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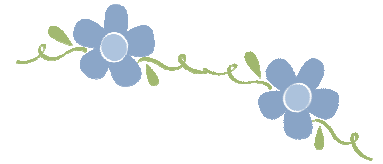
Issue: Spring 2011



ICDC — Committed to Reaching our Overall Objective of Improving the Efficient and Equitable Care of Patients with Chronic Medical Conditions.

Welcome to the Spring edition of the ICDC newsletter. The newsletter is sent, via email to all of our ICDC Team Members in order to keep everyone updated on our progress. We invite your feedback and ideas on the content at anytime (contact Deborah Treijs via email at datreijs@ucalgary.ca).

~ IN THE NEWS ~



Congratulations to **Dr. Lauren Bresee**, an ICDC Postdoctoral Research Fellow, for winning the Alberta Innovates-Health Solutions October 2010 Fellowship Award.



Mr. Dave Campbell, a second year University of Calgary medical student and ICDC collaborator, recently received the Canadian Medical Association (CMA) Award for Young Leaders in the student category. In August he will travel to St. John's, Newfoundland to receive his award.



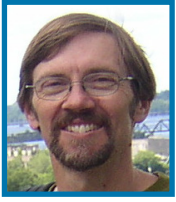
Mr. Paul Ronksley, an ICDC PhD trainee was recently interviewed on CTV television and the BBC for his research regarding alcohol consumption and its affect on heart disease. Paul was also awarded the Prairie Regional Research Data Centre Student Incentive Grant which will contribute to his research looking at health outcomes amongst subjects with barriers to care.

We would like to take this opportunity to thank AIHS for their generous contributions and support of our program, and to remind team members to acknowledge AHFMR's role when publishing any articles, posters or other presentations of your research.



Special thanks to Deborah Treijs, ICDC/AKDN Administrative Assistant, for all of her hard work on this edition of the newsletter.

IN THE NEWS cont'd



Mr. Rob Weaver, an ICDC MSc trainee recently won the Queen Elizabeth II Graduate Scholarship (QEII) from the University of Calgary for academic excellence. As well, Rob was awarded the Western Regional Training Centre for Health Services Research Studentship.



Dr. Tanvir Chowdhury Turin, an ICDC Postdoctoral Research Fellow was recently awarded a CIHR Fellowship. This fellowship will assist him in continuing with his research.



Dr. Braden Manns has been recognized for his outstanding contribution to academic research, with the receipt of the Cochrane Distinguished Achievement Award from the University of Calgary.



Dr. Marcello Tonelli was recently published in the Annals of Internal Medicine for his research entitled: "Using proteinuria in combination with eGFR may reduce unnecessary referrals for care at the cost of not referring or delaying referral for some patients who go on to develop kidney failure." Published Annals of Internal Medicine January 4, 2011; 154:12-21, 65-67.

RESEARCH UPDATE

The Impact of Primary Care Networks on the Care and Outcomes of Patients with Diabetes *(B. Manns on behalf of the ICDC)*

Introduction

Diabetes is present in approximately 5-10% of Canadians, and is associated with significant medical complications and very high healthcare costs. The optimal way to deliver care to patients with diabetes and other chronic diseases is unknown. Primary Care Networks (PCNs), introduced to Alberta in 2005, are one potential model of primary care delivery that may have advantages for patients with chronic diseases. To provide information to PCNs which might allow them to optimize care of patients with diabetes, we sought to determine the impact of Alberta PCNs on the care and outcomes of patients with diabetes.

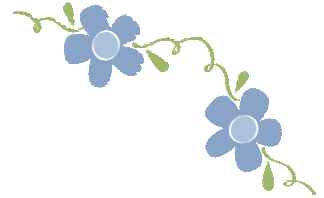


RESEARCH UPDATE cont'd

The Impact of Primary Care Networks on the Care and Outcomes of Patients with Diabetes

Methods

To determine how the care of patients with diabetes has changed since the establishment of primary care networks, including what types of chronic disease management (CDM) programs are being offered, we surveyed the 30 primary care networks in Alberta that were established as of January 2009. We classified CDM programs into 10 categories which differ by resource intensity and effectiveness: clinician reminders; patient reminders; facilitated relay of clinical data to providers; audit and feedback; electronic patient registries; clinician education; patient education; promotion of self-management; team changes; and case management.



To determine whether care has changed for patients with diabetes managed in PCNs, we studied patients with diabetes (including a subgroup of patients with a new diagnosis of diabetes) both before and after PCNs were established. We assessed several outcomes of interest including hospitalization or emergency room visits for diabetes-specific ambulatory care sensitive conditions (ACSC) (i.e. events that might have been prevented by high quality outpatient care) (**primary outcome**), markers of high quality outpatient diabetes care (i.e. glycemic control as assessed using A1C, and use of indicated medications (i.e. use of statins, use of angiotensin blockade in patients with proteinuria, and use of metformin among those requiring oral hypoglycemic agents), and visits to primary care and specialist physicians.

Results

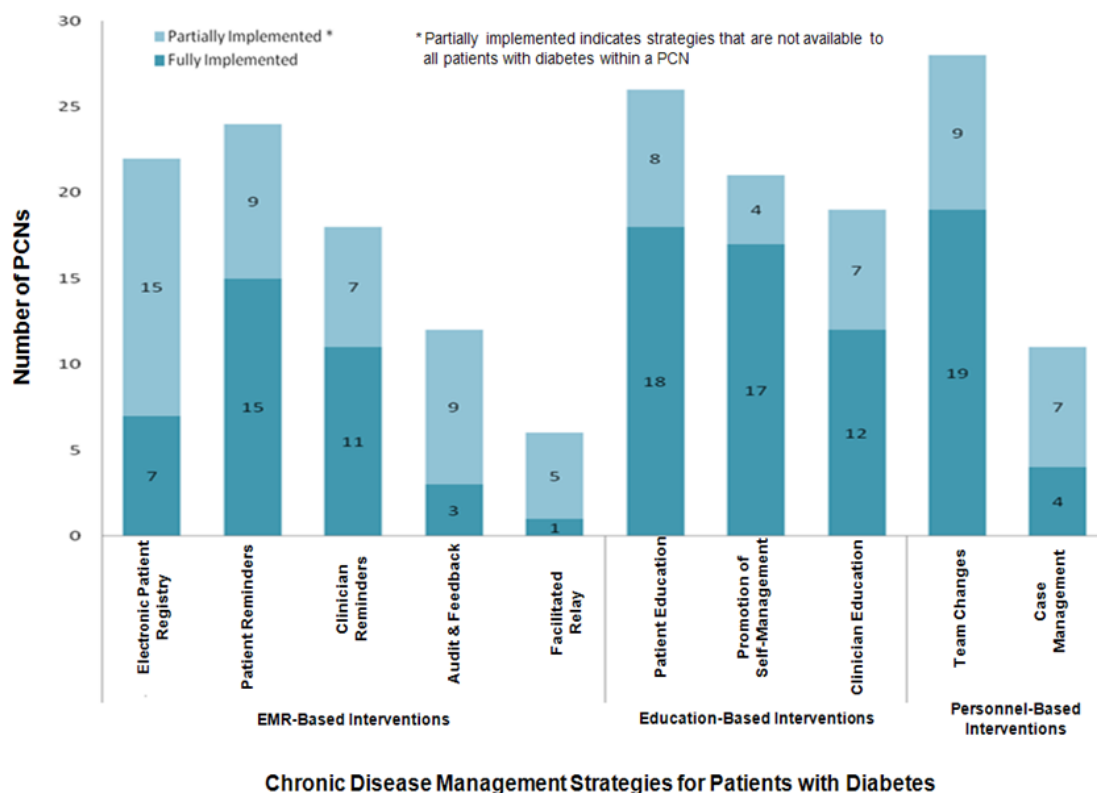
Twenty-nine of the 30 PCNs established by January 2009 completed our telephone survey in August 2010, and of these 29 PCNs, 28 offered at least one type of chronic disease management program for diabetes (Figure 1). Some PCNs provided these chronic disease management programs to all patients treated in the PCN; others offered them to a subset of patients. The two most common chronic disease management programs offered to at least a portion of patients were 'team changes' (28 of 29 PCNs) and 'patient education' (26 of 29 PCNs). Fewer than half of the PCNs (12 of 28) had programs where members of the multidisciplinary team other than the primary physician had the authority to alter prescription medications. CDM programs which required significant resources to operate (i.e. case management) were just as likely to be offered as CDM programs which required fewer resources to establish and operate (i.e. clinician or patient education). Of note, an effective strategy that can be facilitated by an electronic patient registry (i.e. physician audit and feedback) was one of the least used strategies in Alberta's PCNs.



RESEARCH UPDATE cont'd

The Impact of Primary Care Networks on the Care and Outcomes of Patients with Diabetes

Figure 1: Chronic Disease Management Strategies used in Alberta Primacy Care Networks



Compared to people with diabetes who were managed outside a PCN, patients with diabetes managed in a PCN had a 19% lower rate of hospitalization or emergency room visits for ambulatory care sensitive conditions, as well as better glycemic control (mean reduction in A1C of 0.2). Patients with a new diagnosis of diabetes managed by physicians in PCNs in 2007, compared with those managed outside of PCNs in 2007, had similar rates of hospitalization and emergency room visits for diabetes-specific ACSC, but better glycemic control and higher use of statins and metformin. Only approximately 50% of patients with diabetes were using statins (inside or outside of PCNs), which have been shown to be very effective in reducing cardiovascular risk among patients with diabetes.

Conclusions

Our study suggests that Alberta's PCNs offer a broad range of CDM programs for their patients with diabetes, though many PCNs only offer the programs to a portion of patients. Patients with diabetes who are managed in PCNs may have lower rates of hospitalization and emergency room visits, and better glycemic control. These markers could be used within a quality improvement framework to track changes in outcomes associated with PCN implementation.

If you have any questions about this report, please do not hesitate to contact Dr. Braden Manns at (403) 944-2595 or by email at braden.manns@albertahealthservices.ca.



ICDC TRAINING PROGRAM

Our ICDC/AKDN team includes 12 trainees made up of 5 MSc, 2PhDs and 5 Post-docs. Their expertise covers an extensive range of medical and non-medical experience including Geographic Information Systems, Primary, Healthcare, Epidemiology, Pharmacy and Health Economics which complement our ICDC objectives.

Our cross-disciplinary training program is designed to train new researchers and enable seasoned researchers to develop new skills and collaborations. In order to address the challenge of translating the findings of clinical research into practice, we are providing trainees with interdisciplinary training and experience in policy-relevant research as well as the opportunity to work directly with health research and health care decision makers.

Through interactive and small group learning, our training program will focus on the following topics over the next three years:

1. Identification and development of a research project
2. Grant writing and peer review
3. Research Leadership; mentoring, management and collaboration
4. Presenting and Teaching research; different skills for different audiences
5. Knowledge translation and working with decision makers



The next ICDC training session, Peer Review of Grants has been scheduled for **July 18th, 2011**. The full day session will focus on providing trainees with useful information and helpful tips including hands-on exposure to a mock peer review panel. If you have graduate students that you would like to attend this training session, please let Anita know by May 31, 2011 via email akoziensk@ucalgary.ca.

ICDC TRAINEE PROFILES



Dr. Bharati Ayyalasomayajula is a Postdoctoral Research Fellow working for the Department of Medicine, University of Alberta. He earned his PhD in Geographic Information Science from Texas State University, San Marcos, Texas. He also holds a bachelors degree in Civil Engineering and a Masters degree in Industrial Technology.

His core area of research is applications of Geographic Information Systems (GIS). As a Postdoctoral Research Associate at University of Florida, he applied GIS techniques to estimate the yield of Citrus groves. He worked as a Senior Fellow at University of Washington in Seattle where he applied GIS techniques to Epidemiology.

He's attended several international conferences in United States where he has presented his research.

At the University of Alberta, he works under the supervision of Dr. Marcello Tonelli. Bharati is developing large health GIS data sets for the ICDC team which will be archived for future generations. This dataset involves both geographic and social variables of Alberta.

Currently he is developing a novel technique to optimize new nephrology clinics for remote areas of Alberta under Dr. Tonelli's guidance.

In Bharati's free time he enjoys reading fiction novels and swimming.



ICDC TRAINEE PROFILES cont'd

Dr. Aminu Bello is a Postdoctoral Research Fellow, qualified as an MD (with Distinction) in Nigeria. Aminu holds a Membership of the Royal College of Physicians (MRCP), Masters (with Distinction) and PhD degrees in Nephrology/Epidemiology at the University of Sheffield, in the UK. He has 25 publications, 30 conference presentations and co-authored 3 book chapters in Nephrology.

He is also member of many professional organizations/associations including the ISN, UK Renal Association, ERA-EDTA, ASN and CSN and has won various awards / recognitions during the course of his career.

Dr. Bello's long-term career goal is to become a clinician-scientist with expertise in CKD epidemiology. In pursuit of this goal, he took up a Fellowship position at the University of Alberta for his postdoctoral and specialist clinical training under the supervision of one of the World leaders in Clinical Nephrology Research, Dr. Marcello Tonelli. During the next two years, while acquiring new research skills and additional publications, Aminu will be working towards obtaining his Canadian Specialist Certification.

He enjoys spending time with his wife and three sons, keeping abreast of current affairs and watching hockey on TV.



Dr. Lauren Bresee, Lauren is a Postdoctoral Research Fellow who obtained her Bachelor of Science in Pharmacy in 2001 at the University of Alberta, and completed a hospital pharmacy residency in the Capital Health Authority in 2002. She then went on to finish a Master of Science in Medical Sciences-Public Health Sciences in 2005, and a PhD from the School of Public Health at the University of Alberta in 2010.



Lauren's research interests have focused on the relationship between mental illness, cardiovascular risk factors, and cardiovascular disease. As a post-doctoral fellow with the ICDC team, Lauren is evaluating the relationship between mental illness and acute myocardial infarction (AMI). The objectives of her project are to:

- Describe the temporal trends in AMI incidence, prevalence, and receipt of Revascularization in people with and without mental illness.
- Among a cohort of patients with incident AMI, compare in hospital, 30-day and 1-year mortality in people with and without mental illness.
- Among a cohort of patients with incident AMI, compare receipt of evidence-based therapies (ACE inhibitors or ARBs, antiplatelet agents, beta blockers, statins, and coronary revascularization), and measurement and achievement of LDL treatment targets in people with and without depression.

This study aims to clarify the relationship between mental illness and AMI by identifying whether previously reported improvements in outcomes following AMI in the general population also extend to people with mental illness. In addition, we will identify whether treatment gaps exist in the care of people with mental illness and incident AMI, and will be the first to evaluate achievement of laboratory treatment targets in this population.

When Lauren isn't working, you can find her on her cross-country skis in the winter and her mountain bike in the summer.



ICDC TRAINEE PROFILES cont'd



Dr. Tanvir Chowdhury Turin is an ICDC Postdoctoral Research Fellow in the Department of Medicine at the University of Calgary. Hailing from Bangladesh, his training includes a PhD in Epidemiology from Shiga University of Medical Science in Japan, a Masters from the Karolinska Institute in Sweden, and a Medical Graduation from Dow Medical College in Pakistan. He also received a Postdoctoral Fellowship from Japan Society of Promotion of Science. Dr. Turin's main fields of research include chronic disease epidemiology, health service research, disease registration and surveillance, environment & cardiovascular disease, as well as nutrition and cardiovascular diseases. His medical training, combined with graduate training in epidemiology, has provided a strong foundation for his health research activities.

Dr. Turin's research work has earned him several awards including the Young Investigators Poster Award at the XIV International Symposium on Atherosclerosis in Italy, the President's Award of Shiga University of Medical Science in Japan, and the Award of IEA Scholarship at the 9th South East Asia Regional Scientific Meeting of the International Epidemiological Association. Turin remains a visiting assistant professor and a visiting research fellow in Japan while continuing to collaborate with colleagues there. Recently Turin's research presentation received Trainee Presentation Award at the Canadian Society of Nephrology Annual Meeting held in Vancouver in April.

Under the supervision of Dr. Brenda Hemmelgarn, Dr. Turin will continue to build on his expertise with use of computerized administrative data sources to study the dynamics of glycemic control and its effects on macrovascular complications. This research will contribute to the understanding of the relationship between glycemic control and adverse cardiovascular outcomes for diabetes mellitus patients using a large population based cohort.

When Turin is not researching (which does not seem to be that often) he enjoys cricket, soccer and spending time with his family.

Dr. Arash Ehteshami Afshar is an ICDC Master's Trainee and a graduate student in the clinical epidemiology program at School of Public Health, University of Alberta.

He graduated from Iran University of Medical Sciences (IUMS), in 2009 with an MD degree. Then he joined "Eye research center" at IUMS as a research assistant. Dr. Afshar received several prizes during his medical education for presenting his research results at different international student conferences.

He is quite interested in research in the field of chronic diseases management. During his graduate training in clinical epidemiology, under the supervision of Dr. Tonelli, he will continue to build on his expertise in research. He is planning to evaluate different methods for management of patients with Diabetes Mellitus.

He is enjoying his new life in Edmonton with his wife, Neda, who was his class-mate in medical school and is now in the School of Public Health.



ICDC TRAINEE PROFILES cont'd



Dr. Labib Imran Faruque is an ICDC Masters trainee in the Department of Medicine at the University of Alberta. He is from Bangladesh. He had completed a Research Fellowship in Epidemiology at International Centre for Diarrhoeal Disease Research, Bangladesh followed by Graduation in Medical Science from Dhaka Medical College in Dhaka, Bangladesh. Currently he is pursuing MSc in Epidemiology in the Department of Public Health Sciences at the University of Alberta.

Dr. Labib's main area of research interest includes chronic disease epidemiology, outcome studies, disease surveillance and outbreak investigations. He closely worked with leading nephrologists in a hemo-dialysis unit and in an intensive care unit in Bangladesh. Along with a team of clinician scientists, Dr. Labib had performed studies primarily focusing on the outcomes and co-morbidities of intensive care unit patients in Dhaka city. During his research fellowship, he was involved with nationwide hospital based influenza surveillance and conducted febrile illness study in Bangladesh.

Under the supervision of Dr. Marcello Tonelli, Dr. Labib will be working in a study to determine the prevalence and residential location of people with DM and concomitant stage 3-4 CKD in Alberta, examine the quality of care that they receive, and determine the association between care quality and the clinical outcomes.

Labib enjoys watching movies and playing the violin. He enjoys music and cricket. His family will join him in Edmonton in this summer.

Dr. Kerry M^cBrien is an ICDC Postdoctoral Research Fellow in the Department of Medicine at the University of Calgary. Kerry completed her medical degree and a residency in Family Medicine, both at the University of Toronto. While practicing as a family physician, she became interested in learning more about the drivers of successful care delivery from a population health perspective and went on to complete a Master of Public Health at the Harvard University School of Public Health, with a focus on epidemiology, biostatistics, and decision analysis. Kerry also has experience working within the private healthcare industry at Blue Cross Blue Shield of Massachusetts where she provided leadership, analytical support and clinical guidance for key initiatives on healthcare quality, cost-effectiveness, and outcomes. Broadly, her interests lie in health economics, decision analysis and primary care health services research.



Under the supervision of Dr. Braden Manns, Kerry will study the clinical and economic impact of intensive blood pressure targets in type 2 diabetes through a systematic review and an economic evaluation. She will leverage infrastructure that has been previously obtained by the Interdisciplinary Chronic Disease Collaboration (www.icdc.ca) and the Alberta Kidney Disease Network (www.AKDN.info). This research will provide decision makers important information regarding the relative costs and benefits of intensive blood pressure management among patients with type 2 diabetes.

Kerry continues to practice Family Medicine part-time in the community. She is enjoying getting to know the city of Calgary and all it has to offer for the outdoor enthusiast.



ICDC TRAINEE PROFILES cont'd

Rob Weaver is an MSc student in the Department of Community Health Sciences at the University of Calgary, majoring in Health Services Research. His academic background includes a BSc in physics and a BSW, both from the University of Calgary. After completing his BSW, Rob worked for 10 years for several consulting firms that specialized in conducting program evaluations in the education, social service and health sectors. This was followed by 3 years as Research Coordinator at the Calgary Counselling Centre, and then a stint in the U of C Department of Family Medicine as their Resident Research Training Coordinator.



Rob's thesis project, which he will complete under the supervision of Dr. Brenda Hemmelgarn, will be an outcome evaluation of the diabetes education component of the *Living Well with a Chronic Condition* program of the former Calgary Health Region. The study will be conducted by linking participation data from the program with data from the AKDN database, in order to compare outcomes for diabetics who attended the program with similar diabetics who did not. The primary outcome to be compared will be Hemoglobin A1c levels 12 to 18 months after participation in the program.

Rob is receiving funding for his master's studies from a full-time studentship from the Western Regional Training Centre for Health Services Research, which supports students doing health services research at six universities in Western Canada.

When he is not studying, Rob enjoys spending time with his wife and two teenaged children – especially hiking and cross-country skiing in the mountains.



KNOWLEDGE TRANSLATION

As part of our knowledge translation strategy, we are pleased to share our data definitions and associated SAS code for some of our chronic diseases of interest. Detailed information can be found on our website www.icdc.ca under the *Knowledge Translation* menu, or by going to http://icdc.ca/kt_definitions.php

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Alberta Innovates Health Solutions

DATABASE PROGRAMMING RESOURCES

These files contain data definitions and the associated SAS code for some of the chronic diseases of interest to the ICDC team. This information was developed by ICDC analysts for internal use and is being shared as part of the ICDC's Knowledge Translation strategy.

The author(s) have placed this work in the Public Domain. Everyone is free to use, modify, republish, sell or give away this work without prior consent. This documentation is provided on an "as is" basis, without warranty of any kind. Under no circumstances shall the author(s) or contributor(s) be liable for damages resulting directly or indirectly from the use or non-use of this documentation.

Please acknowledge ICDC if our data definitions and associated SAS code are used, and indicate in any derivative works that they have been modified from the original ICDC work.

Disease Categories

- Acute Myocardial Infarction (AMI)
 - SAS Code for AMI
- Congestive Heart Failure (CHF)
 - SAS Code for CHF
- Diabetes
 - SAS Code for Diabetes
- Hypertension
 - SAS Code for Hypertension
- Stroke-Related Events
 - SAS Code for Stroke-Related Events