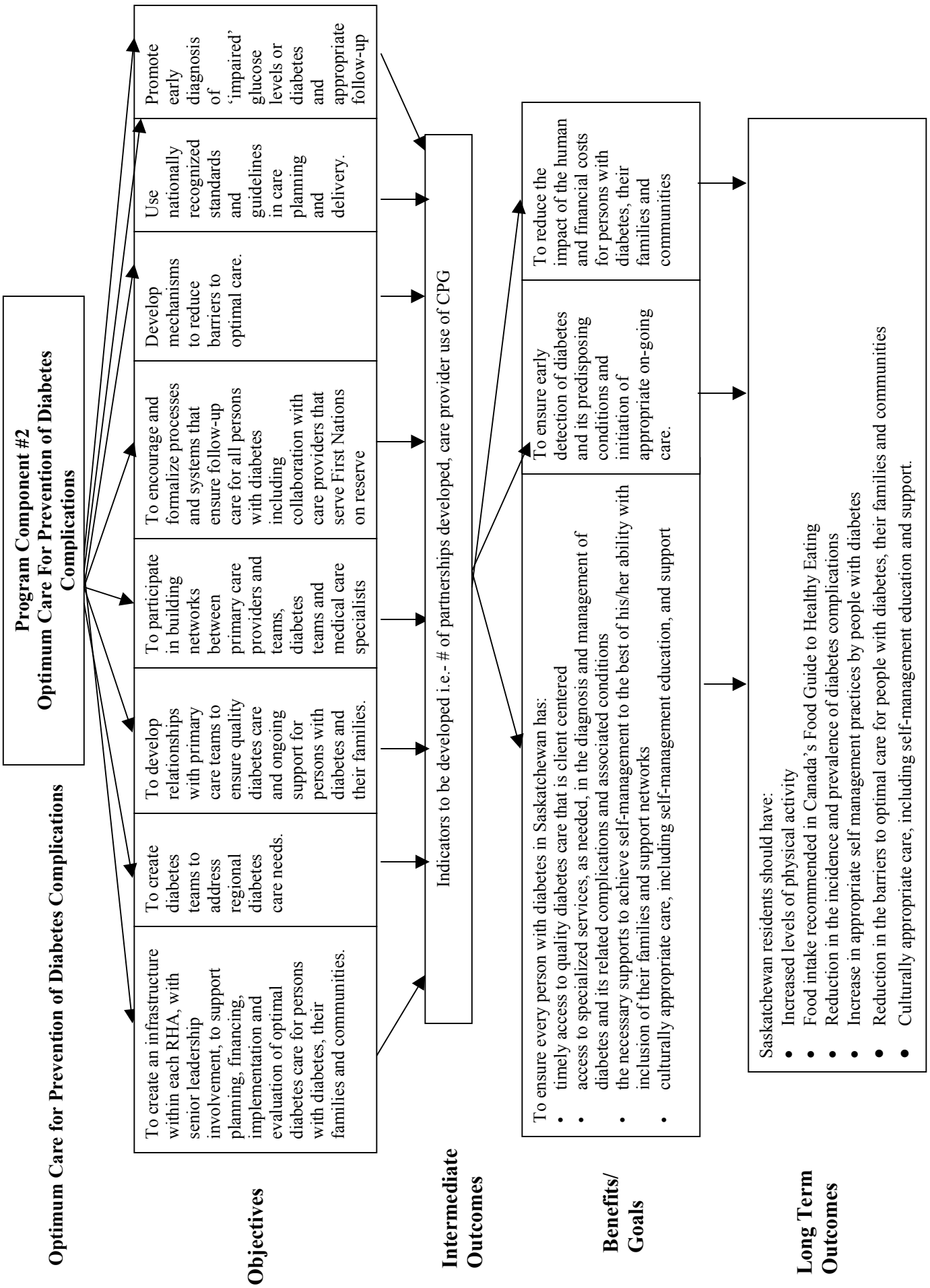
Indicators to be developed- # of programs developed, implemented and evaluated.

Benefits/Goals

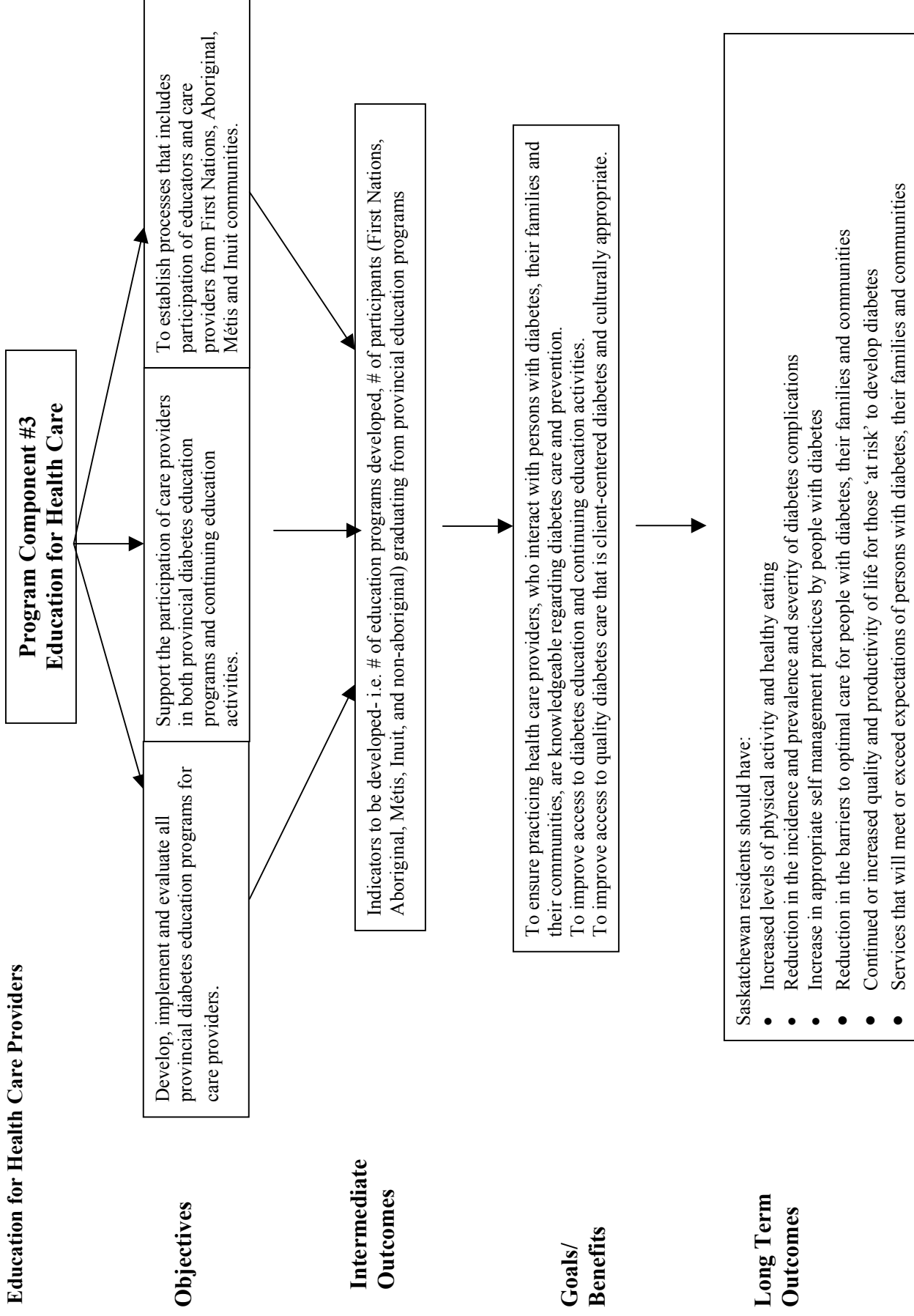
To create an environment which empowers people to increase control over their health.
To strengthen the skills and capacities of individuals, groups, organizations and communities.
To promote and support healthy living activities.

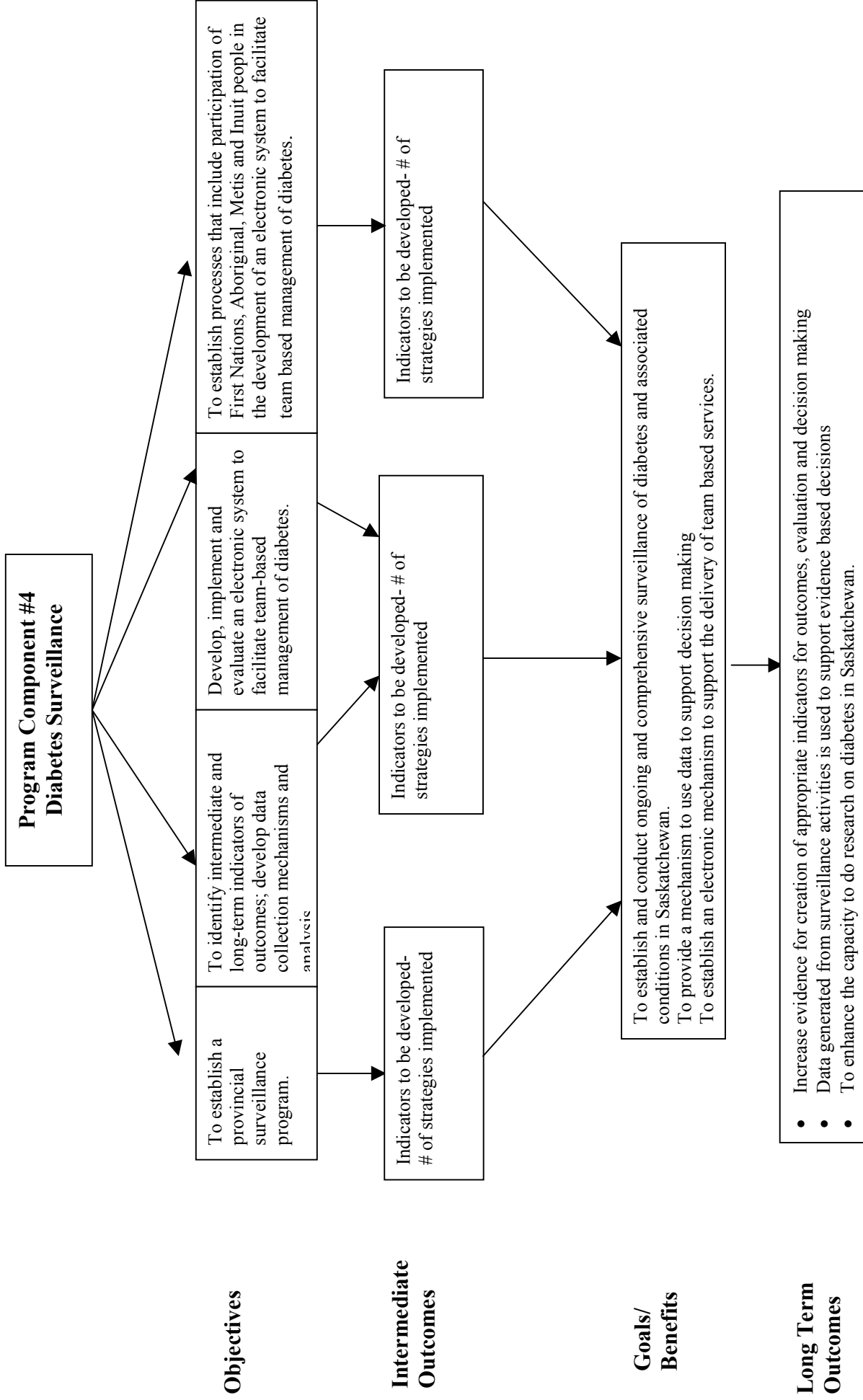
Long Term Outcomes

- Reduction in incidence rate of type 2 diabetes using the 2000-01 prevalence rate of type 2 diabetes as baseline. Saskatchewan residents should have:
- Increased levels of physical activity
- Food intake recommended in Canada’s Food Guide to Healthy Eating
- Continued or increased quality and productivity of life for persons with diabetes and those ‘at risk’ to develop diabetes
- Increased number of culturally appropriate community policies, and modified attitudes and practices that support healthy lifestyles in all Saskatchewan communities.



Education for Health Care Providers





APPENDICES

WHAT IS DIABETES?

Diabetes is a serious health problem that affects a growing number of Canadians. The condition may impose a heavy burden on persons with diabetes, their families and care providers. It may result in a variety of complications. These complications involve most of the body systems and major organs and are more common with inadequate control of blood glucose, blood pressure and lipids. Diabetes complications impose a burden of disability on the individuals affected and on society as a whole.

Long-term elevation of the blood sugar level (glucose) is the defining feature of diabetes. Diabetes may be caused by either loss of the ability to make insulin (type 1 diabetes) or the inability of the body to respond to the insulin it makes or both (type 2 diabetes).

Insulin, produced by the pancreas, is the main hormone controlling the ability of nutrients (especially glucose), to enter body cells and be used by the body in its daily activities. A lack of insulin or uncompensated insulin resistance result in accumulation of glucose and other biochemical products in the blood without the body being able to use them appropriately. **It is these changes in the body chemistry that are responsible for most diabetic complications.**

Recent evidence points to the fact that type 2 diabetes may be preventable and that the long-term burden of diabetes and its complications can be diminished or deferred with appropriate management².

Types of Diabetes:

Type 1 diabetes (DM1) is usually an autoimmune disease in which the body's immune system destroys the cells in the pancreatic islets that are responsible for insulin secretion (beta cells). When the destruction is sufficient, the blood glucose level rises. A severe lack of insulin results in life threatening decompensation of the body chemistry.

Common facts about type 1 diabetes:

- Usually presents in a young person with excessive thirst, urination, frequent weight loss, and rapid deterioration of health.
- Persons with type 1 diabetes have to rely on insulin administered by injections in order to survive.
- The need for injections, continual testing, vigilance with diet and activity may impose a significant financial, social and emotional hardship on persons with diabetes, their families and/or caregivers.
- The lifelong management of type 1 diabetes includes the need for insulin administration, regular monitoring of the blood glucose levels, adjusting dietary intake, physical activity and medications to keep control of diabetes.
- Many persons with type 1 diabetes develop a variety of complications due to the difficulty in achieving optimal blood glucose control. Excellent control will significantly reduce the risk of these complications.
- Persons with type 1 diabetes are more prone to life threatening episodes of loss of control of their diabetes either from extreme elevations of the blood glucose levels or

severe lowering of the blood glucose levels. **Excellent control will minimize these episodes.**

Type 2 diabetes usually results when the body does not produce enough insulin, or the body becomes insulin resistant and cannot use insulin appropriately (insulin resistance). Normally insulin resistance is compensated by the ability of the body to produce even more insulin. When this compensation fails, the blood glucose level rises and type 2 diabetes appears. Regardless of the therapy used, optimal control of blood glucose, blood pressure and lipids are effective measures in reducing or preventing diabetes complications.

Some common facts about type 2 diabetes:

- Usually presents after the age 40, however in populations at risk, such as First Nations and Métis Nation populations, it can appear at a much earlier age.
- Unhealthy body weight, especially abdominal obesity, combined with a lack of activity plays a significant role in the development of type 2 diabetes. Obesity is an important contributor to the development of diabetes in at least 80% of Canadians with diabetes.
- Family history of type 2 diabetes is an important determinant.
- Type 2 diabetes is associated with other metabolic disorders like dyslipidemia and hypertension.
- Type 2 diabetes can be detected on a screening examination in someone with no symptoms. An elevated blood glucose level could be found in someone being assessed for a different problem.
- Some manifestations of elevation of the blood glucose levels include frequent urination and thirst, recurring urinary (bladder) infections, recurring skin infections, recurring genital infections (particularly with yeast), poor wound healing and visual fluctuations, among others.
- On occasion, type 2 diabetes has been diagnosed at the time of a heart attack or stroke or when individuals indicate that they have experienced numbness, tingling or pain. These symptoms may be due to nerve damage, suggesting that diabetes may have been present for many years. Approximately 1/3 of all persons with type 2 diabetes will require insulin to control their diabetes. Appropriate self-management education, diet and exercise (non-pharmacological therapy) can produce a significant improvement in type 2 diabetes outcomes. Diabetes is managed with healthy eating, physical activity, by regular monitoring of blood glucose, and may require daily oral diabetes medication and/or insulin by injection.
- It is the fastest growing preventable disease in Canada and is reaching near epidemic proportions.
- National and international studies have shown that a significant percentage of persons with the disease remain undiagnosed.

Gestational Diabetes in Caucasians affects about five per cent of pregnant women. Women with gestational diabetes do not produce enough insulin to compensate for their pregnancy.

Common facts about gestational diabetes:

- Gestational diabetes can often be managed with timely screening, diabetes self-management education, proper diet and exercise.
- Some expectant mothers may need insulin treatment.
- Although gestational diabetes most often disappears after giving birth, the majority of mothers with gestational diabetes will develop diabetes later in life unless appropriate interventions are taken.
- Infants born to mothers with gestational diabetes have a higher risk of developing obesity, insulin resistance, and type 2 diabetes.

Other Specific Types of diabetes consist of genetically determined forms of diabetes, and diabetes associated with other disease or drug use.

Complications Related To All Forms Of Diabetes

Chronic high blood glucose levels affect the eyes, kidneys, nerves and blood vessels. Major complications include diabetic eye complications, kidney disease, nerve damage, heart disease and stroke, increased risk of lower extremity amputations, and premature death.

Long-term diabetes control is assessed by the reduction in the HbA1c. Based on large prospective population based studies, every 1% reduction in the HbA1c will decrease:

- diabetic eye complications by 35%,
- diabetic kidney disease by 33%
- nerve damage by 40%
- heart disease by 16%
- all diabetes related deaths by 25%
- Amputations by 50% with the provision of foot care services

Reducing the HbA1c will decrease diabetic eye complications, kidney disease, nerve damage, heart disease, risk of lower extremity amputations, and premature death.

In addition to physical symptoms and complications, diabetes can cause emotional strain. A person with diabetes must make numerous lifestyle changes including altering diet and exercise habits, regularly using insulin or drugs, self-monitoring, developing coping strategies, shifting eating schedules, and varying family routines and social outings. Because of the demands of managing this disease, a person with diabetes may experience a diminished quality of life. This is especially true if social supports are inadequate, if the person constantly experiences stress and time pressures, or if the person's health beliefs are contrary to the treatment program. In fact, 25 per cent suffer from recurring depression, anxiety, or eating disorders. Emotional distress can seriously lessen a person's capacity for self-care and increase the risk of blood vessel diseases.

The complications of diabetes result in higher rates of disability; increases in health care services; lost days from work; unemployment; decreased quality of life and shortened life expectancy. The human and economic costs of diabetes are significant and tragic.

PROVINCIAL DIABETES ADVISORY BODY

Following the release of the Report of the Saskatchewan Advisory Committee on Diabetes on April 17th, 2000, the Department of Health undertook several initiatives to improve diabetes prevention, care and control in the province. To provide advice on issues that may arise pertaining to the co-ordination and delivery of new programs and services, the Department established a Provincial Diabetes Advisory Body.

New initiatives will require broad consultation and input from care providers and care recipients as well as others affected by diabetes. The Saskatchewan Provincial Diabetes Advisory Body is expected to provide timely advice to the Health Department as required for a term of five years. The first appointments to the Advisory Body were made in September 2001.

TERMS OF REFERENCE

Purpose: To advise Saskatchewan Health on issues pertaining to the successful co-ordination of diabetes programs for the effective control of diabetes in Saskatchewan.

Membership: Members collectively will be knowledgeable about diabetes prevention and control, treatment and education, and the community impact of diabetes. The members will be nominated from the following groups:

Canadian Diabetes Association (1)

Métis Nation of Saskatchewan (1)

Federation of Saskatchewan Indian Nations (1)

Northern Health Districts Representative (1)

Southern Health Districts Representative (2)

Health Canada - Saskatchewan Region of First Nations and Inuit Health Branch (1)

Endocrinologist (1)

Saskatchewan Health (5): PHSB, RAB, CCB, PHB and AESB

General Practitioner (1)

Chairperson: Dr. Gill White, Acting Director, Primary Health Services Branch

Secretary: – Marlene Chapellaz, Provincial Diabetes Coordinator

- Term:** Appointments to the advisory body shall be for two years.
- Reporting:** The advisory body reports to Saskatchewan Health through the Primary Health Services Branch.
- Tasks:** Review ongoing programs and advise on possible improvements and co-ordination, etc. as required.
- Meetings:** A minimum of two meetings in each fiscal year and as called by the chairperson. The chairperson will consult the membership to determine venues of meetings.
- Secretarial Support:** Saskatchewan Health's Primary Health Services Branch will provide administrative and secretarial support.

Appendix 3 Saskatchewan Primary Prevention of Type 2 Diabetes Projects

Population Health Promotion Demonstration Sites For the Primary Prevention of Type 2 Diabetes.

The purpose of the Population Health Promotion Demonstration Initiatives for the Primary Prevention of Type 2 Diabetes were to:

- Reduce the risk conditions that contribute to the development of type 2 diabetes;
- Create social and physical environments that support healthier choices, and
- Enhance the ability of individuals, families and communities to take action.

Seven demonstration sites covering more than half of the health districts in Saskatchewan were funded. The initiative provided an opportunity for individuals, organizations and communities to increase their knowledge and skills in using population health promotion approaches to address health issues. Using diabetes prevention as an entry point, demonstration sites worked with a number of inter-sectoral partners to create healthier communities by reducing or removing barriers that prevented people from making healthier choices. The demonstration sites supported changes to reduce the risks and root causes of developing type 2 diabetes. For example, physical inactivity and poor eating are risk factors but some of the root causes of these risk factors may be low incomes and lack of social supports.

Creating the conditions that supported healthy choices was the key. Demonstration sites worked collaboratively with their partners to improve the social and economic conditions and physical environments that contribute to type 2 diabetes and, ultimately, other chronic diseases. Developing partnerships with other sectors was essential because issues affecting health are too large and complex to be addressed by a single sector. Partners initiated a wide range of activities such as changes to school policies on physical activity and nutrition, serving healthier foods at feast days, and story telling by elders in Cree, Dene and English.

The cornerstones of population health promotion are:

- reducing barriers to health
- strengthening the community's ability to take action on issues
- creating environments that support healthy choices
- developing and implementing healthy public policies
- engaging and sustaining intersectoral partnerships
- creating changes in communities that last beyond the life of a demonstration project.

Because funding was not to be ongoing, Saskatchewan Health and the demonstration site teams began to develop and implement sustainability plans early in the process.

These types of population health promotion projects are one way RHAs may choose to work on the primary prevention of type 2 diabetes. Such projects tend to be inexpensive but are critical when working upstream to improve the environment for all, including those who already have diabetes.

The following is a brief description of each project:

1. Working Together for a Brighter Tomorrow

(Mamawetan-Churchill River and Keewatin Yatthé Health Districts and Athabasca Health Authority).

This project involved a coalition of several partners working together with individuals, groups and organizations. Over 50 communities across the north could become involved in initiatives. The coalition involved development of a co-ordinated effort between education (5 Northern school districts and Authorities), health (8 Northern Health Authorities), recreation, local governments and Missinippi Broadcasting Corporation, with support from the University of Saskatchewan and the Canadian Diabetes Association. The objectives revolve around co-ordination of action, awareness and communication, and community support, capacity and action. Some initiatives included work on healthy public policies in schools and rinks; production and broadcast of fifteen radio spots in Cree, Dene, and English; development of videos; and community workshops.

2. Communities Hand in Hand (Battlefords, Twin Rivers, Northwest and Lloydminster Health Districts)

This project focused on 1) increasing physical activity and nutrition in six communities; and 2) building a stronger sense of community by involving many groups in project initiatives. This was a multi-site project with all projects focusing on either increasing physical activity and/or facilitating healthy food choices. A central steering committee of partners supported projects in six sites. A core of leaders from each of the community sites had the chance to attend a leadership series. The leaders used the skill in their communities to involve others. Each community was positively impacted by initiatives undertaken as a result of this project.

3. Pathways to Well-being (Saskatoon District Health)

The core-planning group for the project in Saskatoon had been working together for several years. The partners included the Saskatoon Indian and Métis Friendship Centre, Saskatoon Tribal Council Family Centre, Saskatoon District Health, Canadian Diabetes Association, Saskatoon Community Clinic, and Child Hunger and Education Program (CHEP). The goals of the project were to: 1) improve the knowledge of children and youth about healthy food choices; 2) raise awareness within the Aboriginal community that type 2 diabetes may be prevented; and 3) involve more Aboriginal families in the Good Food Box Program. Project activities included expansion of the good Food Box Program, Kids Can school based nutrition and cooking program and adult cooking classes.

4. The Primary Prevention of Diabetes Project (North East, North Central and Pasquia Health Districts)

The partnerships involved in this project involved the North-East, North Central and Pasquia Health Districts along with other partners, including representation from health, recreation, Métis and First Nations organizations, the Food For All Coalition and the Regional Intersectoral Committee. The goal of the project was to work with Aboriginal

(first priority) and non-Aboriginal communities to increase physical activity and healthy eating. Forums were held in various communities to increase awareness about primary prevention of type 2 diabetes and assess community assets and needs. Interested communities had an opportunity to apply for project grants. A community development worker was engaged to work with communities in planning projects and submitting proposals for grants.

5. Putting Prevention Into Action (Assiniboine Valley, East Central and North Valley Health Districts)

This project involved a long list of partners including health, recreation, education, social services, community, First Nation and Métis organizations. The goals of the project were to: 1) build healthy public policy related to the primary prevention of diabetes in schools and recreation programs; 2) facilitate the implementation and delivery of culturally appropriate primary prevention of diabetes programs; 3) create resource kits, which focused on the primary prevention of diabetes for use as a tool by schools and community organizations involved in the preparation, security and distribution of food. Project initiatives included work by the Public Policy Committee, development of a community grant program, and development of a Resource Kit for schools and food security sites.

6. Linking Community Voices in the Promotion of Health (Regina Health District)

This project involved the University of Regina, Four Directions Health Centre and Rainbow Youth Centre and a number of other community groups. The project worked to affect risk factors of Type 2 diabetes by: 1) linking existing community resources to remove identified barriers to physical activity and healthy food; 2) improving community access to, and use of existing programs such as "Healthy Food Boxes"; 3) supporting and enhancing the community's capacity to identify and problem solve around factors that affect its ability to obtain equality in health. Project activities included cooking classes, teaching kitchen, increasing use of the Good Food Box Program, free adult volleyball at schools, and a puppet show on diabetes.

7. Defeat Diabetes Team (Touchwood Qu'Appelle and Pipestone Health Districts)

The partners involved in this project were Carry the Kettle First Nation, Lipton School, Montmartre School, Pasquia First Nation, File Hills Qu'Appelle Tribal Council, Pipestone Health District, Touchwood Qu'Appelle Health District, Medical Services Branch (Health Canada), Lipton Parks and Recreation and the Canadian Diabetes Association.

This peer centered school based project focused on: 1) the empowerment of youth through education to act as effective change agents; and 2) to creating of environments that are supportive and conducive to healthy choices and lifestyles. Peer teams in each of the four participating schools developed action plans and conducted activities such as a walking club, healthy snack sales and street hockey tournaments. Teams also worked to influence their communities to practice healthier lifestyles and create community environments that support healthy choices.

Health Canada Funded Projects

In the Saskatchewan region, 20 ADI work plans are in place, which covers 72 First Nation communities under 8 tribal councils. In addition to this, the Federation of Saskatchewan Indian Nations (FSIN) works with 9 non-aligned First Nations on implementing the ADI in those communities.

Activities/Programs in place in the Saskatchewan region include:

- The development of a coordinated diabetes awareness campaign.
- Workshops on healthy living.
- Developing a Diabetes Mentorship program in partnership with the province to teach care providers how to provide support to those living with diabetes.
- Assisting communities in developing prevention programs such as safe walking paths, 100-mile club, increased access to fitness equipment, community kitchens, and exercise clubs.
- Developing a set of Diabetes Program Guidelines.
- Developing a portable display on "Cost of Diabetes" that can travel to each community.
- Developing earlier access to screening for diabetes, and complications screening.
- School education programs, workshops, logo contests, healthy snack programs, no junk food days, healthy eating policies.
- Intersectoral work to foster acceptance and adherence to the CDA Clinical Practice Guidelines for diabetes.

For more information on ADI programming go to Health Canada's website at <http://www.hc-sc.gc.ca/fnihb/cp/adi/index.htm>

1. The Battlefords Family Health Centre

Funding for 2001/2002 and 2002/2003 supported the development of a diabetes prevention strategy. The main objectives of the project are to raise awareness of diabetes prevention; increase the capacity of the community to understand and address the issues around diabetes prevention and supporting the shift to effective community based services and prevention activities; raising awareness of community supports and services to promote healthy lifestyle choices; promoting the importance of effective screening and developing plans to reduce the risk of diabetes. These objectives will be achieved by developing a community advisory committee and compiling an inventory of support and services within the community; developing appropriate diabetes prevention strategies; and providing culturally appropriate information on diabetes prevention.

2. The Prince Albert and Area Aboriginal Diabetes Coalition

Funding was provided for 2001/2002 and 2002/2003. The main objectives of the project are to increase awareness of the importance of healthy lifestyles in school aged children; develop and strengthen partnerships between organizations with an Aboriginal interest; increase awareness of the importance of healthy eating and physical activity in a culturally appropriate manner; provide support to community groups in pursuing community based programs to prevent diabetes and promote health. These objectives will be achieved by developing culturally appropriate resource materials on diabetes prevention and health prevention, facilitating National Aboriginal Day and a "Walk to School Program" to raise awareness of diabetes prevention; participate in any activities to encourage a healthy

lifestyle network and share resources with the Northern Diabetes Prevention Coalition (NDPC).

3. National Diabetes Awareness Centre

The Saskatchewan First Nations Network on Disabilities was funded for 2001/2002 and 2002/2003 to incorporate a specific diabetes component (establishing a Resource Centre and developing resource material targeted to the prevention of amputations) to the current operation of the National Aboriginal Clearing/Connecting House on Disability Issues. Their partner, the Federation of Saskatchewan Indian Nations, will provide financial management services, program guidance and administration.

4. The Qu'Appelle Valley Friendship Centre

Funding was provided for 2001/2002 and 2002/2003 to provide the services of an Aboriginal Diabetes Program Coordinator, who will work to increase awareness of diabetes through workshops, seminars, and displays at trade shows, and will develop networks with other agencies and resource people. The Coordinator will also establish a community garden for people within the Qu'Appelle Valley area.

Appendix 4 - Glossary

GLOSSARY

Aboriginal People – The Canadian Constitution recognizes three groups of Aboriginal peoples – Indians (First Nations), Métis Nation and Inuit.

Assumptions- Assumptions are the underlying connections between the goals and outcomes about how the program will work and what will be achieved. Assumptions must be realistic, sound and supported by evidence or research. The development of any plan is based on assumptions.

Care Providers is an inclusive term used to describe all para and health professionals who are involved in any aspect of diabetes health care delivery.

Certified Diabetes Educators (CDE)- Specific health professionals who have attained certification after passing an examination from the Canadian Diabetes Educator Certification Program established by the Diabetes Educator Section (DES) of the Canadian Diabetes Association.

CPG - Clinical Practice Guidelines (1998) & later

Determinants of Health – Key factors and conditions, some of which are outside the health system, which significantly impact on health. Key determinants include income and social status, social support networks, education, employment/working conditions, physical and social environments, biology and genetic endowment, personal health practices and coping skills, healthy child development, health services, gender and culture. This is likely to evolve as more is learned about determinants.

Diabetes Mellitus- is a chronic condition that arises when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin produced or both.

Diabetes Care includes:

- Ongoing education and support for self-management for the persons with diabetes, their families and communities. This includes the use of recognized national standards for self-management education. Many care providers may be involved in self-management education.
- Ongoing treatment and management by care teams. Treatment and management are provided according to nationally recognized, evidence-based clinical practice guidelines. Teams are centrally co-coordinated and have networks and partnerships with other care providers.
- Health system and care delivery mechanisms facilitate and enhance diabetes care for and decision making by, their families and communities

Estimated Cost - The estimated costs identified in the “Cost of Health Care For People with Diabetes Mellitus in Saskatchewan 1991-1996” by Jeff Johnson comprised five

different health care resource use estimates: prescription drugs and testing strips, physician services, hospitalizations, day surgery procedures, and dialysis.

First Nation – A term that came into common usage in the 1970s to replace the word Indian, which some people found offensive. Although the term First Nations is widely used, no legal definition of it exists.

FTE- (Full time equivalent) –full time hours or portion of full time hours

Gestational Diabetes Mellitus (GDM) is a form of diabetes that develops during pregnancy. It occurs when the mother's glucose level rises due to hormone secretions and she cannot produce enough insulin to overcome the insulin resistance induced by the pregnancy. Although gestational diabetes usually does not last after pregnancy, women who have had gestational diabetes have a very high risk of developing Type 2 Diabetes Mellitus in the future.

Goals - Goals are broad statements that describe the overall purpose and direction of the program.

Hypertension is a medical term for high blood pressure, a common disorder, which is characterized by a blood pressure that exceeds 140/90. Hypertension can lead to health problems such as heart attacks and strokes. The risk of acquiring the disorder is increased by a number of conditions: inactivity, obesity, high salt diet, smoking and family history.

Impaired Fasting Glucose (IFG) – Fasting glucose of 6.1 to 6.9 mmol/L. Persons with IFG are at higher risk of developing Diabetes Mellitus.

Impaired Glucose Tolerance (IGT) – Fasting blood glucose < 7.0 and a 2-hour plasma glucose after a 75-gram glucose load between 7.8 and 11.0. An intermediate form of disordered glucose metabolism in which blood glucose levels are higher than expected, but do not meet the diagnostic criteria for diabetes. Persons with IGT have a higher risk of developing Type 2 Diabetes Mellitus in the future and are at increased risk of cardiovascular disease.

Incidence- is the number of new cases of disease, or events in a population at risk, over a particular period of time (generally one year). Incidence is often expressed as a ratio, in which the number of cases is divided by the population at risk and expressed per 1000 or per 100,000. For example, the number of new cases of diabetes Type 2 in children a year over the number of children in the population x 1000.

Indian – A term that collectively describes all the Indigenous people in Canada who are not Inuit or Métis Nation. In Canada, the term Indian has generally been replaced with the term First Nation.

Indicators – statistics and/or data that measures outcomes.

Intermediate Outcomes- are the results that will occur on the way to achieving the long-term outcomes. They will provide an intermediate measure to ensure that programs are moving in the right direction to reach the 2012 outcomes.

Inuit – an Aboriginal people of Arctic Canada who live primarily in Nunavut, the North West Territories, and northern parts of Quebec and Labrador.

Long-Term Outcomes- the long-term outcomes of the provincial diabetes plan are for 2012. The outcomes represent expected long term consequences and changes that will occur in the next ten years.

Métis Nation – An Aboriginal people of mixed First Nations and European ancestry, distinct from First Nations people, Inuit and non- aboriginal.

Obesity - is defined as a **BMI** > 30 kg/m²

Objectives - Something worked toward or striven for.

Prevalence - is the number of old and new (existing) cases of a disease or occurrences of an event during a particular period of time. Prevalence is expressed as a ratio in which the population under consideration divides the number of cases.

Partnership - A relationship between individuals or groups that is characterized by mutual cooperation and responsibility, as for the achievement of a specified goal: *Agency groups formed a partnership to fight diabetes.*

Primary Health Care - Primary health care involves providing services to individuals, families, communities and populations. It includes a proactive approach to preventing health problems before they occur and ensuring better management and follow-up once a health problem has been identified. Since many of the factors that effect health occur outside of the health system, primary health care works proactively with intersectoral partners and community groups to address broader community needs.

Primary Prevention

1. Stopping or delaying the development of a disease.
2. The promotion of health by personal and community wide efforts directed toward the improvement of the general well being of the individual while also involving specific protection against selected diseases. Primary Prevention may involve the promotion and adoption of healthy lifestyles: improving nutritional status, physical fitness, and immunization against infectious diseases and promoting safe environments. The purpose of primary prevention is to limit the incidence of disease by controlling causes and risk factors.
3. Primary prevention may employ specific therapies targeted at high-risk individuals to prevent or delay the appearance of the disease.

Program Components- describes what will be done by Saskatchewan Health and the Regional Health Authorities to address the goals and produce the desired outcomes.

Program Outcomes are short-term results that help a program determine its immediate impact or effect. Often program outcomes need to be in place before intermediate outcomes can be achieved.

Secondary Prevention

1. Stopping or delaying the development of the complications of a disease.
2. A level of health care delivery that focuses on early diagnosis, use of referral services, and rapid initiation of treatment to stop the progress of a disease and prevent development of complications. This level of prevention aims to cure patients and/or reduce the more serious consequences of disease through the use of screening and effective treatment. It comprises the measures available to individuals and populations for early detection and prompt and effective intervention. Secondary prevention is directed at the period between the onset of disease and the normal time of diagnosis throughout the course of the disease.

Stakeholders- The term stakeholder includes government, non-government organizations and professional associations with interests relevant to diabetes or its complicating conditions, First Nations, Aboriginal, Métis, Inuit, persons with diabetes, their families, communities and care providers.

Surveillance- in this context refers to the collection of data that will include information on the incidence and prevalence of diabetes and its complications.

Tertiary Prevention- is aimed at reducing and minimizing the progress of complications of established disease. This type of prevention is an important aspect of therapeutic or rehabilitative medicine. Tertiary prevention consists of measures to reduce impairments and disabilities and to minimize the suffering associated with complications of the disease. E.g. preventing blindness in someone with eye involvement, delaying or reversing the course of kidney involvement etc.

Type 1 diabetes is most often due to an autoimmune destruction of the insulin producing cells in the pancreas. Once established in the individual that person will have to administer insulin daily to live. It usually occurs before the age of 30, but can occasionally occur at an older age. About ten percent of all persons with diabetes have Type 1 (previously called juvenile diabetes and Insulin Dependent Diabetes Mellitus (IDDM)).

Type 2 diabetes is the most common type of diabetes, usually appears after age 40, but can occur at a younger age, especially in high-risk populations. It tends to be associated with obesity and it is not an autoimmune reaction. It can be managed with changes in diet, physical activity and monitoring blood glucose, oral medications and/or insulin. Ninety percent of all persons with diabetes have Type 2 (previously called Maturity-Onset Diabetes and Non-Insulin-Dependent Diabetes (NIDDM)).

Wholistic - In Aboriginal societies there was no word, term or expression for "health" as it is understood in Western society (Brady et al, 1997). The term wholistic embraces a "whole of life" view and the interdependence of all parts including one's physical, mental, emotional and spiritual realms.

Appendix 5 References

REFERENCES

- ¹ Epidemiological Account of Diabetes in Saskatchewan - Saskatchewan Health (1999)
- ² Saskatchewan Diabetes Profile 1996/97 to 2000/01 - Saskatchewan Health Data 2003
- ³ The Economic Cost of Diabetes in Canada 1998 – Keith G. Dawson MD, PHD et al
- ⁴ Results of 2000 Physical Activity Monitor, Canadian Fitness and Lifestyle Research Institute (2000)
- ⁵ The Cost of Developing Diabetes in a Cohort of Saskatchewan Residents 1991- 1996 - Jeffery Johnson et al. (2002)
- ⁶ American Journal Clinical Nutrition 2003 May; 77 (5) 1312-7 Alcohol, body weight, and weight gain in middle aged-men Wannamethee SG, Shaper AG
- ⁷ Stress Management Improves Long-Term Glycemic Control in Type 2 Diabetes Richard S. Surwit, PHD, Miranda A.L. van Tilburg, PHD, Nancy Zucker, PHD, Cynthia C. McCaskill, MSN, Priti Parekh, MA, Mark N. Feinglos, MD, Christopher L. Edwards, PHD, Paula Williams, PHD and James D. Lane, PHD Duke University Medical Center, Durham, North Carolina