



ACHORD

Alliance for Canadian Health
Outcomes Research in Diabetes

Quality Indicator Set for Diabetes (QISD)

Inside this issue:

Report from the Chair	2
Project Highlights	2
Recent Literature	3
Recent Presentations	4
Events and Contacts	4

Quality improvement interventions for type 2 diabetes are common, although evaluations of these interventions have been unstandardized and lacked rigor. To address this problem, the ACHORD Group led an effort to establish a standardized Quality Indicators Set for Diabetes. This minimum set of indicators is intended to be used in concert with the CDA Clinical Practice Guidelines, to aid in the evaluation and comparison of different implementation strategies and quality improvement interventions. This set of quality indicators may be useful for both translational research in diabetes as well as assessments of quality of diabetes care by health care systems. This work was published in two companion papers the September 2005 issue of the *Canadian Journal of Diabetes*.

We first conducted a *systematic review* of the literature to identify quality of care indicators used in controlled studies of quality improvement interventions for adults with type 2 diabetes.

We then used standard consensus methods to develop a *Quality Indicator Set for Diabetes* for the evaluation of quality improvement efforts for adults with type 2 diabetes. Our consensus panel included leading diabetes clinicians and health services researchers in Canada.

Both documents and supporting material can be downloaded from the ACHORD website (www.achord.ca).

ACHORD: Seen and Heard

Recent Publications

Eurich DT, Simpson SH, Majumdar SR, Johnson JA. Secondary failure rates associated with metformin and sulfonylurea therapy in type 2 diabetes mellitus. *Pharmacotherapy* 2005;25:810-816.

Maddigan SL, Majumdar SR, Johnson JA. Understanding the complex associations between patient-provider relationships, self-care behaviours, and health-related quality of life in type 2 diabetes: a structural equation modeling approach. *Quality of Life Research* 2005;14:1489-1500.

Maddigan SL, Feeny DH, Johnson JA. Health-Related Quality of Life Deficits Associated with Diabetes and Comorbidities in a Canadian National Population Health Survey. *Quality of Life Research* 2005;14:1311-1320.

McDonald CG, Majumdar SR, Mahon JL, Johnson JA. The effectiveness of beta-blockers after myocardial infarction in patients with type 2 diabetes. *Diabetes Care* 2005;28:2113-2117.

Eurich DT, Majumdar SR, McAlister FA, Tsuyuki RT, Johnson JA. Improved clinical outcomes associated with metformin in patients with diabetes and heart failure. *Diabetes Care* 2005;28:2345-2351.

Majumdar SR, Johnson JA, Bowker SL, Booth GL, Dolovich L, Ghali W, Harris SB, Hux JE, Holbrook A, Lee H, Toth EL, Yale J-F. A Canadian consensus for the standardized evaluation of quality improvement interventions in type 2 diabetes: Development of a Quality Indicator Set. *Can J Diabetes* 2005;29:220-229.

Bowker SL, Majumdar SR, Johnson JA. Systematic review of indicators and measurements used in controlled studies of quality improvement for type-2 diabetes. *Can J Diabetes* 2005;29:230-238.

[Recent Presentations on page 4](#)

Report from the Chair



Jeffrey A. Johnson

As we are approaching another winter and end of another calendar year, I am happy to report on the continued high level of activity for the ACHORD Group. We have seen the completion of a number of projects, including the recent publication of the Quality Indicator Set for Diabetes (QISD), as reported on the cover of this newsletter. We also had a number of presentations for our ongoing research at the CDA/CSEM Annual Meeting in Edmonton this month, including poster presentations for diabetes and depression, diabetes and cancer, and the cost of diabetes care for Saskatchewan. Doreen Rabi had an oral abstract presentation on the socioeconomic status and access to diabetes care services in Calgary. Scot Simpson presented a talk on the role of pharmacists in caring for people with diabetes, including aspects of his Vascular Intervention Program (VIP) project underway in Capital Health.

Also in this newsletter, Lauren Brown reports on her recent visit to the CDC in Atlanta, where she participated in their short course on diabetes

research and policy. This was Lauren's second visit to the CDC, a connection which arose following Michael Engelgau's visit with the ACHORD Group in September 2004. We hope to continue our connections with the CDC, potentially developing some collaborative research projects.

November is Diabetes Month, and as you read this report, we will have already made the announcement about the establishment of the Alberta Diabetes Surveillance System (ADSS), a partnership between Alberta Health & Wellness and the ACHORD Group at the Institute of Health Economics. The initial agreement is a 5-year plan, to take us to 2010. More details of the project are described below, and will be available on our website (www.achord.ca). We are now beginning plans for our annual ACHORD Banff retreat in March 2006, where the main topic for discussion will be the creation and implementation of the ADSS. These plans will keep us busy for the remainder of 2005 and into the New Year.

Project Highlights: Alberta Diabetes Surveillance System (ADSS)

Jeffrey A. Johnson, Sheri Pohar, Dawn Friesen, Keith MacDonald, Larry Svenson

ACHORD has been working closely with Alberta Health and Wellness to implement the Alberta Diabetes Surveillance System (ADSS). The ADSS will provide information on the incidence, prevalence, and use of health care services for people with diabetes in the province of Alberta. The ADSS will be lead by Dr. Johnson, in collaboration with AHW, primarily the Population Health Strategies and Health Surveillance Branches, and will involve the ACHORD Investigators and a number of collaborators from across Alberta.

The ADSS will build on the National Diabetes Surveillance System, which all provinces and territories already participate in. The ADSS would enhance that basic activity to produce an Alberta Diabetes Atlas, as well as an interactive website that would provide more timely information to health regions. The Atlas would compile data such as prevalence and incidence, hospital or emergency room admissions for heart attack or stroke, and visits for ophthalmic care. This information could then be compared across health regions and provide a population health perspective on the overall care and man-

agement of diabetes within the province. We anticipate producing an Alberta Diabetes Atlas every two years, with the first one to be released in December 2006.

Also proposed as part of the ADSS would be linkage of administrative data with data collected by laboratory services in the regions. This would allow collection of specific information such as frequency of assessments of glycosylated hemoglobin (A1c), fasting lipid profile and renal function which could be assessed at the regional level to profile local patterns of practice and could be used to inform quality improvement efforts.

The ADSS is a key component of the Alberta Diabetes Strategy 2003-2013, announced by AHW in May 2003. The ADSS will provide a measurement system against which many of the objectives of the Alberta Diabetes Strategy can be assessed. The establishment of the ADSS is just another way that the ACHORD group continues to collaborate with policy decision makers to ensure the translation of research into enhanced quality of care for individuals with diabetes in Alberta.

The ADSS is a key component of the Alberta Diabetes Strategy 2003 - 2013.

Recent Literature: Dormandy JA, Charbonnel B, Eckland DJA, et al. Secondary prevention of macrovascular events in patients with type 2 diabetes in the PROactive Study: a randomized controlled trial. *Lancet* 2005;366:1279-1289.

What was the study about?

The aim of the PROactive study was to determine whether pioglitazone reduces cardiovascular morbidity and mortality in high-risk patients with type 2 diabetes. People with type 2 diabetes are at high risk of heart attacks and stroke, which are the leading cause of death. While there is evidence of an association between high blood glucose and cardiovascular death, there is no evidence that improving blood glucose will result in better cardiovascular outcomes. Pioglitazone is from of the newest class of antidiabetic drugs, the glitazones, which improve insulin sensitivity and biologic markers of cardiovascular risk, although there is limited evidence in terms of reducing clinical events. In PROactive, 5,238 patients with type 2 diabetes and established cardiovascular disease were randomized to receive pioglitazone or placebo added to their current antidiabetic regimen. A 4-year follow-up was planned, with the primary outcome being a composite of all-cause mortality, MI, stroke, acute coronary syndrome, revascularization or lower limb amputation.

What were the results of the study?

The primary analysis suggests that patients receiving pioglitazone had no difference in the risk of the composite outcome compared to

placebo-treated patients. The authors also identify a secondary outcome, including only the clinical events of all-cause death, non-fatal MI or stroke, for which there was a statistically significant 16% reduction in the pioglitazone treated arm. On the other hand, safety outcomes suggest an increased risk of edema and heart failure with pioglitazone use.

What are the implications of the study?

PROactive is an important study, and will be of primary interest to clinicians, but also has larger policy implications, as the glitazones have had limited formulary access in several provinces in Canada. While there does appear to be a reduction in clinical events associated with pioglitazone, these are almost equally balanced with an increase in adverse events related to edema and heart failure, so on net, what is the overall effect on health? There are also several important implications in terms of study design and execution that are worthy of comment. Some editorialists have raised issue with the results and main message based on a secondary outcome, for which the trial was not originally designed. Unfortunately, PROactive probably leaves more unanswered questions about treatment options for people with type 2 diabetes.

PROactive probably leaves more questions unanswered about treatment of type 2 diabetes.

Centers for Disease Control and Prevention Short Course:

Diabetes Public Health and Research, Lauren C. Brown, BScPharm, MSc

I had the opportunity to attend the CDC Short Course on Diabetes Public Health and Research, held October 17 – 22nd in Atlanta, GA. Topics at the course covered a number of areas in diabetes including diabetes translation research, childhood diabetes, diabetes surveillance, screening and prevention of type 2 diabetes, psychosocial and behavioural influences that affect diabetes outcomes, how racial/ethnic disparities and socioeconomic position influence diabetes, application of economic evaluation to diabetes care, and use of administrative data for research in diabetes. The course was presented from an American perspective, so it was interesting to learn about the American healthcare system, and surveys such as the National Health and Nutrition Examination Survey (NHANES) and the Behavioral Risk Factor Surveillance System

(BRFSS). As well, there were a number of international attendees from countries including India, New Zealand, Costa Rica, and Mexico, and it was interesting to hear their perspective on diabetes and their national healthcare system. Dr. Monika Safford (Birmingham VA Medical Center, Birmingham, AL) presented on use of administrative data for diabetes research, specifically focusing on Veterans Affairs (VA) data. I found this presentation particularly interesting because of the commonalities between VA data and Saskatchewan Health data that we have been working with in the ACHORD program. Overall, the CDC Short Course provided a very thorough overview on diabetes and diabetes research from an American public health perspective.



ACHORD Chair

Dr. Jeffrey Johnson
University of Alberta
Institute of Health Economics

Staff & Research Trainees

Ms. Samantha Bowker
Ms. Lauren Brown
Mr. Dean Eurich
Ms. Jackie Lewyk
Dr. Sheri Maddigan
Ms. Betsy Thomas



INSTITUTE of HEALTH ECONOMICS
ADVANCING KNOWLEDGE. IMPROVING HEALTH.

Address

#1200, 10405 Jasper Avenue
Edmonton, Alberta
Canada T5J 3N4

Phone

(780) 448-4881

Fax

(780) 448-0018

Websites

<http://www.achord.ca>
<http://www.ihe.ca>



ACHORD

Alliance for Canadian Health
Outcomes Research in Diabetes

Recent ACHORD Presentations (*continued from front cover*)

CDA/CSEM Canadian Diabetes Association Professional Conference & Annual Meeting,
October 19 - 22, 2005, Edmonton, AB

Brown L, Majumdar SR, Johnson JA. Risk of Type 2 Diabetes in People Taking Antidepressant Therapy. *Can J Diabetes* 2005;29(3):294.

Brown L, Majumdar SR, Newman SC, Johnson JA. Type 2 Diabetes Does Not Increase Risk of Depression. *Can J Diabetes* 2005;29(3):295.

Maddigan SL, Simpson SH, Jacobs P, Johnson JA. Health Care Utilization and Cost Trends Before and After Identification of Diabetes. *Can J Diabetes* 2005;29(3):310.

Maddigan SL, Feeny DH, Majumdar SR, Farris KB, Johnson JA. Understanding the Determinants of Health in Type 2 Diabetes. *Can J Diabetes* 2005;29(3):311.

Bowker SL, Majumdar SR, Veugelers P, Johnson JA. Increased Cancer-Related Mortality for Patients with Type 2 Diabetes Who Use Sulfonylureas or Exogenous Insulin Compared to Metformin. *Can J Diabetes* 2005;29(3):302.

Why this Newsletter?

The purpose of the ACHORD Newsletter is to keep you updated on the activities of the ACHORD group and to provide reviews of recent, relevant diabetes literature. The newsletter is published three times a year.

If you have any questions about the newsletter, please call Jeffrey Johnson or any of the ACHORD staff at the Institute of Health Economics at (780) 448-4881.

You can expect to see the following in every issue:

- *Report from the Chair*
- *ACHORD Project Highlights*
- *ACHORD Seen and Heard*
- *Review of Recent Literature*

ACHORD Events

ACHORD Retreat, The Banff Centre,
Banff, Alberta, March 23-24, 2006