

# **Project 1: Promote Prevention-Related Policy Initiatives and Decisions: Environmental Scan**

## *Draft for Discussion*

**Scope:** This environmental scan reviews existing Canadian federal and provincial prevention-related policies that address kidney disease, heart disease and diabetes. This policy review will include those policies that address the diseases collectively and independently. The results of the scan will be presented according to a structure based on the British Columbia Service Framework Approach to health system improvement.

**Defining C-K-D:** Substantial evidence indicates that patients who develop chronic kidney disease, diabetes or cardiovascular diseases are at significantly higher risk than the general population for one of the other chronic diseases (*Please see Appendix A for statistical data*). The evidence suggests that these diseases are related. The British Columbia C-K-D initiative aims to strategically and effectively prevent, diagnose, treat and manage these chronic diseases through innovative collaborative approaches.

## **Federal**

### **Collective Approaches**

***Integrated Strategy on Healthy Living and Chronic Disease – Healthy Living Component:*** In October 2005, the Integrated Strategy on Healthy Living and Chronic Disease was announced. It includes three pillars:

- ***promoting health*** by addressing the conditions that lead to unhealthy eating, physical inactivity and unhealthy weights;
- ***preventing chronic disease*** through focused and integrated action on major chronic diseases and their risk factors; and
- ***supporting the early detection and management of chronic diseases*** ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk1\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk1_e.html)).

The *preventing chronic disease* pillar is disease-specific and will be discussed in detail in later sections. The Healthy Living component is intended to promote lifestyle changes designed to reduce risk factors common to multiple chronic diseases via multiple strategies from social marketing to school health initiatives ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk3\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk3_e.html)).

***Canadian Health Network (CHN):*** CHN's "mission is to support Canadians in making informed choices about their health, by providing access to multiple sources of credible and practical e-health information." Its vision is to become "Your preferred choice in Canada for helpful, e-health information you can trust" (<http://www.phac-aspc.gc.ca/cd->

mc/index.html).<sup>1</sup> The introductory page of the website includes a drop-down list of major health topics for easy navigation. This list includes a link to a CHN sections on heart disease and stroke and diabetes. It does not include kidney disease. Information on kidney disease can be searched via CHN's index. However, the search results yield only 14 results, all of which are links to external sources ([http://www.canadian-health-network.ca/servlet/ContentServer?cid=1047415457298 &pagename=CHN-RCS/Page/SearchPageTemplate&c=Page&subjectID=400&lang=En](http://www.canadian-health-network.ca/servlet/ContentServer?cid=1047415457298&pagename=CHN-RCS/Page/SearchPageTemplate&c=Page&subjectID=400&lang=En)).

It should be noted that CHN's diabetes information page includes a prominent link to a special *diabetes and aboriginal people* information page. Despite the higher rates of kidney disease in aboriginal populations (Kidney Foundation of Canada, 2004, p 2), it is important to note that CHN's Aboriginal Peoples section (<http://www.canadian-health-network.ca/servlet/ContentServer?cid=1044475860190&pagename=CHN-RCS%2FPage%2FGTPageTemplate&c=Page&lang=En>) does not include prominent information on kidney disease.

**Healthy Heart Kit:** Launched in 1999, the Centre for Chronic Disease Prevention and Control's (CCDPC) *Healthy Heart Kit* ([http://www.phac-aspc.gc.ca/ccdpc-cpcmc/hhk-tcs/english/index\\_e.htm](http://www.phac-aspc.gc.ca/ccdpc-cpcmc/hhk-tcs/english/index_e.htm)) is a prevention tool published both online and in print brochures. According to Health Canada, it is targeted towards all Canadian adults ([http://www.hc-sc.gc.ca/ahc-asc/activit/marketsoc/camp/heart-coeur\\_e.html](http://www.hc-sc.gc.ca/ahc-asc/activit/marketsoc/camp/heart-coeur_e.html)). Although this federal project is aimed directly at heart disease, it has been included in the collective approaches section because it includes a strong component for those who must manage both heart disease and diabetes ([http://www.phac-aspc.gc.ca/ccdpc-cpcmc/hhk-tcs/english/02\\_diabetes/02\\_diab\\_reduce.htm](http://www.phac-aspc.gc.ca/ccdpc-cpcmc/hhk-tcs/english/02_diabetes/02_diab_reduce.htm)). A similar section for kidney disease and heart disease could not be located.

## Diabetes

**Canadian Diabetes Strategy (CDS):** Begun in 1999, the CDS includes three components: a) prevention and promotion, b) surveillance, and c) national coordination ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk6\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk6_e.html)). The prevention and promotion component was allocated \$41.8 million over 5 years. Major initiatives funded by this component included:

- *Social marketing activities “aimed at raising public knowledge and understanding of diabetes and its complications, and what people can do to lower their risk of type 2 diabetes”* (<http://www.phac-aspc.gc.ca/ccdpc-cpcmc/diabetes-diabete/english/strategy/pp.html>).
- *Support for demonstration projects aimed at expanding the knowledge base regarding behaviour-change strategies* (<http://www.phac-aspc.gc.ca/ccdpc-cpcmc/diabetes-diabete/english/strategy/pp.html>)

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<sup>1</sup> For more on the collaboration of federal, provincial, territorial, not-for profit and private groups that contribute to the CHN, please see: <http://www.canadian-health-network.ca/servlet/ContentServer?cid=1042668268615&pagename=CHN-RCS/Page/ShellCHNResourcePageTemplate&c=Page&lang=En>

- *The 2001 National Symposium, Tous ensemble... Vers une Stratégie nationale sur le diabète, “viewed as a stepping-stone toward the development and implementation of a broad long-term national strategy capable of addressing the many interrelated aspects of diabetes which include prevention, education, treatment, research, and surveillance” (<http://www.phac-aspc.gc.ca/ccdpc-cpcmc/diabetes-diabete/english/strategy/pp.html>).*

***Integrated Strategy on Healthy Living and Chronic Disease – Diabetes Component:***

The major emphasis of the diabetes component of this new program will be the provision of \$90 million over five years to enhance the CDS ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk6\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk6_e.html)). The *enhanced* CDS will follow “a significant new direction” that targets populations including:

- *Overweight and obese Canadians*
- *Canadians with pre-diabetes, “a condition where blood glucose levels are higher than normal but not high enough for a diagnosis of diabetes”*
- *Individuals over the age of 40*
- *Individuals with high blood pressure, high levels of cholesterol or other fats in the blood*
- *Individuals with a family history of diabetes*
- *Individuals from high risk ethnic populations ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk6\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk6_e.html)).*

As this project was announced just recently, it is too early to measure the success of this ambitious new federal initiative.

***Aboriginal Diabetes Initiative:*** More than 50% of the original CDI’s funding was “allocated to the Aboriginal Diabetes Initiative (ADI) to begin to address this urgent health concern” ([http://www.hc-sc.gc.ca/fnih-spni/diseases-maladies/diabete/index\\_e.html](http://www.hc-sc.gc.ca/fnih-spni/diseases-maladies/diabete/index_e.html)). The ADI has pursued culturally appropriate and holistic approaches to diabetes treatment and prevention ([http://www.hc-sc.gc.ca/fnih-spni/diseases-maladies/diabete/index\\_e.html](http://www.hc-sc.gc.ca/fnih-spni/diseases-maladies/diabete/index_e.html)). ADI funding is to be “increased to \$25 million in the first year, growing to \$55 million at maturity, as part of the Aboriginal health package announced in Budget 2005 ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk6\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk6_e.html)).

## **Heart Disease**

***CINDI:*** Canada is one of 27 countries participating in the World Health Organization’s (WHO) Countrywide Integrated Noncommunicable Disease Intervention (CINDI). CINDI’s “approach implies recognition that a few modifiable risk factors are common to major noncommunicable diseases (NCD)” ([http://www.phac-aspc.gc.ca/ccdpc-cpcmc/cindi/index\\_e.html](http://www.phac-aspc.gc.ca/ccdpc-cpcmc/cindi/index_e.html)). CINDI priorities are to reduce:

- *Smoking*
- *Unhealthy Diets*

- *Alcohol Abuse*
- *Physical Inactivity*
- *Psycho-Social Stress* ([http://www.phac-aspc.gc.ca/ccdpc-cpcmc/cindi/index\\_e.html](http://www.phac-aspc.gc.ca/ccdpc-cpcmc/cindi/index_e.html)).

The “backbone of the CINDI Canada has been the Canadian Heart Health Initiative, the program which implemented a [*sic*] integrated approach to a single disease, it is moving towards an integrated approach across diseases and risk factors” ([http://www.phac-aspc.gc.ca/ccdpc-cpcmc/cindi/canada\\_e.html](http://www.phac-aspc.gc.ca/ccdpc-cpcmc/cindi/canada_e.html)). Despite the fact that the information on this webpage was published in 2003, evidence that CINDI Canada has started major approaches *across diseases and risk factors* could not be found.

***The Canadian Heart Health Initiative (CHHI):*** Launched in 1986 as a federal/provincial collaborative and with the support of the Heart and Stroke Foundation of Canada, CHHI “emphasized physical activity, healthy diet and tobacco control” ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk7\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk7_e.html)) as their key prevention messages. Although the majority of this program’s projects were targeted to the general population, some projects focused on specific populations:

- “*In one province, organizers developed a media campaign designed to inform middle to lower income residents aged 25 to 44 about lifestyle changes that would reduce the risk of heart disease*” (*Health Canada, 2001, p 23*).
- “*Children and youth were the target of a relatively high proportion (16%) of tobacco-related projects*” (*Health Canada, 2001, p 24*).
- “*Sub-groups of the general population – including people living in rural, industrial and low-income areas, and members of low-income groups – were often the target of physical activity initiatives*” (*Health Canada, 2001, p 24*).

Health Canada’s review of the demonstration phase of the initiative notes that “the goal of the CHHI to integrate heart health promotion into the public health system had limited success, due in part to health system reform that occurred in most provinces” during the project (*Health Canada, 2001, p 40*).

The recent announcement of a new integrated strategy to combat heart disease included an acknowledgment that “although the federal government has a significant history of collaboration with provinces, territories and non-governmental organizations to improve heart health, there has not been sustained funding targeted to cardiovascular disease” ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk7\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk7_e.html)). Differing conceptions of funding responsibilities and priorities plague many federal/provincial initiatives in health and other fields. Should a federal/provincial project be chosen by the BC C-K-D Initiative, recognition of this problem and strategies for addressing it should be explored.

***Integrated Strategy on Healthy Living and Chronic Disease – Cardiac Component:*** In October 2005, the federal government announced that it would contribute a total of “\$18.9 million over five years, and \$5.2 million per year ongoing,” to address

cardiovascular disease ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk7\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk7_e.html)). Of particular interest to prevention is the Integrated Strategy's concurrent focus on developing a prevention strategy for hypertension, which is a risk factor specific to cardiovascular disease ([http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005\\_37bk7\\_e.html](http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_37bk7_e.html)).

As this project was announced just recently, it is too early to measure the success of this ambitious new federal initiative.

## **Kidney**

The Public Health Agency of Canada's links to chronic disease programs and policy initiatives (<http://www.phac-aspc.gc.ca/cd-mc/index.html>) are organized by disease-type. This webpage does not include listings for kidney disease. The CCDPC also does not include kidney disease in its list of major chronic diseases ([http://www.phac-aspc.gc.ca/ccdpc-cpcmc/websites\\_e.html](http://www.phac-aspc.gc.ca/ccdpc-cpcmc/websites_e.html)). It is clear that federal kidney disease prevention and policy is not integrated with heart disease and diabetes. Thus, the evidence suggests that kidney disease prevention is not yet a Health Canada priority.

## **Provincial**

There are numerous prevention-related policies and programs that address, either independently or collaboratively, the BC C-K-D Initiative's three diseases. As opposed to offering a list of the many programs, this section of the environmental scan will briefly highlight innovative programs and initiatives that focus on prevention and early identification.<sup>2</sup>

## **Kidney**

**British Columbia:** In 2002, the BC Ministry of Health (MOH) recognized the importance of including CKD within chronic disease strategies (<http://www.bckidneysummit.com/download/DrLevin.pdf>). The establishment of the BC Renal Agency's Renal Network Model was a first, both within Canada and internationally (<http://www.bc.kidneysummit.com/download/DrLevin.pdf>). The coordination of resources and strategies made possible through this model has the potential to improve the promotion and successful operation of prevention-related policy initiatives.

**Newfoundland:** In April 2003, Newfoundland's Provincial Renal Advisory Committee released a document detailing a framework for the development of a provincial kidney program. The recommendations in this report included the incorporation of "a focus on prevention of kidney disease as an explicit objective in relevant health promotion and prevention programs in the Province (e.g. those expected to impact on the incidence of

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<sup>2</sup> For a list of programs offered in different provinces, please see: <http://www.cdpc.ca/content/initiatives/provincial.asp>. It should be noted, however, that this list also includes initiatives and programs that are not government sponsored.

diabetes, high blood pressure and atherosclerosis)” (Provincial Renal Advisory Committee, 2003, p 3). Internet searches could not locate evidence of a provincial kidney program in Newfoundland, thus it should be concluded that it is still in development.

**Nova Scotia** On November 1<sup>st</sup>, 2005, Nova Scotia announced its intention to establish a provincial renal program “that emphasizes prevention, through health education and early identification of chronic kidney disease, and the development of standards for quality, equitable care throughout the province” (<http://www.gov.ns.ca/news/details.asp?id=20051031005>). As this announcement is less than two weeks old, further details could not be located. The development of this program, with its emphasis on prevention, should be monitored.

**Early Identification - BC:** The relationship between successful prevention and early identification of at-risk individuals is key. The “glomerular filtration rate (GFR) is widely accepted as the best overall measure of kidney function. Equations have been developed that use the patient’s serum creatinine, age and gender to provide a mathematical estimate of the true glomerular filtration rate. The estimated GFR (eGFR) provides a standardized measure that is easy to interpret and allows for the staging of kidney disease (<http://www.healthservices.gov.bc.ca/msp/infoprac/physnews/spring2004.pdf>). In 2004, BC became “the first geographic area in North America to report the eGFR, and the first time anywhere to standardize its serum creatinine measurements,” notes McNeely (<http://www.healthservices.gov.bc.ca/msp/infoprac/physnews/spring2004.pdf>). As Craven suggests, the standardization of serum creatinine measurements has made it “much easier to determine a patient’s stage of kidney disease, as recommended by the BC guidelines” ([http://www.bcma.org/public/bc\\_medical\\_journal/BCMJ/2005/july\\_aug\\_2005/mgmt\\_ckd.asp#1](http://www.bcma.org/public/bc_medical_journal/BCMJ/2005/july_aug_2005/mgmt_ckd.asp#1)).

**Early Identification - Ontario:** Following BC’s lead, Ontario labs were set to begin reporting the eGFR every time a practitioner orders a serum creatinine test for their patients in October 2005. ([http://www.oaml.com/pdf/eGFR\\_News\\_Release.pdf](http://www.oaml.com/pdf/eGFR_News_Release.pdf)) The Ontario news release stated that studies found that “recognition of CKD increased from 22.4 % of patients to 85.1 % when primary care practitioners received a laboratory report of an eGFR and had participated in an education program” to help them understand the eGFR report ([http://www.oaml.com/pdf/eGFR\\_News\\_Release.pdf](http://www.oaml.com/pdf/eGFR_News_Release.pdf)).

Evidence suggests that multiple provinces are taking BC’s lead in creating a provincial renal program to manage multiple issues, including prevention, associated with chronic kidney disease. Policy requiring eGFR and other early identification measures throughout the country should be monitored. At this point, the evidence suggests that chronic kidney disease prevention policy in Canada is largely formulated at the provincial level and with a minimum of federal direction.

## **Diabetes**

**Saskatchewan Provincial Diabetes Plan:** In February 2004, the province released the *Provincial Diabetes Plan* ([http://www.health.gov.sk.ca/ps\\_diabetes\\_info.html](http://www.health.gov.sk.ca/ps_diabetes_info.html)). This program includes four components that are to be developed over 10 years, they are:

- *Primary Prevention of Type 2 Diabetes*
- *Optimum Care and Prevention of Diabetes Complications*
- *Education for Care Providers*
- *Diabetes Surveillance (Saskatchewan Health, 2004, p 7)*

It is important to note that the coordination of all four components would optimize prevention. Prevention should be understood as education at both the patient and care provider level. Further, as was discussed in the review of the expanded CDS program, surveillance programs can be constructed to identify people who are pre-diabetic.

**Atlantic Region Diabetes Prevention and Promotion Contribution Program (PPCP):**

This program, which began in 2004, is part of the CDS. Specific “Atlantic Region priorities for the contribution program were determined through provincial consultations with stakeholders in diabetes prevention” ([http://www.phac-aspc.gc.ca/canada/regions/atlantic/work/e\\_j.html](http://www.phac-aspc.gc.ca/canada/regions/atlantic/work/e_j.html)). For example, Atlantic Region PPCP target populations include: “seniors, Acadians, at-risk youth, minority ethnic communities, single mothers and their children, people living in isolation, and people with low incomes and/or low levels of literacy” ([http://www.phac-aspc.gc.ca/canada/regions/atlantic/work/e\\_j\\_1.html](http://www.phac-aspc.gc.ca/canada/regions/atlantic/work/e_j_1.html)). While much of this list is similar to the general CDS targets, the regional targeting of the program allows for identification of populations, such as Acadians, and issues, such as living in isolation, that may have more resonance in the Atlantic region than in certain other parts of the country.

It is important to note the influence, both direct and indirect, that the CDS has had on provincial diabetes programs. In Saskatchewan, for example, the provincial program follows the lead of the CDS program’s initial phase priorities. In the Atlantic region, the PPCP program is a component of the CDS.

## **Heart Disease**

**Heart Health Nova Scotia (HHNS):** This program began in 1989 as part of CHHI. In 1996, after successfully completing the demonstration phase of the Nova Scotia projects, HHNS was given funding to complete the dissemination phase of its projects and, specifically, to “study factors that influence the adoption of effective heart health interventions by communities and health infrastructures” ([http://www.chebucto.ns.ca/Health/Heart\\_Health/bg.htm](http://www.chebucto.ns.ca/Health/Heart_Health/bg.htm)).

The dissemination phase led to the establishment of the Heart Health Partnership (HHP) in 1999. The HHP acts as a “model for other organizations, governments, and policy-makers concerned with improving the health of populations through preventive strategies” ([http://www.chebucto.ns.ca/Health/Heart\\_Health/media/communicationplan.htm](http://www.chebucto.ns.ca/Health/Heart_Health/media/communicationplan.htm)). Further, the HHP is “part of an international initiative, which

involves 27 countries from Europe and Latin America, whose aim is to reduce risk factors that lead to chronic diseases” ([http://www.chebucto.ns.ca/Health/Heart\\_Health/media/communicationplan.htm](http://www.chebucto.ns.ca/Health/Heart_Health/media/communicationplan.htm)).

**Ontario Heart Health Program:** In 1998, “the Ontario government committed \$17 million over five years to the innovative Heart Health program, making Ontario the leading North American jurisdiction for cardiovascular disease prevention” ([http://www.health.gov.on.ca/english/public/updates/archives/hu\\_03/hu\\_hearthealth.html](http://www.health.gov.on.ca/english/public/updates/archives/hu_03/hu_hearthealth.html)). The program “supports people in making healthy lifestyle choices -- avoiding tobacco use, eating a healthy diet with plenty of fruits and vegetables and staying active throughout their lives” ([http://www.health.gov.on.ca/english/public/updates/archives/hu\\_03/hu\\_hearthealth.html](http://www.health.gov.on.ca/english/public/updates/archives/hu_03/hu_hearthealth.html)). The program’s messages are delivered via the province’s 37 public health units ([http://www.health.gov.on.ca/english/public/contact/phu/phu\\_mn.html](http://www.health.gov.on.ca/english/public/contact/phu/phu_mn.html)) and via the Heart Health Resource Centre (<http://www.hhrc.net/about/index.htm>). In 1998, the Ontario Heart Health Network was established to “facilitate networking between the thirty seven groups involved in the Ontario Heart Health Program. (<http://www.hhrc.net/about/ohhn.htm>). In 2002, the province extended the funding for the Heart Health program through 2007 ([http://www.alphaweb.org/heart\\_health1.asp](http://www.alphaweb.org/heart_health1.asp)). Despite the high level of funding for the Ontario initiatives, web searches reveal a great deal of controversy regarding continuation of funding for the heart disease prevention programs and numerous calls for studies validating its existence.

The Heart Health Resource Centre appears to be Ontario’s major web-portal for heart disease prevention information. Other web-based components of Ontario’s prevention message are not centralized and can only be found via extensive web searches. This may be a result of the decision to deliver prevention messages via public health units as opposed to delivering messages via a centralized body. This program may be worthy of further study in order to assess the effectiveness of its prevention message delivery style beyond the online experience.

### **Collective Approaches**

**Manitoba Chronic Disease Prevention Initiative (CDPI):** The goal of the CDPI, a partnership between Manitoba Health, Manitoba Regional Health Authorities, the Northern and Aboriginal Population Health and Wellness Institute and the Alliance for the Prevention of Chronic Disease, is to “decrease the potential for the development of chronic diseases; such as diabetes, cancer, cardiovascular disease, kidney and respiratory disease”(<http://www.apcd.mb.ca/>). On October 24<sup>th</sup>, 2005, the CDPI received \$6 million in funding from federal and provincial governments (<http://www.apcd.mb.ca/>). Specific prevention programs and modes of delivery have yet to be announced. Thus, the level of collaboration is at this point unknown.

**Four Standards of Care for C-K-D & Patient Self Management:** British Columbia is approaching a service framework approach to health (*Please see Appendix B*). Thus, it behooves the C-K-D initiative to consider how the promotion of prevention-related

policy initiatives and decisions can be understood through the lens of the four standards of care in the service framework approach.

**1. C-K-D prevention (Staying Healthy):** This standard should be understood as applying to those Canadians who have not yet been diagnosed with one of the three diseases.

- *Individual: Should make healthy living choices and seek healthy living tips*
- *Individual: Should identify whether they are members of an at-risk population and take more extreme healthy living measures if they believe they are at-risk*
- *Care provider: Promote healthy living options with patients*
- *Care provider: Identify at-risk patients and provide targeted prevention-related information*
- *Care provider: Promote front-line concerns and hopes regarding prevention-related policy directions*
- *Support System: Advocate for prevention-related policy initiatives*
- *Support System: Pursue community outreach to at-risk populations*
- *Support System: Partner with governments at all levels to provide information and support in the implementation of new prevention-related policy directions*
- *Health Care Environment: Conduct research to identify existing effective policy initiatives that could be adapted*
- *Health Care Environment: Review and amend existing prevention-related policy as evidence-based research dictates*

**2. Early diagnosis of C-K-D (Getting Better):** This standard should be understood as applying to those patients who are managing the onset/diagnosis of a C-K-D disease.

- *Individual: Should seek information about diseases for which they've been told that they are at an increased risk*
- *Care Provider: Ensure patients are aware of increased risks*
- *Care Provider: Provide patients with information and prevention-related material*
- *Care Provider: Promote front-line concerns and hopes regarding prevention-related policy directions*
- *Support System: Advocate for prevention-related policy initiatives*
- *Support System: Partner with governments at all levels to provide information and support in the implementation of new prevention-related policy directions*
- *Health Care Environment: Conduct research to identify existing effective policy initiatives that could be adapted*
- *Health Care Environment: Review and amend existing prevention-related policy as evidence-based research dictates*

**3. Management of C-K-D (Living with Illness)** This standard should be understood as applying to those patients who are managing a C-K-D disease and who should be taking preventive measures to delay or prevent the onset of a second C-K-D disease.

- *Individual: Should continue to seek information about diseases for which they've been told that they are at an increased risk*
- *Care Provider: Continue to ensure patients are aware of increased risks*

- *Care Provider: Provide patients with prevention material updates as they become available*
- *Care Provider: Promote front-line concerns and hopes regarding prevention-related policy directions*
- *Support System: Advocate for prevention-related policy initiatives*
- *Support System: Partner with governments at all levels to provide information and support in the implementation of new prevention-related policy directions*
- *Health Care Environment: Conduct research to identify existing effective policy initiatives that could be adapted*
- *Health Care Environment: Review and amend existing prevention-related policy as evidence-based research dictates*

**4. Supporting end stage C-K-D (Coping with End of Life)** This standard should be understood as applying to those who have significantly advanced components of C-K-D.

- *Individual: None identified at present*
- *Care Provider: None identified at present*
- *Support System: None identified at present*
- *Health Care Environment: None identified at present*

#### **Service Framework Discussion Points:**

- Should a comprehensive C-K-D prevention message be targeted to those who are in stage #1 (*ie.* Healthy Living) or stage #2, where risk for multiple C-K-D diseases is indicated by the existence of one of the diseases? Or, should stage #1 be understood to focus on at-risk populations within the general population (*ie.* targeted campaign of the enhanced CDS)?
- The issues in stages #2 and #3 are largely the same. The crucial difference may be the emotional state of the newly-diagnosed patient in stage #2. Should prevention-related policy target the emotional needs of #2 or should it assume that #2 patients will ultimately evolve into #3 and thus concentrate only on #3 prevention-related policy?
- Kidney disease prevention and identification policy initiatives and programs are largely at the provincial level. Is it possible to use the service framework approach to create a document that makes a case advocating for the inclusion of kidney disease in the federal government's major chronic disease prevention initiatives? Is this direction politically feasible and/or wise?
- It could be argued that at-risk populations (aboriginals, low-income Canadians, rural and remote Canadians, etc.) are the least likely to have access to IT. Thus, it could be argued that the emphasis on web-based prevention message dissemination (*ie.* CHN) is not an effective strategy for reaching at-risk Canadians.
- The Federal Integrated Strategy on Healthy Living and Chronic Disease includes components on surveillance and prevention, suggesting that these are two components of what could become a more successful prevention program. Should the focus of the C-K-D initiative include a comprehensive surveillance component?

- Is there too much federal/provincial overlap. Would the myriad provincial, regional and federal prevention initiatives benefit from consolidation? Or, are regional and provincial differences (cultural, SES, etc.) great enough to warrant continuation of multiple prevention-related policy initiatives and decisions at multiple levels?

## Appendix A

### Canada

Disease	Statistic	Source
Diabetes	Diabetes is a contributing factor in the deaths of approximately 41,500 Canadians each year. Canadian adults with diabetes are twice as likely to die prematurely, compared to persons without diabetes.	Health Quality Council. <i>Chronic Disease Management</i> . 2004: <a href="http://www.hqc.sk.ca/portal.jsp?V6ADFD0NmPRD+4vt8vmeKjBIzBf0QfLQkUwK4QBZaJvwO9ghh5dfuYzOVcA+lmY4#Improving_patient_care">http://www.hqc.sk.ca/portal.jsp?V6ADFD0NmPRD+4vt8vmeKjBIzBf0QfLQkUwK4QBZaJvwO9ghh5dfuYzOVcA+lmY4#Improving_patient_care</a>
	Approximately 2 million Canadians have diabetes. The rate is three to five times higher among Aboriginal people.	Public Health Agency of Canada. <i>Diabetes</i> . 2005: <a href="http://www.phac-aspc.gc.ca/ccdpc-cpcmc/diabetes-diabete/english/index.html">http://www.phac-aspc.gc.ca/ccdpc-cpcmc/diabetes-diabete/english/index.html</a>
	41,483 adult Canadians with diabetes died in 1999/2000.	Health Canada. <i>Responding to the Challenge of Diabetes in Canada: First Report of the National Diabetes Surveillance System (NDSS) 2003</i> . 2003: II.
Cardiovascular Diseases	In 1999, Cardiovascular Diseases were responsible for 36% of all deaths in Canada, making it the leading cause of death in the country.	Public Health Agency of Canada. <i>Cardiovascular Disease Surveillance Online</i> . 2005: <a href="http://dsol-smed.phac-aspc.gc.ca/dsol-smed/cgi-bin/cvdchart2?AREA=00&amp;YEAR=99&amp;SEX=3&amp;CCAUSECORE1=View+Chart&amp;AGE=0&amp;DATA_TYPE=A_PIE&amp;PIE_CAUSE=008%3B002%3B003%3B009%3B018%3B109&amp;PIE_ALL=001">http://dsol-smed.phac-aspc.gc.ca/dsol-smed/cgi-bin/cvdchart2?AREA=00&amp;YEAR=99&amp;SEX=3&amp;CCAUSECORE1=View+Chart&amp;AGE=0&amp;DATA_TYPE=A_PIE&amp;PIE_CAUSE=008%3B002%3B003%3B009%3B018%3B109&amp;PIE_ALL=001</a>
	Cardiovascular diseases are the underlying cause of death for 1 in 3 Canadians.	Heart and Stroke Foundation of Canada. <i>The Growing Burden of Heart Disease and Stroke in Canada 2003</i> . 2003: 9.
Kidney Diseases	Recent estimates suggest that as many as 1.9 million Canadians have CKD – most are unaware of it.	The Kidney Foundation of Canada. <i>Kidney Disease: Am I at Risk?</i> 2004: 5
C-K-D Relationship Data	Approximately 80% of people with diabetes will die as a result of heart disease or stroke.	Health Quality Council. <i>Chronic Disease Management</i> . 2004: <a href="http://www.hqc.sk.ca/portal.jsp?V6ADFD0NmPRD+4vt8vmeKjBIzBf0QfLQkUwK4QBZaJvwO9ghh5dfuYzOVcA+lmY4#Improving_patient_care">http://www.hqc.sk.ca/portal.jsp?V6ADFD0NmPRD+4vt8vmeKjBIzBf0QfLQkUwK4QBZaJvwO9ghh5dfuYzOVcA+lmY4#Improving_patient_care</a>
	As many as 30% of people with diabetes also suffer from kidney disease.	BC Renal Agency. <i>Working Together for Better Kidney Health</i> . 2005: <a href="http://www.bcrenalagency.ca">http://www.bcrenalagency.ca</a>

	<p>Chronic conditions are the major cause of illness, disability and death in Canada. In 1997, there were a total of 215,669 deaths in Canada with more than 75 per cent of the deaths attributable to one of the following five chronic diseases: cancer, cardiovascular disease, diabetes, kidney disease and respiratory disease.</p>	<p>Province of Manitoba. <i>News [sic] Diabetes and Chronic Disease Prevention Initiative Announced</i>. 2004: <a href="http://www.gov.mb.ca/chc/press/top/2004/12/2004-12-07-03.html">http://www.gov.mb.ca/chc/press/top/2004/12/2004-12-07-03.html</a></p>
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## British Columbia

Disease	Statistic	Source
Diabetes	Provincial disease prevalence and incidence rates indicate a diabetes epidemic. Currently, 196,467 British Columbians have been diagnosed with diabetes, and this number is expected to increase 90% by 2010.	BC Health Services. <i>Chronic Disease Management: Update 2003, Year One in Review</i> . 2003: <a href="http://www.healthservices.gov.bc.ca/cdm/research/update2003.pdf">http://www.healthservices.gov.bc.ca/cdm/research/update2003.pdf</a>
Cardiovascular Diseases	According to Health Canada's <i>Cardiovascular Disease Surveillance Online</i> program, 10,154 British Columbians died of cardiovascular diseases in 1999.	Public Health Agency of Canada. <i>Cardiovascular Disease Surveillance Online</i> . 2005: <a href="http://dsol-smed.phac-aspc.gc.ca/dsol-smed/cgi-bin/cvdchart2?DATA_SET=MORT&amp;DATA_TYPE=D&amp;YEAR1=99&amp;CAUSE1=008&amp;AGE1=0&amp;SEX1=3&amp;CPROV1=View+Chart">http://dsol-smed.phac-aspc.gc.ca/dsol-smed/cgi-bin/cvdchart2?DATA_SET=MORT&amp;DATA_TYPE=D&amp;YEAR1=99&amp;CAUSE1=008&amp;AGE1=0&amp;SEX1=3&amp;CPROV1=View+Chart</a>
Kidney Diseases	An estimated 145,000 British Columbians may suffer from kidney disease.	BC Renal Agency. <i>Working Together for Better Kidney Health</i> . 2005: <a href="http://www.bcrenalagency.ca">http://www.bcrenalagency.ca</a>
C-K-D Relationship	Business cases provided compelling evidence that improved diabetes and congestive heart failure management could save BC's health system approximately \$34 million and \$25 million, respectively, in three years.	BC Health Services. <i>Chronic Disease Management: Update 2003, Year One in Review</i> . 2003: <a href="http://www.healthservices.gov.bc.ca/cdm/research/update2003.pdf">http://www.healthservices.gov.bc.ca/cdm/research/update2003.pdf</a>

**Relationship between Diabetes, Cardiovascular Disease and Kidney Disease: A Selection of Statistics from Recent Medical Journal Articles**

Statistic	Source
Populations with certain chronic metabolic disorders (eg, diabetes and chronic renal failure) are at substantially increased risk of cardiovascular disease (CVD). Compared with the general population, few epidemiological studies of the determinants of CVD have been done in these groups. This situation is unfortunate, because the absolute risks of myocardial infarction, stroke, and congestive heart failure among some such individuals may be high, so the absolute benefits of effective treatments could also be large.	Baigent C; Burbury K; Wheeler D. Premature cardiovascular disease in chronic renal failure. <i>Lancet</i> . 2000 Jul 8; 356(9224):147.
It remains unclear how much of the association between kidney and vascular disease results from (1) vascular disease causing kidney disease, (2) kidney disease causing vascular disease, or (3) common underlying factors promoting the progression of both.	Curtis B; Parfey P. Congestive Heart Failure in Chronic Kidney Disease: Disease-specific Mechanisms of Systolic and Diastolic Heart Failure and Management. <i>Cardiology Clinics</i> . 2005, 23: 278.
Cardiac mortality for dialysis patients younger than 45 years is more than 100 times greater than in the general population of the United States.	Baigent C; Burbury K; Wheeler D. Premature cardiovascular disease in chronic renal failure. <i>Lancet</i> . 2000 Jul 8; 356(9224):147.
The United Kingdom Prospective Diabetes Study found that almost 40% of patients starting dialysis have diabetes.	Levin A; Stevens L; McCullough P. Cardiovascular disease and the kidney: Tracking a killer in chronic kidney disease. <i>Postgraduate Medicine Online</i> . 2002 April; 111(4): <a href="http://www.postgradmed.com/issues/2002/04_02/levin.htm">http://www.postgradmed.com/issues/2002/04_02/levin.htm</a> .
Almost half of those Americans who were receiving renal replacement therapy in 1999 had a primary diagnosis of diabetes mellitus, particularly type 2, and more than one quarter a primary diagnosis of hypertension.	Brown WW; Collins A; Chen SC; King K; Molony D; Gannon MR; Politoski G; Keane WF. Identification of persons at high risk for kidney disease via targeted screening: the NKF Kidney Early Evaluation Program. <i>Kidney International. Supplement</i> . 2003 Feb; (83):S50.
Cardiovascular disease is the leading cause of death in dialysis patients, accounting for almost half the deaths in this population.	St Peter WL; Schoolwerth AC; McGowan T; McClellan WM. Chronic kidney disease: issues and establishing

	programs and clinics for improved patient outcomes. <i>American Journal of Kidney Diseases</i> . 2003 May; 41(5):903.
Even after stratification by age, gender, race, and the presence or absence of diabetes, cardiovascular mortality in dialysis patients is 10 to 20 times higher than in the general population.	Foley RN; Parfrey PS; Sarnak MJ. Epidemiology of cardiovascular disease in chronic renal disease. <i>Journal of the American Society of Nephrology</i> . 1998 Dec 9; (12 Suppl):S16.

## Appendix B

### *Service Framework Planning Matrix*

	<b>Levels of Health Status</b>			
<b>Levels of Health</b>	Staying Healthy	Getting Better	Living with Illness	Coping with End of Life
Individual				
Care Providers				
Support Systems				
Health Care Environment				

**As presented in: *A Guide to the Development of Service Frameworks in British Columbia*. September 20, 2005: 7.**

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