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# Building a national diabetes strategy: a strategic framework

Volume 2

Canada

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# Building a national diabetes strategy: a strategic framework

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National Diabetes Strategy

Volume 2

## Purpose of the strategic framework

**A comprehensive framework to mobilize all sectors in developing, implementing and evaluating an integrated and coordinated approach for reducing the social, human and economic impact of diabetes in Canada.**

# Foreword

***Only through collaborative action will progress be made in the prevention and management of diabetes in Canada.***

Diabetes is a serious health problem in Canada. This report outlines a strategic approach to the prevention, early detection and management of diabetes for all Canadians that requires collaborative action throughout the country.

In 1997, in response to the growing awareness and serious concern about the high human and economic cost of the epidemic of diabetes and its complications for all Aboriginal Peoples in Canada, the Medical Services Branch of Health Canada initiated the development of a National Aboriginal Diabetes Strategy in partnership with Aboriginal representatives.

Recognizing that diabetes was also a serious problem for all Canadians, the Government of Canada initiated the Canadian Diabetes Strategy (CDS) in 1999 for a five-year period, with an extension until March 2005. The CDS has four inter-related components: Aboriginal Diabetes Initiative (ADI); Prevention and Promotion; National Diabetes Surveillance System; and National Coordination. The CDS has had several successes:

- More than 600 communities have had access to some level of ADI resources, delivered to meet local needs and priorities.
- The Prevention and Promotion component has provided funding to not-for-profit organizations and educational institutions for 134 regional projects, 21 national projects and 2 national social marketing campaigns.
- The surveillance system has been established, including a governance mechanism, "infostructure" and data-sharing agreements with all of the provinces/territories and some Aboriginal groups.
- The Coordinating Committee for the National Diabetes Strategy (CCNDS) with representation from the federal government (Public Health Agency of Canada, and the First Nations and Inuit Health Branch of Health Canada), provincial and territorial governments, national Aboriginal organizations, and the Diabetes Council of Canada was formed after the first National Symposium on Diabetes, held in Montreal in 2001. The symposium confirmed broad support for the development of an approach to diabetes that would involve all stakeholders across the country in an integrated, coordinated and comprehensive approach to diabetes prevention and management.

The CCNDS formed five working groups: diabetes prevention, care, education, research and surveillance to synthesize research evidence and develop draft recommendations that were reviewed at a national diabetes symposium in May 2003 with participants from federal and provincial/ territorial governments, national Aboriginal organizations, national non-government organizations, health professional organizations, consumers, industry and academia. The development of *Building a national diabetes strategy: a strategic framework* (Volume 2) was based on the work summarized in the report entitled, *Building a national diabetes strategy: synthesis of research and collaborations* (Volume 1).

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# Diabetes: a costly epidemic

Diabetes mellitus (DM) is a chronic condition that results from the body's inability to sufficiently produce and/or properly use insulin. The body needs insulin to use sugar as an energy source. Diabetes has no known cure: it is a permanent condition.

Diabetes is one of the most common chronic conditions affecting Canadians. It affects all ages and its prevalence is increasing in the population.

Diabetes is pandemic in Aboriginal communities. Its prevalence among First Nations is estimated to be 3 to 5 times the national average. The incidence of type 2 diabetes among Inuit, in whom the disease was once unknown, is also rising. Several ethnic groups in Canada (people of Hispanic, South Asian, Asian or African descent) also have elevated risk of diabetes compared with the general population.

- *Approximately 2 million Canadians have diabetes: 1 in 3 individuals is unaware that he or she has the disease.*
- *The number of people aged 12+ years with diabetes increased by 27% between 1994 and 2000.*
- *The number of patients with diabetes is projected to increase to 2.4 million in 2016.*

While services for managing diabetes are making a difference, existing resources are being pushed to the limit as the disease is diagnosed in more people and those already with the condition live longer and develop complications from the disease.

- *Approximately 20% of people with type 1 diabetes develop kidney failure.*
- *Heart disease accounts for approximately 50% of all deaths among people with diabetes in industrialized countries.*
- *People with diabetes are 20 times more likely to have an amputation.*
- *Over 40% of people receiving dialysis have diabetes.*
- *Diabetic retinopathy is a leading cause of blindness and disability.*

The costs of diabetes to the person with the disease, to family members and the health care system are significant. Complications arising from diabetes take both a personal and societal toll. From visual loss to blindness, to lower limb amputation and dialysis, the complications are devastating. They affect productivity, quality of life, and personal relationships.

- *A person with diabetes spends up to $5,000 per year on supplies and medication.*
- *Total health care costs related to diabetes are projected to increase from $4.66 billion in 2000 to $8.14 billion in 2016 (in 1996$).*
- *In nearly 1 in 10 hospitalizations, diabetes is listed as the main or underlying condition responsible for admission.*
- *First Nations Inuit Health Branch of Health Canada reports that the annual health care costs per person for status Indians with diabetes is $3,657 (age-adjusted) compared with $1,359 per person for those without diabetes.*

# Types of diabetes

**Type 1 diabetes** is an auto-immune disorder that occurs when the pancreas produces very little or no insulin. It usually develops in childhood or adolescence and accounts for 10% of people with diabetes. Since it develops at an early age, those individuals with type 1 diabetes are at high risk of complications because of the duration of the disease.

**Type 2 diabetes** is a metabolic disorder that occurs when the pancreas does not produce enough insulin to meet the body's needs or the insulin produced is not metabolized effectively. It accounts for almost all cases of diabetes among Aboriginal Peoples, and about 90% of cases in the general population. Type 2 occurs most frequently in people over 40 years of age. It has recently been detected in Aboriginal youth and children from high-risk ethnic groups.

**Gestational diabetes mellitus (GDM)** develops during pregnancy and is due to a deficiency of insulin, which disappears following delivery. Babies of women with GDM have an increased risk of complications. Women who have had gestational diabetes have a high risk of developing type 2 diabetes later in life.

# Risk factors for diabetes

Regular exercise and weight control can prevent type 2 diabetes by reducing obesity and improving glucose tolerance. Even small reductions in weight can decrease the risk of diabetes. Unfortunately, at this time, there are no known modifiable risk factors for type 1 diabetes: more research is needed to identify preventable risk factors.

- *56.5% of Canadians aged 20+ years are physically inactive.*
- *47.5% of Canadians aged 20-59 years are overweight.*

Diabetes is a societal disease. The determinants of physical activity, healthy eating and weight are well entrenched into the social fabric of Canadian communities.

Two approaches are necessary to prevent type 2 diabetes – a population health approach and a high-risk approach. A population health approach encourages physical activity, healthy eating and healthy weight for the entire population. Community strategies, such as the creation of bicycle paths, nutrition labelling and social marketing, benefit the whole population. This approach considers all the determinants of health, some of which are outside the control of the individual and require healthy policies or actions by others. On the other hand, the high-risk approach focuses on individuals at highest risk of diabetes, such as those with a family history of the condition or impaired glucose tolerance. This approach includes more focused interventions, such as health education and behaviour modification.

# The human face of diabetes

Diabetes has a profound impact on the lives of individuals with the disease and their families. It touches virtually every Canadian, either personally or through a family member, neighbour or co-worker.

Diabetes among children and youth, usually type 1, presents unique challenges. Most parents react with shock, disbelief and sadness when their child is first given a diagnosis of diabetes. Many parents who believed that diabetes only affects older people have trouble accepting the diagnosis. Even when the initial shock is over, parents then face the prospect of managing a complicated diabetes regimen on a daily basis in order to keep their child healthy. The task of creating a healthy environment in which their child can thrive can seem daunting. In addition, children and youth face the task of fitting in with their peers while coping with the demands of diabetes self-management. They also face the high risk of developing complications, such as blindness, kidney failure or heart disease, which not only affect their quality of life but also contribute to shortened life expectancy. Research into a cure for diabetes or effective prevention approaches are very important to parents of children with diabetes.

The prevalence of type 2 diabetes increases with age and peaks among adults between 75 and 79 years. Persons aged 65 years and older represent almost 50% of the cases of type 2 diabetes. Complications from diabetes increase with the duration of the disease, twice as many seniors experiencing diabetes-related visual impairment, hypertension, heart disease, and stroke compared with those under 65 years of age, and 10 times as many having a lower limb amputated. Services for seniors account for one-third of the costs of diabetes in Canada.

Diabetes is so common among Aboriginal Peoples that a sense of the inevitability of the disease pervades the community. Intergenerational experience of diabetes in some Aboriginal communities has led to fatalism: “My parents have it, my grandparents have it; someday, I will get diabetes too.” Entire communities and clans have been harshly affected and, for many, living with and managing diabetes is a way of life.

***A personal story***

*Many Aboriginal individuals have spoken about the challenges of living with diabetes. A male Inuk who was given a diagnosis of diabetes three years ago recently shared his experiences. To date, he has received no diabetes education about how to manage his disease or about its complications. He indicates that he is interested in learning the "whys" of diabetes. He said that if he gains further knowledge of the disease, "I will be passing on this education to other people, especially youth." The Inuk man is doing a lot to gain information on the disease through the Internet, but little information [is] available [in his own language]. He voices another concern, "What about the unilingual Inuit out there? They have no mechanisms in accessing information. I am fortunate that I can read and write in Inuktitut and English. But it's not the same story for other peoples."*

*Although this story highlights the reality for one individual with diabetes, it is an all too common story among Aboriginal Peoples in Canada.*

# The urgent need for action

Diabetes is a serious public health concern for Canada. The need for action is immediate: failure to invest now will prove very costly in the near future.

- *Every 8 minutes, another individual in Canada is given a diagnosis of diabetes.*
- *40% of individuals with diabetes will develop debilitating complications, such as heart disease, stroke, kidney failure, amputation, blindness and impotence.*

An effective response will require a commitment to more consistent and collaborative efforts to prevent or delay the onset of diabetes and to enhance the quality of life, not only of persons living with diabetes, but of all people affected by it. This call for collaborative action is in full accord with the Declaration of the Americas on Diabetes (1996), endorsed by the Pan American Health Organization (PAHO) as a guide for national program development. Effective action will require collaboration within the health sector as well as among other sectors that influence the health of the population, such as education, transportation, recreation, industry, income and housing, and social services.

Partnerships are needed at the national, provincial and territorial, regional and local, and clinical levels. Preventing and managing diabetes is a complex undertaking – no one organization or professional group can achieve this on its own. Partnerships avoid duplication and create synergies of effort.

Effective prevention and management of diabetes require leadership at each level to raise awareness about the impact of the disease and build commitment to addressing this serious health problem. Leadership with a vision motivates others to turn the vision into reality. Leadership can emerge from the voluntary sector, government, academia, industry, the Aboriginal community or the public. Collaborative leadership involving several sectors extends the sphere of influence.

# Goals of the strategic framework

The purpose of *Building a national diabetes strategy: a strategic framework* is to mobilize all sectors in developing, implementing and evaluating an integrated and coordinated approach for reducing the social, human and economic impact of all types of diabetes in this country.

The long-term goals of the framework are to focus this collaboration on the following:

- preventing the onset of type 2 diabetes;
- diagnosing diabetes early and managing it effectively; and
- finding a cure for type 1 and type 2 diabetes.

Each of these goals is equally vital for achieving important health outcomes. Effective prevention will result in fewer people having to cope with the challenges of diabetes. For those living with the disease, effective management will enhance the quality of their lives and decrease the risk of serious complications. Finding a cure will lift the burden of coping with diabetes for both individuals and their families.

# The context for the strategic framework

*Building a national diabetes strategy: a strategic framework* builds on current efforts that address diabetes in Canada. Several provinces have created their own diabetes strategies; others have incorporated diabetes prevention into wellness or healthy living strategies; still others have incorporated diabetes management within an integrated chronic disease approach. National, provincial and territorial, regional and local, and Aboriginal organizations have been actively involved in diabetes prevention and management for several years. Health care providers, public health and community agencies are providing services to the best of their abilities. Researchers and educational institutions seek to find the causes and best treatments for the disease and train people to provide services in prevention and care. People with diabetes and their families are actively involved in the self-management of their disease.

*Building a national diabetes strategy: a strategic framework* is a vehicle for developing shared goals and identifying collaborative action—a resource to facilitate collaboration among governments, national Aboriginal organizations, non-government organizations, and service providers within the context of their own jurisdictions and realities. It can help new and existing initiatives (such as the Pan-Canadian Healthy Living Strategy and the Primary Health Care Transition Fund) and coalitions (such as the Chronic Disease Prevention Alliance of Canada) focus their contributions on the goals of the strategic framework.

# The Aboriginal context for the strategic framework

*The Constitution Act, 1982* states that the Aboriginal Peoples of Canada are Indian, Inuit and Métis peoples. Aboriginal Peoples are not a culturally or socially homogenous group, but are many distinct groups throughout Canada, each with its own culture, language and traditions. The health

needs of the different Aboriginal communities and peoples are influenced by their particular history, geography, and access to services, as well as a range of other issues. To be effective, health programs need to be tailored to meet the self-identified needs of each community.

For many Aboriginal Peoples and their communities, effective control of diabetes and prevention of the complications of the disease are hindered because they simply cannot access much-needed prevention and management services. For example, it is difficult for diabetes educators in remote communities to advise people to eat a healthier diet if they are unable to access healthy foods. Funding constraints also make it difficult for community workers to receive the training or organizational support they need to be effective as diabetes educators.

The causal factors behind the increased incidence, prevalence, severity and complications of diabetes in Aboriginal populations are complex. Genetic predisposition may play a role. The nomadic lifestyles and feast/famine cycles of their ancestors may make Aboriginal Peoples genetically predisposed to store energy very efficiently from the diet. Dietary patterns in many Aboriginal communities have changed from traditional food to a diet high in energy, saturated fat and simple sugars. The prevalence of obesity and physical inactivity (both risk factors for diabetes) among Aboriginal populations has increased.

Aboriginal-specific diabetes prevention and control programs exist in a challenging policy context. Complex jurisdictional boundaries and funding arrangements among federal and provincial/territorial governments, and community governments make it difficult to establish equity in the provision of health services to Aboriginal Peoples. This is an ongoing jurisdictional problem for Aboriginal Peoples in Canada.

- *8.5% of First Nations people on-reserve, 8.3% of off-reserve and non-status First Nations people, 6.0% of Métis people and 2.3% of Inuit have had a diagnosis of diabetes.*
- *1 in 3 Aboriginal women 55+ years of age have had a diagnosis of diabetes.*

(Source: Aboriginal Peoples Survey, 2001)

*Building a national diabetes strategy: a strategic framework* encourages a commitment to consistent and innovative ways of working with Aboriginal organizations and communities to prevent diabetes and enhance the quality of life for Aboriginal Peoples living with diabetes.

For more in-depth discussion of Aboriginal issues related to diabetes please consult *Building a national diabetes strategy: synthesis of research and collaborations*.

# Strategic Approach

*Building a national diabetes strategy: a strategic framework* uses a population health approach that recognizes the role of broad health determinants and the importance of addressing the needs of all members of the population in a variety of ways. A population health approach includes strategies that are directed at the entire population and others that are directed to those at highest risk of diabetes.

A population health approach includes partners from sectors outside of health in multi-sectoral and multi-level collaboration. Within a population health approach, disparities in income, education and access are addressed. Programs are sensitive to diverse needs in terms of language, culture,

gender, age, socio-economic status and literacy/educational level. Consumers are actively involved in program planning and resource development. Programs and services are provided with attention to equitable access and opportunity for participation. Policy and program decisions are needs- and evidence-based, and are strategically planned to have the greatest impact on the population's health. Policies, programs and services are evaluated for effectiveness. Surveillance identifies health needs and monitors the impact of policies, programs and services on the population for planning and accountability.

Diabetes prevention and management are most effective when approached holistically, taking into consideration people's physical, social, emotional, mental, spiritual and cultural well-being throughout the lifecycle. This approach is consistent with traditional Aboriginal health and wellness understandings and practices, which attend to all aspects of the physical, spiritual, emotional and mental well-being of individuals, communities and nations.

Diabetes is a determinant of other serious conditions, including heart disease, stroke, kidney failure and blindness. It also shares preventable risk factors with other chronic diseases. The interrelation between diabetes and other chronic diseases and the reality of limited resources make a compelling case for taking an integrated approach to chronic disease prevention. Many jurisdictions have already taken this broader approach to prevention. Diabetes can also be placed within an integrated chronic disease management approach with diabetes-specific activities ensuring that the disease-specific needs are met. *Building a national diabetes strategy: a strategic framework* can be used either within an integrated or a disease-specific approach.

# Partners

Improving the prevention, early detection and management of diabetes and finding a cure requires both individual effort and organizational action involving more than the health sector alone. The factors influencing the onset of diabetes and its management extend into the workplace, schools, recreation programs, transportation, industry, and the economic and political environments.

Each of the following organizations or groups of people has a role to play:

- Aboriginal organizations
- Aboriginal traditional knowledge holders
- Academia and researchers
- Childcare providers
- Educators
- Governments, including, for example, departments/ministries of health, education, transportation, recreation, justice, and housing, and national Aboriginal organizations
- Local public health organizations
- Non-government or volunteer sector organizations
- People with diabetes and their families
- Private sector
- Professional associations (such as health, education, recreation)
- Public
- Regional health authorities
- Service providers
- Voluntary sector
- Workplace and schools

# Principles for working together

*Building a national diabetes strategy: a strategic framework* calls for governments, organizations, national Aboriginal organizations and the public to work together in the effort to prevent, care for and cure diabetes. Working together needs to be guided by shared principles that focus on factors that unite partners, honour the contributions of each, and respect their unique strengths and methods of operation. The following principles, adapted from *An Accord between the Government of Canada and the Voluntary Sector,* are a potential starting point for a national diabetes strategy.

- ***Independence:*** The autonomy, unique strengths and separate accountabilities of each partner are recognized and respected. Some provinces and territories have their own diabetes strategies or they address diabetes within a broader chronic disease strategy. Non-government organizations and national Aboriginal organizations also approach the problem of diabetes from a variety of different viewpoints.
- ***Interdependence:*** Partners often operate in the same jurisdiction; many serve the same clients and hold many common objectives. As a result, the actions of one partner can affect another, either directly or indirectly. Further, each partner has established vital and complex relations with other organizations and institutions, which should remain undisturbed by this partnership.

- ***Dialogue:*** Partners recognize that sharing ideas, perspectives and experiences contributes to better understanding, improved identification of priorities and sound public policy. Effective dialogue is open, respectful, informed and sustained, and welcomes a wide range of viewpoints. Dialogue respects each partner's confidential information, and builds and maintains trust. To be sustained, dialogue requires appropriate processes and structures.
- ***Cooperation and collaboration:*** Partners will work together to identify common priorities and complementary objectives, and to establish a working relationship that is flexible and respectful of the individual contributions, challenges and constraints of each partner.
- ***Accountability:*** In addition to their separate accountabilities, partners are collectively accountable for maintaining the trust and confidence of Canadians by ensuring transparency, high standards of conduct, sound management, and monitoring and reporting of results.
- ***Shared commitment to action:*** In their collective effort to address diabetes in Canada, partners agree to act in a manner consistent with these principles, to develop the mechanisms and processes required to achieve recommended action, to work together as appropriate to achieve shared goals and objectives, and to promote awareness and understanding of the contributions of each partner to Canadian society.

# Strategic Areas

## Strategic area #1
### Support the development of healthy public policy.

Public policy provides a foundation on which a community functions. Policies concerning physical activity and healthy eating make an important contribution to the prevention of type 2 diabetes and the management of both types 1 and 2 diabetes. The underlying social and environmental conditions that influence these two lifestyle factors have roots in sectors other than health, however, such as industry, recreation, transportation and municipal planning. Therefore, policies must be developed and implemented through working with both health and non-health sectors.

Policies that address social determinants, such as poverty, housing and education, influence both health itself and the adoption and maintenance of healthy behaviours, and are a priority for all Canadians. This is particularly relevant for Aboriginal Peoples.

Joint participation in public policy by all levels of government enhances the work of each level individually. For example, federal taxes on tobacco, provincial legislation prohibiting sales to minors, and municipal smoking by-laws all contribute to a reduction in smoking, a behaviour that increases the risk of complications for those with diabetes.

One of the challenges in preventing diabetes, especially for Aboriginal Peoples, is food insecurity. Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy

life. In order to be able to eat well and maintain a healthy weight, people need access to healthy food at affordable prices. In Aboriginal communities, food security can be affected by environmental contaminants in traditional foods. Food security is a multi-factorial and multi-sector issue, requiring public policies from all involved sectors.

Public policies also influence the ability of individuals to manage their disease effectively. On average, diabetes medication and supplies cost an individual up to $5,000 per year. This can be a barrier for those with limited incomes. Through subsidies for medication and supplies, public policies can reduce inequities in diabetes management.

### Examples of possible activities

- Establish workplace policies supporting, for example, healthy food in cafeterias, fitness centres, subsidized fitness memberships, change/shower facilities, bicycle racks, flexible dress codes and work hours.
- Establish school policies supporting, for example, daily physical activity, meal programs, health education for all grades, healthy food in cafeterias and vending machines.
- Establish recreation policies, such as subsidies encouraging low-income people to use centres.
- Establish transportation and zoning policies regarding, for example, safe walking paths, green ways, bike lanes, public transportation and multiple-use areas.
- Establish food security policies such as subsidizing the cost of healthy food.
- Establish and enforce industry policies such as pollution controls to decrease contaminants.
- Evaluate the need for medication and supply subsidies for individuals with diabetes.
- Increase research on public policy effectiveness.
- Establish comprehensive screening/diagnosis programs for Aboriginal Peoples.

## Strategic area #2
## Provide community-based health promotion and prevention programs.

Community-based health promotion and prevention programs benefit the entire population. Physical activity, good nutrition and healthy weight will improve a person's general well-being and quality of life, and reduce the risk of chronic conditions such as diabetes. Even small reductions in weight can decrease the risk of diabetes. Unfortunately, at this time there are no proven modifiable risk factors for type 1 diabetes. For people with diabetes, regular physical activity, healthy nutrition and healthy weight can improve diabetes control and decrease the risk of complications.

Multiple strategies are needed in multiple settings to be effective. For example, information and education in childcare settings, schools, workplaces and the community provide the knowledge and skills for healthy nutrition and regular physical activity. Community action by advocacy groups for safe bicycle riding encourages the development of supportive environments for physical activity. Walking clubs in shopping centres provide encouragement for seniors to become fit while

socializing. Social marketing facilitates the development of social norms for healthy behaviours. Developing a social norm for healthy eating and regular physical activity supports the adoption of these critical behaviours, both for those who are at high risk of developing type 2 diabetes and for those with diabetes. Many Aboriginal communities have developed innovative, culturally relevant programs to address the determinants of health and promote behaviours to prevent or delay the onset of diabetes. Unfortunately, they are not provided consistently to all communities.

Governments have a role to play in community health promotion and prevention programs through, for example, funding of programs and services, development and sharing of resources, and social marketing campaigns.

### Examples of possible activities

- Support community groups involved in community action for healthy environments.
- Encourage self-help groups and mutual aid.
- Create supportive environments (school, workplace, community).
- Provide information and education to children and adults through a variety of strategies and settings.
- Foster linkages among community programs that address diabetes and related health problems.
- Provide comprehensive school health programs.
- Develop specific activities to engage Aboriginal communities.

## Strategic area #3

### Provide accessible health services for the prevention of diabetes in high-risk individuals and optimal diabetes detection and management.

The health care system provides a range of services from prevention and early detection to treatment and rehabilitation. Primary health care providers can identify those at high risk of diabetes and help them lower their risk through education about nutrition, healthy weight and regular physical activity.

Early diagnosis of diabetes and treatment can both decrease the risk of complications and improve the quality of life of a person with diabetes. It is estimated that 1 in 3 individuals with type 2 diabetes may be unaware of his or her condition. The Canadian Diabetes Association's 2003 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada recommend screening of high-risk asymptomatic individuals to detect diabetes and its predisposing conditions, such as impaired glucose tolerance.

People with diabetes must manage their disease on a day-to-day, moment-to-moment basis. Effective management of diabetes contributes to improved metabolic control, control of blood pressure and blood lipid levels, a decrease in the likelihood of complications and improved quality of life. Knowledge and necessary skills are gleaned from interactions with a team of informed health care professionals. In addition, the team provides ongoing monitoring and care, and screening for

and treatment of complications. The team may include physicians, nurses, diabetes educators, dietitians, physiotherapists, occupational therapists, social workers, community workers and psychologists, and Aboriginal traditional knowledge holders.

Effectively managing diabetes requires a well-organized system of services that is comprehensive, continuous, consistent and responsive to diverse community needs (language, culture, gender, literacy/education level, age and socio-economic status). It involves funding and organizing services appropriately.

Aboriginal Peoples face challenges in diabetes management because of many factors, including a lack of adequate culturally relevant services. This is especially challenging in the north and in remote rural areas.

Ethnic minorities also need programs and services that meet their cultural needs.

### Examples of possible activities

- Educate and screen high-risk people for pre-diabetes and diabetes in primary health care settings.
- Foster the provision of culturally sensitive, holistic educational programs.
- Foster access to qualified diabetes educators and diabetes education programs for self-management of diabetes.
- Foster the provision of clinical care through multi-disciplinary teams.
- Foster the provision of equitable access to services, medication and supplies.
- Enhance or develop regionalized programs with outreach to smaller communities.
- Develop innovative, culturally relevant programs in Aboriginal communities.
- Build capacity among dietitians and nutritionists.
- Maintain clinical information systems and access to guidelines for their application in practice.
- Develop innovative delivery models for remote and under-serviced areas.

## Strategic area #4

### Develop human resource capacity and enhance the education of those who provide diabetes prevention and management programs and services.

Providing effective prevention and management programs depends on knowledgeable, skilled program service providers, including professionals, para-professionals, Aboriginal traditional knowledge holders and volunteers. Community and health service providers require a wide variety of skills, such as effective communication, community development, collaborative practice, advocacy, social marketing, planning and evaluation, management and research synthesis.

Building this human resource capacity involves many approaches: initial training for professionals, para-professionals, allied health workers and volunteers; effective recruitment and retention; continuing education; and appropriate remuneration to retain people in this field.

The knowledge and skills required of service providers change constantly in response to new research findings. As a result, all members of the diabetes team and community service providers require an effective mechanism for knowledge synthesis and exchange.

The continued development of an adequately funded Aboriginal workforce to work with non-Aboriginals to provide diabetes prevention and management services is essential to address the lack of service access and the cultural needs of Aboriginal Peoples.

**Examples of possible activities**

- Provide relevant training opportunities for health, recreation and policy professionals in colleges and universities for work in collaborative prevention and care models.
- Provide a variety of continuing education opportunities.
- Educate primary care providers on diabetes prevention and screening.
- Provide incentives for service providers to work in under-serviced areas.
- Educate policy makers on the resources required to enhance the current human resource capacity for diabetes.
- Increase the number of Aboriginal students studying in diabetes-related fields.

## Strategic area #5
## Conduct research and evaluation, and support knowledge exchange.

Research provides the basis for understanding the causes of diabetes, its prevention and effective management, and its cure. Currently, most funding in diabetes research is directed at basic science and clinical research. This research investment has achieved much success, and it provides the hope for a cure for diabetes. More funding and capacity for research is needed in order to address outstanding issues, such as the effectiveness of community-based prevention programs and clinical services.

Present mechanisms for disseminating research findings and supporting their use in community, clinical and policy settings are inadequate. No single, consolidated, Web-based source interprets new knowledge from diabetes research impartially and informs the stakeholder of its impact on prevention, care or “cure”, nor of its future promise.

The Canadian Diabetes Association coordinates the development, by researchers and clinicians, of clinical practice guidelines (CPGs) that synthesize research findings into useful recommendations for service delivery, and it disseminates them throughout Canada. Resources are required to support the infrastructure of this ongoing activity. A major challenge lies in encouraging the use of CPGs in practice.

Within Aboriginal communities, research needs to be participatory and relevant, and useful in improving the health of the people living in the communities where the research is being conducted. First Nations have identified four principles for all research involving their communities – ownership, control, access, and possession.

### Examples of possible activities

- Set priorities for research funding based on population health needs in collaboration with the Aboriginal Health Institute of the Canadian Institutes for Health Research (CIHR).
- Support the use of research results in policy, and clinical and community settings.
- Create a clearinghouse of effective policies, programs and resources.
- Maintain a database of all diabetes-relevant research.
- Provide support for the evaluation of prevention, education and management programs.
- Support participatory research in Aboriginal communities
- Increase the number of community-based training opportunities within Aboriginal communities.

## Strategic area #6
## Enhance surveillance.

Surveillance is the ongoing, systematic collection, analysis and interpretation of population data, and the timely dissemination of this information to decision-makers. Population data include both aggregations of individual data (health status, quality of life, risk factors and determinants, use of health services) as well as community data (environment, policies, programs and services). Surveillance information is used for planning and evaluating policies, community programs, clinical services, education programs and research, on the basis of population need. Each federal, provincial and territorial, regional and local, and Aboriginal jurisdiction needs data on its own population at its own level.

With dedicated funding through the Canadian Diabetes Strategy, the National Diabetes Surveillance System (NDSS) has established a system for monitoring diabetes across the country through the innovative use of existing administrative data sources (physician billing, hospitalization) in each jurisdiction. Detailed national comparative information exists for assessing the burden of diabetes. The NDSS also facilitates the analysis of data by individual provinces and territories for their own regions. It provides the foundation for the development of a more comprehensive surveillance system. Data from Statistics Canada's Canadian Community Health Survey (CCHS) and the Mortality Database complement the data provided through the NDSS.

Surveillance challenges include making better use of existing data sources and developing new data sources to fill gaps in surveillance data. The development of regionally based surveillance on health status, risk factors, determinants and use of services will assist local public health authorities, hospitals and other organizations to plan and evaluate programs.

The Aboriginal component of the NDSS is not yet well developed. Capacity (human, technological and financial resources) within Aboriginal organizations and communities is needed. Appropriate partnerships for diabetes surveillance need to be developed, and issues regarding ownership control, access and possession need to be resolved.

**Examples of possible activities**

- Develop the Aboriginal component of the NDSS.
- Support the further refinement of NDSS (such as differentiation between diabetes types 1 and 2, and expansion to other conditions).
- Develop additional sources for population and community data at the regional level.
- Disseminate the surveillance information using a variety of strategies.
- Provide consultation to those interested in using surveillance information.
- Provide training on the use of surveillance information in planning and evaluation.
- Support the ongoing development of standards for data collection and analysis.
- Conduct quality assurance studies on the NDSS.
- Enhance human resource and technical capacity for conducting surveillance at all levels.

# Moving forward

Everyone in Canada has a role to play in the prevention, early detection and management of diabetes, whether as an individual, as a service provider, in industry, academia or government, or within a non-government organization. Each level – federal, provincial, territorial, Aboriginal, regional, local, and national organizations – can identify its own needs and then work with other levels to respond effectively and efficiently.

All governments and organizations are faced with financial pressures that limit their activities in health policy, community programs, health services, human resources, research and surveillance. By working together, making wise investments, sharing resources and communicating effectively, more can be done to improve diabetes prevention and care in Canada.

Given the diabetes pandemic among Aboriginal Peoples in Canada, it is critical that there be a process whereby all organizations and governments work together to implement diabetes prevention, early detection and management.

*Building a national diabetes strategy: a strategic framework* describes a high-level approach that outlines common goals, principles and strategic areas that can provide the basis for work to prevent, detect and manage diabetes in Canada. The next step requires the identification of processes and structures that will facilitate this strategy.

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# Appendix A – Coordinating Committee for the National Diabetes Strategy (CCNDS)

## Government of Canada representatives

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## Provincial and territorial representatives

Ms. Joan Canavan (Ontario)
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Ms. Peggy Dunbar (Nova Scotia)
Ms. Catherine Freeze (Prince Edward Island)
Ms. Dawn Friesen (Alberta)
Ms. Janice Linton (British Columbia)
Ms. Gisele McCaie-Burke (New Brunswick)
Ms. Kelly McQuillen (Manitoba)
Ms. Mary-Jane Stewart (North West Territories)
Dr. Faith Stratton (Newfoundland and Labrador)
Ms. Violet VanHees (Yukon)

## National Aboriginal organization representatives

Mr. Kevin Armstrong (Assembly of First Nations)
Ms. Kandice Leonard (National Aboriginal Diabetes Association)
Ms. Sherry Lewis (Native Women's Association of Canada)
Mr. Duane Morrisseau-Beck (Métis National Council)
Ms. Onalee Randell (Inuit Tapiriit Kanatami)
Mr. Todd Russell (Congress of Aboriginal Peoples)

## Diabetes Council of Canada representatives

Mr. Kevin Armstrong (Assembly of First Nations)
Ms. Janet Bick (The Kidney Foundation of Canada)
Mr. Ron Forbes (Juvenile Diabetes Research Foundation)
Mr. Christopher P. Goguen (Canada's research-based pharmaceutical companies)
Ms. Maryann Hopkins (Canadian Pharmacists Association)
Mr. Serge Langlois (Diabète Québec)
Ms. Kandice Leonard (National Aboriginal Diabetes Association)
Ms. Donna Lillie (Canadian Diabetes Association)
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