



# Non-Insured Health Benefits

Drug Use Evaluation (DUE) Bulletin

November 2004

The Non-Insured Health Benefits (NIHB) Program provides supplementary health benefits, including prescription and non-prescription drugs, for registered First Nations and recognized Inuit throughout Canada. Visit our Web site at: [www.hc-sc.gc.ca/fnihb/nihb](http://www.hc-sc.gc.ca/fnihb/nihb)

## Use of Angiotensin-Converting Enzyme (ACE) Inhibitors, Angiotensin-Receptor Blockers (ARB) and Antiplatelet Medications for Diabetes Care in First Nations and Inuit clients of the NIHB Program.

### SUMMARY RECOMMENDATIONS

In December 2003, the NIHB Program created a Drug Use Evaluation Advisory Committee (DUEAC)<sup>1</sup> to provide recommendations to the Program to promote improvement in the health outcomes of First Nations and Inuit clients through effective use of pharmaceuticals. The membership of the DUEAC is listed at the end of this bulletin.

This DUE Bulletin reviews the Committee's findings from its drug use evaluation of diabetes claimants of the NIHB Program and recommends that:

1. Physicians and pharmacists should continue to ensure that all adults with diabetes are prescribed recommended drug therapies known to decrease cardiovascular risk such as ACE inhibitors, particularly in women. Statin therapy should also be prescribed if required and not contraindicated.
2. In order to promote optimal therapy for the prevention or treatment of cardiovascular disease, physicians and pharmacists are reminded that acetylsalicylic acid (ASA), including low-dose ASA, are funded as full benefits under the NIHB Program.

Diabetes is a national problem that has reached epidemic proportions. Complications from this chronic disease are serious, and include kidney and heart disease, blindness, and amputations.

Diabetes is a significant health concern among First Nations and Inuit. Indeed, rates of diabetes among Aboriginal people in Canada are three to five times higher than those of the general Canadian population, with aboriginal women being particularly vulnerable. Inuit rates of diabetes are not as high as those of other Aboriginal populations; however, there is concern that the rates of type 2 diabetes are increasing among Inuit as well<sup>2</sup>.

The care and treatment of diabetes includes not only glucose management but also the management of cardiovascular risk, in order to decrease the risk and incidence of diabetic complications. The current Canadian Diabetes Association (CDA) 2003 Clinical Practice Guidelines<sup>3</sup> suggest "the first priority in the prevention of diabetes complications should be reduction of cardiovascular risk by vascular protection through a comprehensive multifaceted approach." The medical management to decrease cardiovascular risk should therefore start when Type 2 diabetes is diagnosed.

<sup>1</sup> For further information on the DUEAC, please see the November 2004 NIHB Drug Bulletin.

<sup>2</sup> For more information, visit [www.hc-sc.gc.ca/fnihb/cp/adi/index.htm](http://www.hc-sc.gc.ca/fnihb/cp/adi/index.htm)

<sup>3</sup> Canadian Diabetes Association Clinical Practice Guidelines. Can J Diabetes 2003. Available at: [www.diabetes.ca](http://www.diabetes.ca)

*"Our mission is to help the people of Canada maintain and improve their health"*

As one of its first actions, the DUEAC recommended that the Program undertake a drug use evaluation of drug therapy used in cardiovascular risk reduction for diabetes claimants of the NIHB Program. This topic meets the predefined criteria for a critical drug issue as diabetes has a high prevalence in First Nations and Inuit communities, the drugs used in diabetes management have large variations in use and these drugs have shown positive and measurable impacts on health outcomes.

## PURPOSE OF THIS DRUG USE EVALUATION

Strategies known to decrease cardiovascular risk in patients with diabetes include drug therapies with antiplatelet agents and ACE inhibitors as well as statins. The purpose of this drug use evaluation was therefore to determine the rate of prescribing of ACE inhibitor and antiplatelet therapy among diabetes claimants of the NIHB Program. The use of angiotensin receptor blockers (ARBs) was also included in this analysis because they are recommended in the CDA guidelines for both renal protection as well as treatment of hypertension and are often used when ACE inhibitor therapy is not tolerated.

## METHODS

This was a retrospective analysis of an encrypted data set respecting patient privacy. Clients of the NIHB Program who had been dispensed at least two prescriptions from April 2002 until December 2003 for antihyperglycemic therapy comprised the study population. Because Type 1 diabetes is rare in First Nations, we assumed the vast majority of clients who were dispensed antihyperglycemic therapy were diagnosed with Type 2 diabetes.

From this population, the number of clients who were dispensed at least 1 prescription of an ACE inhibitor, an ARB, or antiplatelet therapy (ASA or clopidogrel) was determined.

The ACE inhibitors were defined as benazepril,

captopril, cilazapril, enalapril, fosinopril, lisinopril, perindopril, quinapril, ramipril, trandolapril and their combinations with other antihypertensives. The ARBs were defined as candesartan, eprosartan, irbesartan, losartan, telmisartan, valsartan and their combinations with other antihypertensives.

The primary outcome measure was to determine if the utilization rate for ACE inhibitors and/or ARBs was >75% in patients aged >55 years, and in patients >30 yrs of age if antiplatelet utilization was >80%. These statistical benchmarks were drawn from the Health Disparities Collaborative<sup>4</sup>.

## DEMOGRAPHICS

For the period of analysis, the NIHB Program had approximately 35,000 individuals who were dispensed at least 2 prescriptions for antihyperglycemic drug therapy during the specified time period. The average age of this population was  $54.6 \pm 14.5$  years and 58% were female. A total of 1589 clients (4.6%) were less than 30 years of age. These data are consistent with published data on diabetes among First Nations; patients with diabetes are younger and more likely to be female when compared to the non-aboriginal population.

## KEY FINDINGS

1. ACE inhibitors and/or ARB therapy was dispensed to 76.7% of claimants aged >55 years which appears to be similar to recommended thresholds from the US Diabetes Collaborative Outcome Models. A total of 70% of clients >55 years were dispensed an ACE inhibitor; females were more likely to receive an ARB than males. For the entire cohort, ACE inhibitors or ARBs were dispensed to 65.4% of diabetes clients of the NIHB Program with the use of ACE inhibitors at 60% overall.

---

<sup>4</sup> Measures of Diabetes Population 2003-04, Health Disparities Collaboratives, US Department of Health and Human Services. [www.healthdisparities.net](http://www.healthdisparities.net)

2. Antiplatelet drug therapy was dispensed to approximately 43% of diabetes claimants of the NIHB Program who were aged >30 years. Females over 55 years of age were less likely to be dispensed antiplatelet therapy than males over 55 years. This is below the recommended utilization rate. However, this may be influenced by the fact that ASA is available without a prescription and may not always be dispensed as a NIHB benefit.

3. The use of recommended drug therapy to decrease the risk of cardiac disease differed by region of residence. The utilization rate of an ACE inhibitor and/or an ARB varied from one province to another (range 54.5% to 79.2%), with the utilization of antiplatelet therapy showing a much greater variation (range 24.8% to 58.6%). (see Figures 1 and 2)

### LIMITATIONS OF THE ANALYSIS

The clients who were dispensed antihyperglycemic therapy may not be representative of all First Nations and Inuit patients with diabetes. Clients who were prescribed only 1 antihyperglycemic medication during the specified time period were not analyzed, nor were clients who did not access or were not beneficiaries of the NIHB Program. In addition, the use of antiplatelet therapy may be underestimated because of its availability as a nonprescription drug product.

### CONCLUSIONS

The utilization of ACE inhibitors in older diabetes patients of the NIHB Program appears to meet predefined criteria and is in agreement with, or exceeds utilization of such therapies in the non-aboriginal populations. However, the lower level of use in younger patients and females, and the lower uptake of antiplatelet therapies may signify treatment gaps to be addressed in order to

improve the cardiovascular outcomes among First Nations and Inuit clients with diabetes of the NIHB Program.

### MEMBERS OF THE NIHB DUEAC

**Richard MacLachlan (Chair)**

Head, Department of Family Medicine  
Dalhousie University

**Bob Nakagawa (co-Chair)**

Director, Pharmacy Services  
Fraser Health Authority

**Ingrid Sketris**

Professor, College of Pharmacy  
Dalhousie University

**Dawn Frail**

Manager, Drug Technology Assessment  
Drug Evaluation Alliance of Nova Scotia  
Nova Scotia Department of Health

**Michael Perley**

Assistant Professor of Family Medicine  
Dalhousie University

**Cornelia Wieman**

Consultant/Psychiatrist, Six Nations Mental Health Services  
Co-Director, Indigenous Health Research Development Program University of Toronto

**Marlyn Cook**

Mohawk Council of Akwasasne  
Department of Health

**Anne Unsworth**

Community Health Services Manager  
Prince Albert Grand Council

**Rick Volpel**

Chief Executive Officer  
Bigstone Health Commission

Figure 1: Utilization of Either ACE Inhibitors or ARBs by First Nations and Inuit Clients by Province, N=34,478

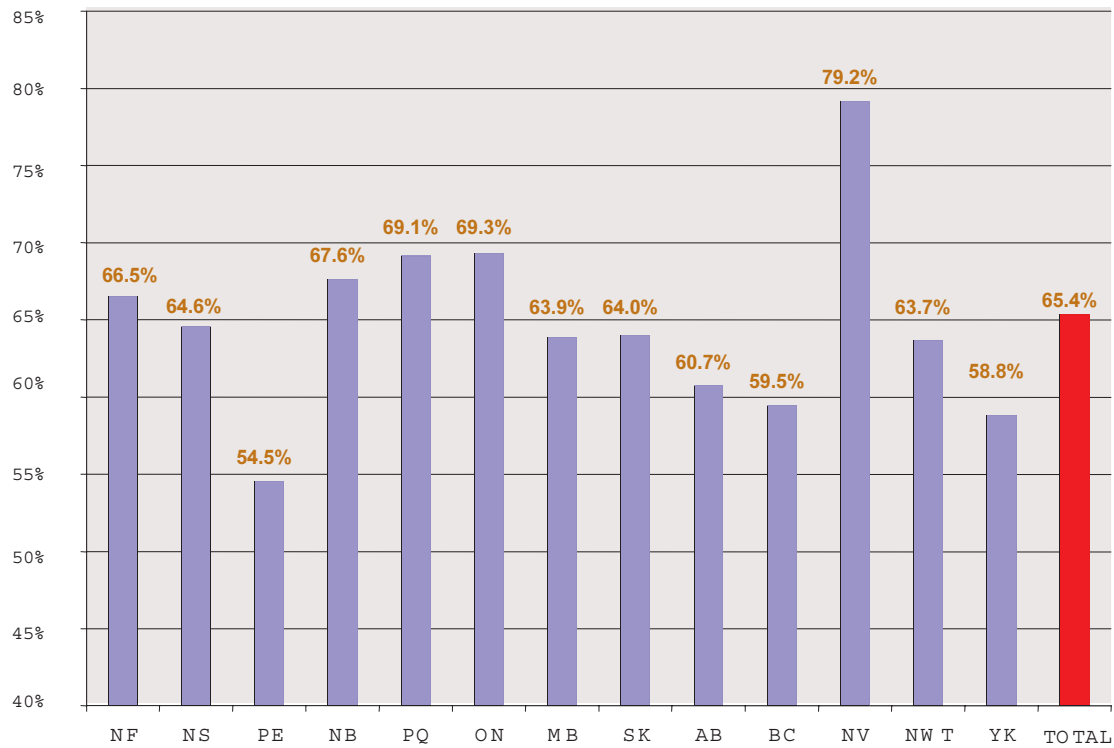


Figure 2: Utilization of ASA or Clopidogrel by First Nations and Inuit Clients by Province, N=34,478

