Show Me The Evidence

Best practices for using educational visits to promote evidence-based prescribing



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Malcolm Maclure, Michael Allen, Rosemary Bacovsky, Shawn Bugden, Harold Lopatka, Kyle MacNair, Richard Morrow, Anne Nguyen, Loren Regier.

> A project of the Canadian Academic Detailing Collaboration and Drug Policy Futures

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Acknowledgements

Many thanks to:

- Mowafa Househ for providing technical support for monthly web conferences, which have become fundamental to the group's collaboration;
- Paula Cunningham, Brent Jensen, Isobel Fleming and Pam Mclean-Veysey for contributing to the success of evaluation projects by participating in the Canadian Academic Detailing Collaboration steering committee and subgroup;
- · Joel Lexchin for guidance in research on pharmaceutical detailing and promotion; and
- Kerry Patriarche for providing administrative support for the project.

We would also like to thank the Best Practices Contribution Program of Health Canada for supporting our evaluation program, originally called *Process and Outcome Evaluation of Academic Detailing in Five Canadian Provinces* (Project No. 6804-15-2003/5590027). The views expressed herein do not necessarily represent the views of Health Canada.

We would like to acknowledge funding support from the Drug Evaluation Alliance of Nova Scotia and the North Shore Health Research Foundation (formerly Lions Gate Healthcare Research Foundation).

Drug Policy Futures is a research initiative co-sponsored by the Canadian Institutes of Health Research and the Canadian Medical Association. Dr. Maclure is supported by the Michael Smith Foundation for Health Research.

This report is available in electronic form on the following websites: http://www.cdup.org, http://www.rxfiles.ca/CADC, http://www.prisminfo.org, http://www.drugpolicyfutures.ca

The contents, opinions and any errors contained in the report are the full responsibility of the authors.

Design and photography: George Allen at Design | Strategy | Research | $^{\rm INC}$

Participating organizations:

- B.C. Community Drug Utilization Program (BC CDUP) http://www.cdup.org/
- Alberta Drug Utilization Program (ADUP) http://www.uofaweb.ualberta.ca/adup/
- RxFiles http://www.rxfiles.ca/
- · Prescription Information Services of Manitoba (PrISM) http://www.prisminfo.org/
- Dalhousie Academic Detailing Service http://cme.medicine.dal.ca/ADS.htm
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Executive Summary

Pharmaceutical detailing, or visits by drug company sales representatives to physicians, represents a key industry strategy for the promotion of prescription drugs. While this promotional practice is far from new, the size of the pharmaceutical sales force has grown in recent years. From 1998 to 2002 the number of drug company detailers working in Canada increased from 3,990 to 5,190 (IMS Health Canada).¹ In 2002, this translated to one sales representative for every 11.4 doctors in Canada. As in other countries around the world, drug companies in Canada are devoting considerable resources to promoting their products directly to physicians in hospitals or in their offices.

Academic detailing has emerged as one strategy to provide balanced messages in the face of the perceived commercial influence of pharmaceutical company detailing on physicians' prescribing. Academic detailing programs aim to deliver independent, evidence-based information about best prescribing practices to physicians through one-on-one or small group visits. This strategy has been used in five Canadian provinces and in Australia, New Zealand, England, the Netherlands and the U.S. Programs operate at arm's length from government, and this independence is valued by physicians.

At a time when drug costs are escalating and drug safety controversies are making the front pages, academic detailing represents a well-tested, effective strategy to promote both cost effectiveness and better patient health by providing evidence-based information to physicians on appropriate prescribing.

In 2005, prescription drug expenditures in Canada continued their steady climb, increasing by 11.5% over the previous year to reach an estimated \$20.6 billion (CIHI 2006). Drug safety issues go far beyond the high-profile withdrawals of Vioxx[™], Bextra[™] and Baycol[™] from the Canadian market. Important safety issues are raised for approximately 20 percent of new drugs after entry to the market (Peterson 2006). Clearly physicians need up-to-date, reliable information to enable them to deliver the safest and most cost-effective care to their patients.

Pharmaceutical detailing represents a key industry strategy for the promotion of prescription drugs.

Academic detailing programs aim to deliver independent, evidence-based information about best prescribing practices to physicians.

^{1.} This figure includes field managers.



Evaluating academic detailing

While previous research has established that academic detailing represents an effective strategy for promoting optimal prescribing practices (Thomson O'Brien *et al.* 2000; Grimshaw *et al.* 2004), more understanding is needed about best practices in the field. For this reason, members of the Canadian Academic Detailing Collaboration (CADC) in partnership with University of Victoria–based research group Drug Policy Futures set out a multi-faceted approach to studying best practices in academic detailing in a two-year evaluation program from May 2004 to April 2006.

Participating programs included the B.C. Community Drug Utilization Program, the Alberta Drug Utilization Program, the RxFiles Academic Detailing Program (Saskatchewan), Prescription Information Services of Manitoba, and the Dalhousie Academic Detailing Service (Nova Scotia).

The objectives of the study were to assess:

- Current literature and experience relating to *best practices and innovative approaches* for academic detailing and evaluation;
- Key aspects of both the *process of academic detailing* and the *process of collaboration* among academic detailing programs and stakeholders;
- The feasibility of *outcome evaluation* using a rigorous randomized design and inter-provincial collaboration; and
- Lessons learned from this project and potential *actions* for detailing programs, their sponsors and stakeholders.

To meet these objectives, the study included the following main components: a survey of Canadian and international academic detailing programs, needs assessment of physicians, production and analysis of printed educational materials, a time and motion study, an assessment of the feasibility of outcome evaluation, and an evaluation of the process of collaboration.

In 2005, prescription drug expenditures in Canada increased by 11.5% to reach an estimated \$20.6 billion.

Physicians need up-to-date, reliable information to enable them to deliver the safest and most cost-effective care to their patients.

This study focused on developing a framework for best practices in academic detailing. Success in academic detailing depends on insightful and balanced messages, training and upgrading of detailers, and addressing barriers to prescribing behaviour change.

Physician participation is encouraged by the evidencebased approach of academic detailing and selection of the most relevant topics.

Applying recommended practices from the field of information design to printed educational materials improves their effectiveness.

Preliminary results suggest physicians increased prescribing of recommended therapies as a result of academic detailing on heart failure in B.C.

Key findings: developing best practices

Canadian and international experience

- The design of the message and the delivery of the information should recognize and address the barriers to changing the prescribing behaviour of the physicians being targeted.
- Success in academic detailing relies on the credibility of the program, the detailers and their educational materials. This depends on insightful and balanced messages, training and upgrading of detailers, and addressing barriers to prescribing behaviour change.
- It is also important for academic detailing programs to be independent from industry and operate at arm's length from government.

Needs assessment of physicians

- Participation of physicians is encouraged by the evidence-based approach of academic detailing, selecting relevant topics, and handouts that complement visits.
- Factors that discourage some physicians from participating include dislike of visits during office hours, the inconvenience of arranging visits, and delivery of academic detailing by non-physicians.

Printed educational materials

- Applying recommended practices from the field of information design to printed educational materials improves their effectiveness. Better designed materials were easier to use and helped physicians perform search and recall tasks more efficiently.
- Monitoring of physician response to educational material design provides an opportunity to enhance their acceptability and effectiveness.
- National collaboration on development of printed educational materials should allow for local adaptation of materials and messages to address individual academic detailing program priorities and local physician needs.

Time and motion study

- Time and motion analysis provides the opportunity both for improving program efficiency and for planning development or changes to academic detailing programs.
- Costs to provide academic detailing services will vary widely depending on geography, number of detailers, number of physicians, and most importantly—the depth and nature of research/review required.
- On one topic, costs ranged from \$278 to \$389 per physician visit, including research, training, visits and administration. This represented costs of \$115 to \$316 per prescriber, since some visits included more than one physician.

Outcome evaluation

- Preliminary analysis of results from the B.C. Community Drug Utilization's randomized crossover study of academic detailing on heart failure indicates that academic detailing influenced physicians to increase prescribing of recommended drug therapies.
- Building on the precedent of randomized trials for impact evaluation in B.C., randomized designed delays have been piloted as a methodology for conducting impact evaluation of academic detailing in other provinces.
- Canadian programs are interested in ongoing impact evaluation. However, the resources required for conducting trials and completing data analysis represent a challenge for academic detailing programs. Additional external funding will likely be required for building capacity in this area.
- Continuing to work toward completing impact evaluations in all Canadian academic detailing programs would be a worthwhile goal and a significant legacy of the framework already established by CADC member programs.

Collaboration on academic detailing

- This collaborative evaluation has provided an opportunity for Canadian academic detailing programs to build capacity in several areas of process and outcome evaluation and to help determine effective ways of partnering with one another and with groups such as Drug Policy Futures.
- Among the CADC's successes are the level of cooperation it has achieved and a regular exchange of feedback, experience and expertise. Key challenges of collaboration among academic detailing programs include how to collaborate efficiently and how to reconcile local and national priorities in areas such as printed educational materials development.
- A growing partnership between the CADC and the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS) has developed. The groups are natural partners. COMPUS would benefit from ongoing testing of interventions it is developing, while the CADC has expertise in evaluation and is in regular contact with over a thousand physicians across Canada.

Role for academic detailing in Canada

First Ministers have directed that Canada's National Pharmaceuticals Strategy include as one of its priority actions: *Enhance action to influence the prescribing behaviour of health care professionals so that drugs are used only when needed and the right drug is used for the right problem* (Health Canada 2004). Since academic detailing programs have been established in Canada for precisely this purpose, it is fair to ask: What steps have provinces taken to expand the use of academic detailing in Canada? How does academic detailing form part of a larger evidence-based strategy to promote appropriate drug therapy that is safe, effective and cost-effective?

To date, academic detailing services in Canada have operated on a modest scale. While drug companies employ a sales force of more than five thousand, five Canadian academic detailing programs employ a combined workforce of 10.2 full-time equivalent (FTE) positions (Bacovsky *et al.* 2006). In 2005, programs detailed from two to five topics each and collectively reached about 1,000 doctors per topic (in a country with more than 60,000 doctors). While academic programs in the smaller provinces of Nova Scotia and Saskatchewan operate on a province-wide basis, other programs are less extensive.

One might expect that provinces are planning to ramp up these modest programs to address public concerns about drug safety and a growing drug cost crisis and that the provinces without these services would be moving to establish academic detailing programs. In reality, there is evidence that the existing academic detailing services in Canada are under threat.

Alberta Health and Wellness has recently decided to eliminate funding for the Alberta Drug Utilization Program. The rationale for cutting the program is not clear but apparently relates to shifting priorities within the ministry. Fortunately, the Calgary Health Region has made a decision to fund academic detailing for family physicians within the health region. However, the elimination of the Alberta Drug Utilization Program represents a reduction in the reach of academic detailing services within the province, since these services were also being delivered in the David Thompson Health Region.

Similarly, funding for academic detailing in Manitoba (delivered by the Prescription Information Services of Manitoba) may not be extended in the near future.

Canadian academic detailing programs make an ideal partner for COMPUS, which would benefit from ongoing testing of interventions.

To date, academic detailing services in Canada have operated on a modest scale.

Despite evidence that academic detailing is an effective tool for influencing prescribing behaviour, existing academic detailing services appear to be under threat. This runs contrary to recent studies conducted by provincial Auditors General across Canada and contrary to the evidence that academic detailing is an effective tool for influencing prescribing behaviour.

Auditors General recommendations and comments on academic detailing

Auditors General in a number of provinces have drawn attention to the value of academic detailing or the need for evaluation of programs such as academic detailing which aim to promote optimal prescribing:

- In Nova Scotia, the Auditor General advised that the province's Department of Health should ensure that activities to promote better prescribing, such as physician participation in academic detailing, are enhanced (Nova Scotia 2004).
- In Newfoundland and Labrador, the Auditor General drew attention to the fact that the province lacks an academic detailing service while encouraging the Health department to be more proactive in minimizing costs to its drug program (Newfoundland and Labrador 2005).
- A report from Saskatchewan's Provincial Auditor acknowledged the province's efforts to promote better prescribing through programs such as academic detailing but called for better assessment of these programs to ensure they are meeting the drug plan's objectives (Saskatchewan 2005).
- The B.C. Auditor General suggests the ministry should consider expanding the use of academic detailing in the province, since other jurisdictions such as Saskatchewan and Nova Scotia are funding academic detailing programs at a level above that in British Columbia. The B.C. program serves primarily family physicians on Vancouver's North Shore. (British Columbia 2006)
- Manitoba's Auditor General recently concluded that Manitoba Health has not been active enough in promoting the most appropriate and cost effective prescribing practices to physicians through communication of best practice information (Manitoba 2006).

Effectiveness of academic detailing

Evidence from other jurisdictions. Systematic reviews of existing studies on academic detailing by Thomson O'Brien *et al.* (2000) and Grimshaw *et al.* (2004) conclude that academic detailing visits can effectively influence the practices of health professionals or prescribing practices of physicians in particular. Grimshaw *et al.* found that 11 of 13 clustered randomized controlled trials (RCTs) of educational interventions incorporating academic detailing showed improvements in the performance of health professionals. These trials demonstrated a median effect of 6% absolute improvement in performance.

Evidence in Canada. Some provincial academic detailing programs have used nonrandomized drug utilization reviews (DURs) to measure the impact of academic detailing sessions, and a key goal is to move toward ongoing rigorous impact evaluation using a randomized design. Significant progress toward the use of a randomized design for evaluation has been made in the past two years.

Impact evaluation using drug utilization reviews by some provinces has suggested that academic detailing programs in Canada effectively influence physician prescribing practices. For example, a pre- and post-intervention comparison of adherence to clinical practice guidelines on osteoporosis suggested physicians receiving academic detailing on this topic from the Alberta program showed higher guideline adherence than a non-randomized control group.

Auditors General in a number of provinces have drawn attention to the value of academic detailing.

The B.C. Auditor General suggests the ministry should consider expanding the use of academic detailing in the province.

Systematic reviews of existing evidence conclude that academic detailing visits can effectively influence the practices of health professionals.

Impact evaluation has suggested that academic detailing programs in Canada effectively influence physician prescribing practices. Preliminary results from a randomized trial of academic detailing on heart failure in B.C. suggest physicians increased prescribing of recommended therapies as a result of the intervention. Other programs have made progress in implementing randomized trials of academic detailing, although analysis of these trials has yet to be completed.

Recommendations

- National policy towards pharmaceutical use as reflected in the evolving National Pharmaceuticals Strategy should be grounded in evidence-based medicine and measures to promote appropriate, cost-effective drug therapy and better patient outcomes. Academic detailing should form a primary component of the strategy (among other evidence-based policies, such as maximum allowable cost).
- The National Pharmaceuticals Strategy should include plans to ramp up existing academic detailing programs and initiate programs in provinces where these services are not currently provided. This would support the dissemination of evidence-based recommendations from the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS).
- Alberta Health and Wellness and Manitoba Health should recognize the value of academic detailing and ensure funding for the delivery of these services to address the need to promote effectiveness, safety and cost-effectiveness in prescribing practices.
- Ongoing evaluation of academic detailing should be supported by provincial drug plans and federal agencies to promote best practices and strengthen the impact of these programs. Impact evaluation using a rigorous randomized design should be used to assess prescribing and health outcomes.

Contents of this report

This report describes a two-year evaluation program undertaken by the Canadian Academic Detailing Collaboration in partnership with Drug Policy Futures to develop a framework for best practices in academic detailing. It may therefore be read as a guide for academic detailing programs, program sponsors and stakeholders for decision-making to promote best practices in academic detailing.

The report is divided into the following sections:

PART ONE: *Process evaluation*, summarizes a series of studies on key aspects of the process of academic detailing.

PART TWO: *Outcome evaluation*, describes the experiences of the five participating Canadian academic detailing programs in evaluation of the impacts of academic detailing on prescribing and presents findings with respect to outcome evaluation practices.

PART THREE: *Collaboration on academic detailing*, provides a review of the process of collaboration among the members of the Canadian Academic Detailing Collaboration and other partners, and describes the challenges and opportunities for effective collaboration.

Lastly, a concluding section, *From evaluation to best practices*, provides reflections on lessons learned from this project and next steps for future collaboration and promotion of best practices in academic detailing.

The National Pharmaceuticals Strategy should include plans to expand the reach of academic detailing services in Canada.

Ongoing evaluation of academic detailing should be supported by provincial drug plans and federal agencies to promote best practices.

This report describes a twoyear evaluation program undertaken to develop a framework for best practices in academic detailing.

FOREWORD



Bob Nakagawa

Prescription medicines are the cornerstone of western medicine. They are potent chemicals that can have a dramatic impact on the well-being of our population. On one hand, they can prevent, cure and mitigate disease, reduce hospitalizations and save lives. On the other hand, they can cause significant harm through unanticipated consequences, increase hospitalizations and indeed cause death. In the end, they need to be used appropriately and wisely, for those patients who can benefit from their use.

The number of new drugs has increased significantly in recent years. Physicians are challenged to keep up to date with their knowledge on new as well as old drugs. The primary source of physician education about prescription drug therapy is the pharmaceutical industry. While the industry has a wealth of information about the drugs they develop and market, they are by definition biased towards the products they sell. They have an obligation to promote the use of their drugs, to maximize the profitability of their corporations and provide significant returns on investment to their shareholders. One of the many methods that they have used to achieve this is through their detailers. These pharmaceutical industry representatives deliver customized messages promoting their companies' products to physicians in their office practices on a one-to-one basis. Academic detailing emulates this approach, but provides unbiased, evidence-based information to practicing physicians to optimize drug prescribing.

In the mid-1990s, we launched the first academic detailing program in Canada in North Vancouver, planting the seed for further development and application in the rest of the country. I am proud to have been involved with its genesis, and to see others adopt similar programs throughout the country. A few years later we helped to establish the program in Saskatchewan and integrate the concept into a broader medication management program in the Fraser Health Authority. Several other programs have been established and continue to cooperate and collaborate with each other.

This paper is a result of this collaboration. It reviews and showcases the methods used by their programs to deliver and evaluate their impact on prescribing behaviour. It recommends that academic detailing programs be considered as a method for the National Pharmaceuticals Strategy to achieve their objective of improving the use of prescription drugs in Canada.

Bob Nakagawa, B.Sc.(Pharm.), FCSHP, ACPR

Assistant Deputy Minister, Pharmaceutical Services British Columbia Ministry of Health

INTRODUCTION

The Canadian Academic Detailing Collaboration has produced a valuable compendium of evaluations showing how self-assessment can be incorporated into the routine practice of academic detailing. I encourage your governments to continue supporting this Collaboration. It can be a valuable source of information about how best to disseminate the best available evidence on drug safety and cost-effectiveness to prescribers.

The task of providing health care professionals and patients with accurate, up-to-date, and (most importantly) non-commercial information about alternative treatments is an indispensable ingredient for rational medical care delivery. In the absence of reliable methods to determine their worth, well-hyped but inferior remedies have been used more widely than effective ones. Over the centuries, thousands of elixirs, tonics, cathartics, laxatives, and botanicals have flourished in the clinical marketplace, harming far more patients than they helped. Two mid-twentieth-century developments helped raise us out of that chaos: the acceptance of the randomized clinical trial as the gold standard for determining efficacy, and the empowerment of governments to demand that drugs must be proven to work before they can be sold.

It is surprising to note how late in recent history these developments took place. The randomized trial was not commonly used to test drugs rigorously until after World War II, and the requirement that a prescription drug could not be sold unless it actually worked did not become law in the U.S. until 1962. Yet important as these advances were, they are just the start of the journey. Current regulatory requirements in many parts of the world require simply that a drug be shown to work better than placebo - not a vital credential for most prescribers or patients. At the start of the twenty-first century, we are ready to move on to the next two fronts in the therapeutic information wars: establishing a higher scientific standard than "better than nothing," and disseminating such knowledge effectively to participants in the health care system. If we are to have health care systems that truly meet the needs of patients and are also affordable, we need to ensure that evidence-based, unbiased clinical knowledge becomes the dominant currency of clinical thought and action, edging out baser forms of information driven by tradition, superstition, or mainly commercial agendas. Diffusion of this idea will be the next logical step in modern societies' approach to health care, and especially to medicines. But how can we get there from here?

As a medical student, I was struck by the potent and effective communication methods used by the pharmaceutical industry. Alas, it was put solely in the service of increasing product sales. At the same time, I noticed the impressive grasp that many of my professors had of the breadth of evidence about efficacy for various treatments, and their (usually) impartial assessment of that evidence. Alas, that knowledge was often communicated in a dull and un-compelling manner.

Instead, I wondered if we could co-opt the approaches the pharmaceutical industry had honed so well, and which it employs so effectively in changing prescribing practices.



Jerry Avorn

Maybe their powerful medicines of information-transfer and behaviour-change strategies could be used to achieve more pro bono goals. Such a service could deploy medication educators to visit physicians in their own offices, just as drug company sales reps do. Like the manufacturers, we could choose these outreach workers based on their ability to communicate effectively and congenially. But unlike the companies, we would also require that each of them have solid training in clinical pharmacology, and no commercial agenda to pursue. Their messages would be evidence-based, relevant to the quality of patient care, tightly focused, cost-sensitive, and presented accessibly. Recommendations would be backed up by vivid print material laden with skillful and accurate graphics, illustrations, and engaging typography. Visits to doctors would be brief, targeted, interactive, and designed to achieve specific changes in prescribing practice – exactly like a sales rep's presentation. Because those reps are known as detailers, I named this new approach "academic detailing," reflecting its hybrid origins as a user-friendly educational outreach program sponsored from a medical school base.

If the pharmaceutical industry could change doctors' prescribing patterns using such methods to increase sales, why couldn't the same approach be used to improve the appropriateness of drug use? Working with Steve Soumerai, we implemented this idea in a randomized controlled trial of our own. After all, if we require drugs to be evaluated with such a demanding design, wouldn't it make sense for health policy interventions to be assessed with comparable rigor? We randomly allocated over four hundred doctors in four states to receive this innovative approach, or get printed materials in the mail, or serve as controls. The first reassuring finding was that 92% of the primary care physicians randomly allocated to the academic detailing group willingly accepted visits from our pharmacist-educators. When we analyzed actual prescribing patterns based on prescriptions written by the physicians in each group, we found that just two visits from our "academic detailers" had succeeded in significantly reducing inappropriate prescribing. And based on the costs of the prescriptions paid for by just one government program, the savings amounted to twice what it cost to mount the program.

Our findings, reported in *The New England Journal of Medicine*, were soon followed by similar results from an independent group of researchers at Vanderbilt University, published in *JAMA*. These initial studies spawned academic detailing programs all over the world. With growing interest in this approach to improve the quality of health care and help drug benefit programs remain affordable, we now have the capacity to learn from one another, share materials, and collaborate to refine this approach. The Canadian efforts described below represent a very important development in this continuing adventure.

Jerry Avorn, M.D.

Professor of Medicine at Harvard Medical School and Chief of the Division of Pharmacoepidemiology and Pharmacoeconomics at Brigham and Women's Hospital

LIST OF ABBREVIATIONS

ADUP	Alberta Drug Utilization Program
BC CDUP	British Columbia Community Drug Utilization Program
BC ChIPS	British Columbia Chart Inserts Pilot Study
CADC	Canadian Academic Detailing Collaboration
CCOHTA	Canadian Coordinating Office of Health Technology Assessment
CHF	congestive heart failure
CIHI	Canadian Institute of Health Information
CME	continuing medical education
COMPUS	Canadian Optimal Medication Prescribing and Utilization Service
COPD	chronic obstructive pulmonary disease
NPDUIS	National Prescription Drug Utilization Information System
PBC	perceived behavioural control
PDA	personal digital assistant
PEMs	printed educational materials
PrISM	Prescription Information Services of Manitoba
READ	Rural Evaluation of Academic Detailing (study)
RxFiles	RxFiles Academic Detailing Service
ТРВ	theory of planned behaviour

Portions of this introduction have been adapted from Powerful Medicines: The Benefits, Risks and Costs of Prescription Drugs, by Jerry Avorn (Knopf, 2004). Copyright © 2004 by Jerry Avorn. Used with permission.



Part One: Process Evaluation

As academic detailing is premised on the idea of evidence-based practice of medicine, it is only natural that programs delivering academic detailing services would seek evidence to establish best practices in their own domain of educational outreach visits. That was one of the purposes behind the formation of the Canadian Academic Detailing Collaboration (CADC) in 2003, and the underlying goal of a series of evaluation projects undertaken over a two-year period from May 2004 to April 2006.

Five Canadian academic detailing programs have worked in partnership and worked closely with the University of Victoria–based research group, Drug Policy Futures, which specializes in prescription drug policy evaluation. (A description of each of the five academic detailing programs can be found in Appendix A.) The collaboration has also increasingly involved the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS), whose representatives have met regularly with CADC members.

Part One of this report presents the findings of CADC studies focusing on the evaluation of the processes of academic detailing.

A broad view of the processes of academic detailing was provided by a survey of Canadian and international detailing programs to document current practices and innovations in academic detailing. Rosemary Bacovsky of Calgary-based Integra Consulting conducted and prepared a report on the survey for the CADC. Members of the CADC and academic detailing programs from several other countries participated in the survey. The survey focused on practices with respect to successful topics, increasing physician participation, influencing prescribing, successful academic detailers, successful detailing visits, effective printed educational materials, strategies for complementing academic detailing and effective evaluation methods. Findings are summarized in chapter 1 of this report.

Needs assessment of physicians is an integral part of effective delivery of academic detailing services. Several types of needs assessment are described in chapter 2 of this report:

• One aspect of needs assessment the Dalhousie Academic Detailing Service was particularly interested in was an evaluation of factors that encourage or discourage participation in educational outreach programs, since a goal was to increase the rate

A survey of Canadian and international detailing programs documented current practices and innovations in academic detailing. of participation as well as the effectiveness of the program. To this end, the program undertook a needs assessment survey on this theme, which has provided results to guide development of service delivery in Nova Scotia and insights for other programs as well.

- Drug Policy Futures has undertaken a province-wide study in British Columbia to test the effectiveness of information provided to physicians in the form of chart inserts and patient handouts. A key aspect of the study is an assessment of physicians' responses to the materials provided through telephone interviews with participating physicians.
- Several evaluations have been grouped together under the heading of "Physician feedback and self-reported impact evaluation." A number of these take the form of a brief post-visit interview or questionnaire. An exception is Manitoba's Rural Evaluation of Academic Detailing (READ) survey, which was used prior to an academic detailing intervention to guide topic development. When physician interviews follow academic detailing sessions, they can serve both as a form of needs assessment and as a form of self-reported impact evaluation.

Printed educational materials (or PEMs) are used as a part of academic detailing services by all CADC member programs. The group proposed two types of studies on printed educational materials (described in chapter 3):

- First, the group planned to collect and critically review printed educational materials. Information design consultants Jorge Frascara, Stan Ruecker and Bernie Roessler performed this review and produced a series of reports on information design of academic detailing materials for the CADC. The consultants developed a concise set of guidelines for design and piloted performance measurement methods which could be used to monitor the effectiveness of educational materials.
- Second, the CADC proposed to collaborate on producing a template for printed educational materials to help develop best practices and create efficiency by reducing duplication. The group collaborated on the topic of statins and produced a common summary of evidence. Collaboration did not provide a more efficient approach, although it did produce lessons learned to apply to future topic development.

Delivery of academic detailing services involves several components, including topic research and development, training of detailers, visits to physicians, and administration. Members of the CADC tracked the time and costs dedicated to various aspects of program delivery as part of a time and motion study. An underlying goal of the study is to help programs make promote cost effectiveness and quality of program delivery. Each participating program collected this information while detailing on the topic of statins. The study produced a summary of costs devoted to the primary components of program delivery and an analysis of variation in costs within and across programs (chapter 4).

The following chapters present detailed summaries of the survey of Canadian and international programs, needs assessments of physicians in different provinces, printed educational materials design studies, and a time and motion study involving several member programs of the CADC.

The Dalhousie Academic Detailing Service conducted an evaluation of factors that encourage or discourage participation in academic detailing programs.

Post-session interviews can serve as both a needs assessment and a "selfreported" impact evaluation.

Consultants produced a concise set of guidelines for design of printed educational materials.

Academic detailing programs tracked the time and costs of activities as part of a time and motion study.

CHAPTER 1: CANADIAN & INTERNATIONAL EXPERIENCE

This study represents a synthesis of current research and thinking on best practices and innovative approaches of academic detailing programs. Study author Rosemary Bacovsky carried out a review of published and unpublished studies and conducted interviews with academic detailing programs in Canada and several other countries to gather information for the survey.

It was found that the academic detailing programs are similar in terms of their intent to improve prescribing and medication use but differ significantly in the types of visits, the style of message delivery, educational materials used, and complementary strategies. These differences usually reflect the program's attempts to address barriers to behavioural change at the individual prescriber level and at the health system level.

Most academic detailing activities are part of larger programs focusing on improving medication use through a variety of initiatives and interventions. Programs varied in size from one person serving designated physician group practices to national programs with hundreds of detailers serving thousands of prescribers over vast geographic areas. They have refined their activities based on program objectives, preferences of their target audience, the health system, length of operation, and funding.

Objectives

This study aimed to identify best practices and innovative approaches in academic detailing by examining published and unpublished studies of academic detailing and interviewing the Canadian and international academic detailing programs.

Method

Canadian and international academic detailing programs were identified through members of CADC, a literature search, and asking other academic detailing programs. Programs contacted for potential interviews were established programs that provided academic detailing to physicians prescribing drugs in a community setting.

Key informants from five Canadian programs and ten international programs agreed to participate and were interviewed by phone or completed an email questionnaire. The study gathered published and unpublished articles, program information and comments on best practices and innovative approaches. The scope of this project did not permit a detailed review and analysis of articles on academic detailing so it focused on reviews of academic detailing, especially systematic reviews.

The international academic detailing programs interviewed included:

- Australia: National Prescribing Service Limited
 - Australia: Drug and Therapeutics Information Service
- England: Prescribing Advisory Services, Keele University
- Netherlands: Institute for Rational Drug Use
- New Zealand: Christchurch School of Medicine

Programs vary in size from programs with one detailer to national programs with hundreds of detailers serving thousands of prescribers.

Key informants from five Canadian programs and ten international programs participated.

- New Zealand: EastHealth Services, Auckland
- United States: Kaiser Permanente, Colorado
- United States: Brigham and Women's Hospital, Harvard Medical School
- United States: Accessible Intelligent Medication Strategies (AIMS) Program, West Virginia
- United States: Veterans Administration, Smoking Cessation Coordinator, VA Greater Los Angeles Healthcare System

Results: review of best practices

Best practices varied greatly with the health system and environment in which the physicians practice. What would be considered effective in one setting could be ineffective in another. Following is a summary of the best practices determined by this synthesis.

Successful Topics

• Topics should reflect a balance between prescriber interest (e.g. clinical practice; local conditions; high levels of uncertainty and conflicting messages) and program objectives (e.g. variation between evidence-based practice and current practice; able to evaluate changes in physician practice).

Increasing Physician Participation & Influencing Physician Prescribing

- Physician participation is linked to the credibility of the academic detailers and the provision of evidence-based, comparative information at a time and location convenient to the physician and to follow-up provided by the detailer.
- The support by key champions, leaders within medical community and a physicians' peer group is a major factor in starting and maintaining an academic detailing program.
- The design of the message and the delivery of the information should recognize and address the barriers to behaviour change and the prescribing issues of the physicians being targeted.
- Physicians are more likely to be receptive if the prescribing recommendations are evidence-based, practical, and patient- and practice-orientated.
- Treatment algorithms and interactive patient-oriented materials provide support to the physicians in making it easier to comply while reducing their workload.

Successful Academic Detailers

- An effective academic detailer has superior communication and marketing skills along with a comprehensive knowledge of the topic that facilitates interaction and debate with the physician.
- The effectiveness of an academic detailer is related to the rapport and credibility he/she has established with the physicians.
- Effective academic detailing programs provide training to new academic detailers on communication, marketing, sales, and other interactive skills and routinely provide upgrading and re-enforcement sessions to their detailers.

Successful Academic Detailing Visits

- Successful academic detailing visits are a combination of the message, its delivery, the academic detailer, the physician and the physician-detailer interaction.
- Scheduling visits was best done taking into account physician preferences for days, time of the day, duration of the visit, and individual vs. small group session.
- Successful visits were about 2/3 presentation and 1/3 discussion.

Effective Printed Educational Materials

• A layered approach to educational materials permits the focus on key messages with a short key message piece and expanding into more complex messages and the background evidence through newsletters, detailed handouts, and resource manuals.

Topics should reflect a balance between prescriber interest and program objectives.

The support of opinion leaders and a physician's peer group is a major factor in starting and maintaining a program.

Effective programs routinely provide upgrading and reenforcement sessions to their detailers as well as training to new detailers. A layered approach to educational materials permits a focus on key messages and expanding into more complex messages and evidence.

Patient education materials facilitate discussion between physicians and patients.

Academic detailing programs must address the local barriers to prescribing behaviour change and integrate complementary educational strategies.

- The key message piece should identify 3-4 key messages in a visually clear, easy to comprehend style and provide brief reference information such as a treatment algorithm or drug comparison chart.
- Patient education materials facilitate discussion between physicians and patients.

Strategies Complementing Academic Detailing

- Strategies to complement academic detailing should be tailored to the topic and to barriers to behavior change.
- The organization and linkages of the academic detailing program should be designed to enhance program objectives, visibility, and credibility, with additional linkages tailored to specific topics.

Effective Evaluation Methods

• Evaluations should be planned within the constraints surrounding databases and resources, incorporating data collection prospectively and concurrently when appropriate.

Summary

Within program objectives, academic detailing programs must design and tailor their strategies and style of educational materials and message delivery to the targeted prescribers, the environment, and the personalities involved. They must address the barriers to behaviour change and the prescribing issues of the physicians being targeted and integrate academic detailing with complementary educational strategies. These must be re-evaluated for each topic and adjusted accordingly.

Several key considerations are apparent in applying the information gained from this synthesis to the CADC:

- Academic detailing topics should reflect a balance between national objectives and local interests, perhaps alternating topics or incorporating regional aspects into the national topics.
- Educational materials could be developed in collaboration or contracted to one program. A variety of materials should be developed, including the short key message piece and expanding into more complex messages and the background evidence (e.g. newsletters, detailed handouts, and resource manuals).
- Individual academic detailing programs should be able to modify these educational materials and message delivery style in order to address local barriers to behaviour change and to help maintain the credibility they have gained.
- Collaboration in the preparation of educational materials should build upon the strengths of the various programs in preparing different types of materials (e.g. resource manuals, comprehensive comparison charts, electronic delivery of messages).
- Comprehensive training of academic detailers should be a priority with extensive training for new detailers and upgrading of other detailers on communication and marketing skills and on behaviour change theory. There should also be comprehensive training for each new topic, and designated support.

CHAPTER 2: NEEDS ASSESSMENT OF PHYSICIANS

CADC member programs and Drug Policy Futures have taken various approaches to assessing the needs of physicians.

The Dalhousie Academic Detailing Service surveyed physicians by mail and by telephone to explore what features of academic detailing encourage or discourage participation, what features physicians find valuable, how academic detailing could be improved to meet physician needs, and what the value of academic detailing is compared to other forms of continuing medical education.

Drug Policy Futures is surveying B.C. physicians about several chart inserts and patient handouts as part of the B.C. Chart Inserts Pilot Study (BC ChIPS). Chart inserts (or chart reminders) are placed in the physician's chart to provide the physician with information to assist in diagnosis and treatment. Participating physicians are provided sample chart inserts and patient handouts and interviewed by telephone to gather feedback on each sample.

Often academic detailing programs also conduct some form of post-detailing survey as a simple way to evaluate the impact of academic detailing or collect feedback for quality improvement. This may take the form of verbal questions asked by detailers at the end of each session as in B.C. or a mailed survey as in Saskatchewan. In Manitoba a more indepth analysis of the determinants of prescribing behaviour has been conducted based on the Theory of Planned Behaviour. While physician reports on the expected impact of educational outreach are not as reliable as the more rigorous methods described in part two of this report, this type of approach tends to provide useful feedback that is relatively easy to collect.

This chapter provides summaries of each of these types of needs evaluation studies.

(1) NEEDS ASSESSMENT INTERVIEWS WITH PHYSICIANS IN NS

The Dalhousie Office of Continuing Medical Education has been running an Academic Detailing Service since 2001. Since then we have presented seven topics to physicians (Influenza/Pneumococcal Vaccines, Osteoarthritis, Hormone Replacement Therapy, Osteoporosis, Chronic Obstructive Pulmonary Disease, Statins and Prevention of Coronary Heart Disease, and Clopidgrel in Acute Coronary Syndrome). After the academic detailing visit, the detailer leaves a comprehensive handout with the physician. Academic detailers themselves develop this handout, with help from a drug evaluation pharmacist and guidance from a clinical content specialist and a family physician planning committee. The visits are interactive with the physician and academic detailer discussing contents of the handout. If the physician has any questions that the academic detailer cannot answer, she obtains the answer from the clinical content specialist and faxes it back to the physician. Thus this Service addresses individual learning needs.

Physicians who use the Service rate it highly and it is popular with those physicians who

The Dalhousie Academic Detailing Service surveyed physicians to explore what features of academic detailing encourage or discourage participation.

Drug Policy Futures is surveying B.C. physicians about chart inserts and patient handouts on costeffective prescribing.

In Manitoba an analysis of the determinants of prescribing behaviour has been conducted based on the Theory of Planned Behaviour. use it. Our records indicate that 361 (43%) physicians have never used the Academic Detailing Service, 116 (14%) have used it once, and 364 (43%) have used it more than once. We would like more physicians to take advantage of the Service.

Objectives

The purpose of this project is to explore why physicians use or do not use academic detailing and how we can make it better meet their CME needs.

We wish to address the following questions:

What features of academic detailing

- encourage physician participation?
- discourage physician participation?
- do physicians find valuable?

How can academic detailing be improved to better meet the CME needs of physicians? What is the value of academic detailing compared to other forms of CME?

Methods

Study subjects

Our study subjects were physicians who had

- never used the Academic Detailing Service (Used Never Group)
- used the Academic Detailing Service only once (Used Once Group)
- used the Academic Detailing Program more than once (Used > Once Group).

Data collection

We used two methods to collect data: questionnaires and telephone interviews.

Questionnaires

We mailed questionnaires to all physicians in each group. The questionnaire was pilot tested by 4 physicians from each group for face validity. A copy of the questionnaire is in Appendix B. Questions that asked respondents to rate factors as encouraging or discouraging their participation in academic detailing used a 5-point Likert scale where

- 1 = strongly discourage participation
- 3 = neither discourage or encourage participation
- 5 = strongly encourage participation.

To improve return rate we provided an incentive of a \$50 voucher for a book, restaurant, or Dalhousie CME program to be awarded to two randomly selected respondents. The questionnaire was mailed again to physicians who did not respond to the first mailing.

Interviews

To explore results of the questionnaire we used purposive sampling to hold telephone interviews with physicians from each group. We asked physicians filling out questionnaire to indicate if they would agree to an interview. Subjects received a \$50 honorarium for taking part in the interview.

Data analysis

Questionnaires

We calculated descriptive statistics for data collected in Likert scales and frequency distributions for non-continuous data. We compared responses of the three groups using polytomous regression (Likert scale questions) and chi-square tests. For questions

providing qualitative data, we listed responses and categorize them into similar themes.

Interviews

Interviews were tape recorded and transcribed. Two members of the research team read the transcripts and defined similar categories into themes. We used QSR NUD*IST 6 software for data management.

Results

Questionnaires

The following table shows the response rate for the questionnaire.

Table: Response rate to questionnaire					
	Never Used Group	Used Once Group	Used > Once Group	Overall	
Mailed	393	97	379	869	
Returned	69	28	192	289	
Response Rate	18%	29%	51%	33%	

Of the 205 respondents in the used > once group, 97 (47%) rated academic detailing as being more valuable than other forms of CME and 45 (22%) rated it as being much more valuable than other forms of CME.

The factor that most consistently encouraged physicians to participate in academic detailing was adopting an evidence based approach. It was the most encouraging factor for all of the groups: used never (mean 4.1/5 SD 1.1); used once (mean 4.2/5 SD 0.9); used > 1 (mean 4.4/5 SD 0.8). The second most encouraging factor for all of the groups was the usefulness of the handout material: used never (mean 3.4/5 SD 1.3); used once group (mean 4.1/5 SD 0.9); used > 0.9); used > once (mean 4.3 SD 0.8). The effectiveness of academic detailing as a way of learning was the third most encouraging factor for all respondents: used never (mean 3.4/5 SD 1.2); used once (mean 4.0/5 SD 1.0); used > once (mean 4.2/5 SD 0.9).

The primary factors that consistently discouraged physicians from using academic detailing are scheduling time to see the academic detailer, having CME provided by a non-physician, and spending time doing CME. The used never group found spending office time doing CME to be the most discouraging factor (mean 2.3/5 SD 1.2), followed by scheduling the time to the detailer (mean 2.6/5 SD 1.3). The third most discouraging factor for this group was having CME provided by a non-MD (mean 2.7/5 SD 1.3). Scheduling time to see the academic detailer was the most discouraging factor for the used once group (mean 2.8/5 SD 1.3). This group found CME provided by a non-MD and spending office time doing CME to be neutral factors (mean 3.1/5 SD 0.7; mean 3.1/5 SD 1.3). For physicians who had used the service more than once, the following factors were rated as neutral to slightly encouraging: 1) having CME provided by a non-MD (mean 3.3/5 SD 1.0); 2) spending office time doing CME (mean 3.3/5 SD 1.0); and 3) access to CME in other ways (mean 3.4/5 SD 0.9).

Interviews

We held interviews with 24 physicians: 7 from the used never group; 7 from the used once group; and 10 from the used > once group.

The factor that most consistently encouraged physicians to participate in academic detailing was adopting an evidence-based approach.

Factors discouraging physicians from participation include scheduling, CME provided by a non-physician, and spending office time on CME. Some physicians indicated academic detailing's evidencebased approach has led them to expect more evidence-based information from other CME programs.

The majority of respondents were satisfied with having CME provided by a non-MD. Physicians who had used the service at least once expressed support for the evidencebased balanced approach. Some physicians remarked that this approach is now 'normal' and expected as physicians seek to follow evidence based guidelines in their practices. This approach used in academic detailing affected physicians' appraisal of articles and their evaluation of messages from pharmaceutical representatives, but not how they evaluate advice from specialists. Several physicians also indicated that academic detailing's evidence-based approach has led them to expect more evidence-based information from other CME programs.

Based on their academic detailing experience, the physicians found that the topics were relevant and useful for family practice because they focused on common problems. Physicians also expressed an interest in larger, common problems such as hypertension and back pain. Most physicians were receptive to having two consecutive visits, with each visit concentrating on different aspect of a large, complex topic.

Physicians' provided positive feedback about the comprehensive resources from the academic detailer. They find the handouts are concise, up-to-date, and provide useful summaries. Many have referred back to the handouts after the service and some used them to study for exams. Suggestions for improvement including reducing the length of the handout, printing the handout in color, and providing the handout in electronic form so that it is available for download to a PDA.

Scheduling a time to see the academic detailer was an issue for some physicians. Most respondents were fine with scheduling the academic detailer during regular office hours if the service was delivered only a few times a year and only going to take a short time. One physician noted that s/he would rather spend the time with an academic detailer than a pharmaceutical representative. They expressed a preference for having the service delivered before or after they see patients, either at lunch or at the end of the work day. Almost all of the respondents said that they have difficulty finding the time to do CME, including academic detailing. Many in the used never group mentioned that they knew little if anything of the Service until the interview.

The majority of respondents were satisfied with having CME provided by a non-MD. They recognized that the academic detailers couldn't answer all questions but were satisfied that they found answers for them.

Physicians who had used the service at least once indicated that a valuable feature of academic detailing is its flexibility. Many were pleased that the academic detailer visits their office or home, at a mutually convenient time. They also appreciate that the service is delivered on a one-on-one or, occasionally, a small group basis, and takes only a short amount of time.

Conclusions

The study provided some unexpected results and ideas for new directions for the Academic Detailing Service. We were surprised that scheduling time to see the academic detailer and spending office time doing CME discouraged some physicians from participating in the Service. We thought providing CME in the office would be seen as convenient. We did not realize that for some physicians the demands of a busy office made it impossible to consider fitting in CME. We need to find other ways to reach these physicians with our evidence-based material. We have taken some steps in this direction by presenting at conferences and rounds and mailing summaries. Unfortunately these same physicians (the used never group) are somewhat unreceptive to receiving CME from a non-MD and we do not have an immediate solution to this problem. We also have to find a way to publicize the Service to physicians who have never used the Service. Currently we mail and fax notices to all family physicians when we have a new topic prepared. We may have to find other ways such as email to reach non-participants.

We were most encouraged to find that most physicians value the evidence-based approach that we have adopted. We put a lot of effort into producing our evidence-based material in a form that is easily understood by physicians and were gratified to find that this effort is appreciated. One of the goals of our Service is to make physicians more aware of the need to critically appraise information from other sources. Therefore we have tried to teach them to think in evidence-based terms such as absolute risk reduction and numbersneeded-to-treat. They appear to be adopting this message and are now more critical of the information they receive from pharmaceutical representatives, journal articles, and other CME events.

Physicians made several useful suggestions for improving our handout material such as shortening it, adding colour, and making it available electronically. We put all our information on the Dalhousie CME website but do not have the time or resources to format it for a PDA. We also find it difficult to shorten the material while maintaining our comprehensive approach.

Overall, physicians who use the Service (over 50% of those in our database) strongly endorse its approach and our efforts and so though we may make minor modifications we are reluctant to make major changes.

(2) BC CHART INSERTS PILOT STUDY

The current annual increase in PharmaCare costs in British Columbia, approximately \$90 million per year, could pay for the addition of approximately 600 GPs. The growth in BC drug costs is equivalent to the salaries of about two new GPs every day, yet interviews reveal that GPs do not know differences in drug prices. Methods are needed to provide physicians with evidence-based cost-effectiveness information on which to base their prescribing decisions.

Chart inserts (or chart reminders) are placed in the patient's chart to provide the physician with information to assist in diagnosis and treatment and can be targeted to specific diseases or population groups. They can take the form of a sheet of paper, a label or Post-it[®] Note, or perhaps a stamp. A common chart insert is the Rourke Baby Record series.

Objectives

The objective of the BC Chart Insert Pilot Study (BC ChIPS) is to provide physicians with useful information to support price-conscious prescribing at a time when it will be most useful—during a patient visit.

BC ChIPS is testing the effectiveness of information provided to physicians, both in the form of chart inserts and patient handouts.

Methods

BC ChIPS has developed chart inserts to be referred to by physicians, and handouts that physicians can give to patients. Physicians are offered the package of information and chart inserts and are asked to participate in a 15 minute telephone interview where they are asked about their opinions on the materials. Physicians are asked which of the sample materials they would like to receive and then are sent numbers of copies suitable for their practices.

We were surprised that scheduling and spending office time doing CME discouraged some physicians from participating.

A goal is to make physicians more aware of the need to critically appraise information from other sources.

The current annual increase in PharmaCare costs in BC could pay for the addition of approximately 600 GPs. Interviews reveal that GPs are not aware of differences in drug prices.

Chart inserts can take the form of a sheet of paper, a label or Post-it[®] Note, or perhaps a stamp.

BC ChIPS has developed chart inserts to be referred to by physicians and handouts that physicians can give to patients.



The drug price speedometer presents price information for four of the most common drug classes.

The speedometer offers physicians an opportunity to take drug cost information into account in their prescribing decisions.

The materials produced are the following.

Price Speedometer

Physicians are not very aware of drug prices. The drug price speedometer presents price information for four of the most common drug classes: calcium channel blockers (CCBs), angiotensin-converting enzyme inhibitors (ACE inhibitors), statins, and proton pump inhibitors (PPIs). The speedometer allows physicians, at a glance, to compare the relative cost of treating with a particular drug versus another within each drug class.

On the reverse side, in tabular form, is detailed information about the various tablet sizes and the costs for the generic and brand name versions of medications in the four drug classes.

The speedometer offers no recommendations about which drug should be prescribed, but rather offers physicians an opportunity to take drug cost information into account in their prescribing decisions.

Split-and-Save on Statins

Many physicians regularly practice tablet-splitting because for numerous medications, the prescription will go further if a higher dose is prescribed and the patient (or the pharmacist) splits the tablet. Physicians, however, may not know what a particular tablet looks like or if it is appropriate to split it. Additionally, because of a lack of familiarity with drug prices, they do not have a clear idea of the potential savings to be realized by tablet-splitting.

Two independent studies have shown that for statins, split-tablet dosing was as safe and effective as whole-tablet dosing when total cholesterol and LDL cholesterol values were compared.

The "Split-and-Save on Statins" handout shows photos of the actual statin tablets before and after being split by a tablet splitter (easily obtained in any drug store). The reverse side of this sheet lists more detailed information, including the various tablet dosages and the savings to be realized by splitting the tablets.

Equipped with this information, it is up to the physician to decide when it might be appropriate for particular patients to split their tablets.

Split, Save & Share

To help explain tablet-splitting to patients, this handout gives clear directions on how to use a tablet splitter, including photos. It is printed on a pad of paper, so a sheet can be torn off for each patient.

Framingham 10-year risk

Canadian guidelines for treating high cholesterol include a tool for calculating the 10-year risk of heart disease, both fatal and non-fatal. This tool has been reproduced for physicians in an easy-to-read format with values calculated for both men and women. The calculations use data from the Framingham Heart Study, and show the amount that statin medication is likely to lower the 10-year risk for patients who do not have diabetes or cardiovascular disease.

This chart insert will allow physicians to quickly summarize the risks of heart disease and the estimated benefits of statin medication for patients.

The Value of Drugs for Cholesterol

Two patient handouts are offered that explain the value of statin drugs for cholesterol. One handout is for people who have had a heart attack or a stroke, and one is for those who have not. The handouts show the benefit—that is, the reduction in the chances of an event—if a person takes a statin.

The reverse side of these handouts provides the patient information about splitting a statin tablet.

Results and conclusions

The Speedometer is widely seen as providing new information and being useful. Most MDs want a sheet for each examining room. Similarly, physicians have responded positively to the Split-and-Save on Statins piece, and most MDs want a sheet for each examining room. As well, physicians for the most part think it would be useful to hand out the Split, Save & Share tear-off sheet to patients.

Reaction is more mixed with the other three chart insert/ patient handouts. While many physicians acknowledge a positive feature of the 10-year risk is that it shows calculations for the benefits of taking statins in addition to calculating risks, many physicians have other favourite methods for doing Framingham calculations, and feel that this chart insert might be too difficult for their patients to understand.

The pilot study is still in progress. In the future, the hope is to offer chart inserts targeted to specific types of patients.

Two independent studies have shown that for statins, split-tablet dosing was as safe and effective as whole-tablet dosing.

The Split, Save & Share handout gives clear directions on how to use a tablet splitter, including photos.

The Speedometer is widely seen as providing new information and being useful. All five Canadian academic detailing programs rely on physician feedback as part of program evaluation.

Physicians are asked about their expectation that the messages delivered will influence their prescribing.

(3) PHYSICIAN FEEDBACK & SELF-REPORTED IMPACT EVALUATION

All five Canadian academic detailing programs rely on physician feedback as part of program evaluation and guiding program development. Often this takes the form of a brief post-visit interview or questionnaire. An exception described below is Manitoba's READ survey, which was used prior to an academic detailing intervention to guide topic development.

When physician interviews or surveys follow academic detailing sessions, the evaluation can serve both as a form of needs assessment and as a form of self-reported impact evaluation. Physicians may be asked about their expectation that the messages delivered will influence their prescribing.

An advantage of this type of evaluation is that it represents a low-cost, quick way to collect feedback on expected impacts on prescribing. A drawback is that there is likely a gap between expected and actual impacts. More rigorous approaches to impact evaluation are described in part two of this report.

A) BRITISH COLUMBIA: ACADEMIC DETAILING ON THE TOPICS OF HORMONAL CONTRACEPTION AND STATINS

Objective

To determine family physicians' opinions of academic detailing visits.

Methods

Family physicians participating in academic detailing session were asked at the end of the academic detailing session, verbally by the detailer, whether they thought the session was helpful/beneficial/useful to their practice. Comments about specific therapeutic topics were recorded if provided.

Result

Between April 29, 2005, and March 21, 2006, there were 49 family physicians who received an academic detailing session on either hormonal contraception or statins. At the end of the academic detailing session, 27 were asked whether they thought the session was helpful/ beneficial/useful to their practice. All 27 provided positive feedback which are summarized in the table below. Twenty-two were not asked their opinion of these sessions, but three of the 22 provided unsolicited comments, and these are also included in the table.

Discussion/critique

This approach to collecting feedback from physicians had a number of limitations. Physician respondents may have been uncomfortable with providing negative feedback, face-to-face, directly to the detailer. There were 22 physicians who were not asked the selfreported impact interview, due largely to time constraints. However, there may also be some selection bias inherent in the selection of physicians for feedback interviews.

Although it was not reflected in the number of responses to a specific therapeutic topic (see table), during the detailing session many of the physicians were really interested in various parts of the discussion even though it was not explicitly mentioned when the detailer asked whether they thought it the session was helpful/beneficial/useful to their practice.

Conclusion

Most of the responses regarding the academic detailing visits from family physicians were positive. Many of the physicians liked the data presented describing numbers needed to treat. Future self-reported impact interviews should employ a more rigorous methodology.

Table: Positive comments from an open-ended question, "was the session helpful/beneficial/ useful to your practice?" (n=30/30)

EC=emergency contraception; NNT=numbers needed to treat; PDA=personal digital assistant *Could also be viewed as a negative comment, because this physician uses the PDA exclusively and does not read or refer to information on paper.

Specific therapeutic topic	# of responses
Hormonal contraception	
Quick start	3
Diane 35 & venous thromboembolism controversy	1
5 day window with EC	2
Yuzpe equivalents	1
Cost differences for EC in physician clinic vs in the pharmacy	2
Pharmacists prescribing EC in British Columbia	2
Statins	
NNT table for dyslipidemia	6
Statin conversion table	1
Tablet splitting	1
"Confirmed what I knew"	2
Unbiased information	1
BC CDUP should distribute copies to other North Shore clinics	1
Would be more useful to have information on a PDA (not paper) *	1

B) ALBERTA: ACADEMIC DETAILING ON OSTEOPOROSIS

In Canada approximately 1 in 4 women and 1 in 8 men have osteoporosis. In literature reviews conducted for studies related to the assessment and treatment of osteoporosis in patients with fragility fractures, and in patients on long term glucocorticoid use, reported medication prescribing adherence to clinical practice guideline rates was found to vary from 4% to 86%.

A study by Majumdar et al (2004) showed that a multifaceted educational intervention improved adherence to osteoporosis clinical practice guidelines. The intervention consisted of physician reminders (personalized, patient-specific and faxed), treatment guidelines generated and endorsed by opinion leaders and patient education (provision of written materials and telephone counselling). A previous study suggested that a multifaceted educational intervention improved adherence to osteoporosis clinical practice guidelines.

Figure: Sequence of Individual Components of David Thompson Health Region Osteoporosis Educational Intervention



 Dr. Don Morrish (endocrinologist) plenary speaker. Telehealthed to 10 sites in David Thompson Health Region – 61 individuals attended (25 physicians and 36 pharmacists).

2. 51 detailing visits completed (detailing plus opinion leader sessions - Dr. Fred MacDonald).

3. Two reports sent - April and June 2004.

The Alberta Drug Utilization Program (ADUP) uses a multifaceted behavioural change strategy with complementary educational strategies in addition to academic detailing in order to optimize the impact in improving prescribing practice. These include passive guideline dissemination, multidisciplinary continuing education (CME), provision of printed materials, opinion leader consultation and comparative prescribing feedback reports.

Over the period from October 2003 to March 2004, ADUP delivered a multifaceted educational program including academic detailing to physicians in the David Thomson Health Region addressing national osteoporosis guidelines. An evaluation of this educational intervention included a survey of physicians about their satisfaction and interest and the expected impact on their prescribing.

Objectives

A survey of physicians aimed to assess levels of physician satisfaction and interest with education provided on osteoporosis as compared to earlier topics and to assess the expect impact on prescribing related to osteoporosis.

Method

Physician feedback about the educational visit and printed materials was collected in a post-visit questionnaire and evaluated the visit and the printed materials provided.

Results

The table below summarizes physician evaluations and compares the osteoporosis visits to data from previous topics. The mean scores for physician's evaluations of the osteoporosis detailing visit was 4.5 (out of 5) or higher except for the rating for the value of the visit compared to traditional continuing medical education (mean score was 4.2 out of 5). Mean scores are similar to scores attained for other topics. Visit times were the highest for the osteoporosis topic while physicians indicated the time was just right.

Table: Comparison of physician evaluation scores from academic detailing visits on three topics (Upper respiratory infections – URTI, gastro-intestinal – GI, and osteoporosis – OP)

Questions	Topic mean scores		
	URTI	GI	OP
Academic detailer acted in polite and professional manner (out of 5)	4.8	4.7	4.8
Academic detailer was knowledgeable (out of 5)	4.8	4.7	4.7
Information received was useful to my practice (out of 5)	4.5	4.7	4.6
Educational visit was valuable use of time (out of 5)	4.4	4.3	4.6
Visit meet my expectations (out of 5)	NA	NA	4.5
Value of educational visit compared to CME (out of five)	4.2	4.0	4.2
Time spent with detailer (minutes)	19.4	23.1	38.5
Was the amount of time (too long, short or just right)	Just right	Just right	Just right

ADUP delivered an educational program including academic detailing in the David Thomson Health Region on national osteoporosis quidelines. The following table shows that the mean score of physicians was 4.2 out of 5 in agreement to the three major behavioural messages.

Table: Physician evaluation scores to specific behavioral change questions as a direct result of the visit

Questions - As a result of this educational visit I will be more likely to:	Mean score (out of 5)
1. Assess postmenopausal women and men over 50 for risk factors for osteoporosis	4.2
2. Conduct BMD tests on all men and work over age of 65 years	4.2
 Consider bisphosphonate treatment for patients on long term moderate to high dose steroids (>7.5 mg prednisone for >3 months) 	4.3

Conclusion

The educational intervention was well accepted by physicians. Physician responses indicated they expected the key messages of the educational visit would influence their prescribing. This finding was corroborated by a pre and post intervention comparison of clinical practice guideline adherence which suggested physicians receiving academic detailing showed higher guideline adherence than a non-randomized control group (results not reported in this report).

C) SASKATCHEWAN: ACADEMIC DETAILING ON CHRONIC NON-MALIGNANT PAIN

The RxFiles conducted academic detailing sessions on drug treatment for chronic nonmalignant pain (CNMP). These sessions were carried out from October 2005 – January 2006. As part of ongoing satisfaction and impact evaluation a physician survey was sent to participating Saskatoon physicians in January 2006. The results of this survey follow.

Summary Up-Front

Thirty seven physicians voluntarily responded to the survey and indicated that the information from the sessions was useful. About four in every ten physicians responded to the survey. 97% indicated that the information was influencing their prescribing choices in some way. 53% indicated that they had already used or were planning to use a "treatment agreement" in CNMP patients going on regular opioids. Several physicians noted specific items of information that they were able to use in drug therapy decision making.

Results

1. *Was the information useful?* Physicians were asked to rate usefulness of various aspects of the information on a scale of 0 to 5 where 0 = not useful and 5 = very useful. The average rating for RxFiles CNMP information overall was 4.64 on the 5 point scale. The academic detailing session rating was 4.67.



Physician responses indicated they expected the key messages of the educational visit would influence their prescribing.

As part of ongoing evaluation a physician survey was sent to participating Saskatoon physicians in January 2006.

The average rating for RxFiles chronic non-malignant pain information was 4.64 on the 5 point scale.

2. Did the information influence prescribing choices?

- Physicians were asked whether the information influence their prescribing choices. **97% said "Yes."**
- Specific examples of decisions influenced included: choice of opioid, option of calcium channel blocker trial in Complex Regional Pain Syndrome (Reflex Sympathetic Dystrophy), more confidence in using opioids in CNMP, cautions when using fentanyl patch, use of Tramacet short term only, dose titration (pushing up the dose) of gabapentin in sub-optimally controlled patients, use of long-acting opioids instead of short acting opioids for chronic pain.
- 3. *Have you used a "Treatment Agreement" for CNMP patients who may require long term opioids?*
- 31% said "yes"; 22 % said "not yet" or "planned to"; 48% said "no"
- · 4 physicians stated that the RxFiles detailing was the factor leading them to use the form
- · Some of those who said "no" may still be planning to use
- Use of a treatment agreement was promoted as a way to encourage opioid use when appropriate, while setting boundaries for patients to guard against potential abuse, misuse and diversion.

D) MANITOBA: READ SURVEY

The goal of most academic detailing initiatives is to change the behaviour of the practitioner. It is often assumed that academic detailing will achieve this behaviour change by enhancing knowledge through education. Unfortunately knowledge and attitudes alone do not seem to predict behaviour. In the Rural Evaluation of Academic Detailing (READ) study we made use of the Theory of Planned Behaviour (TPB) to design a questionnaire to evaluate the target prescribing behaviours.



Most physicians in the RxFiles survey expected the information from academic detailing to influence their prescribing choices. In this model, perceived behavioural control (PBC) or the perceived ease/difficulty of performing the behaviour, combines with intention to predict the actual behaviour. Intentions are also determined by PBC, in addition to being influenced by attitudes and subjective norms (how others view your performance of the behaviour). A literature review of the application of TPB found over 500 papers but only 5% deal with medication use and only 2 papers deal with health professional use/prescribing behaviour. The application of TPB to explore prescribing behaviours to guide academic detailing is therefore a relatively novel concept.

Objective

The READ study involved academic detailing on beta-blocker use in congestive heart failure (CHF) and benzodiazepine use in the elderly. A TPB questionnaire was developed to assess the intentions, PBC, subjective norms, and attitudes associated with the prescribing behaviours of our academic detailing interventions. The results of the TPB survey will be used to guide the intervention materials and approach for the academic detailing sessions.

Methods

The TPB questionnaire was developed using a TPB manual for health services researchers developed at the University of Newcastle. Specific prescribing behaviours were defined by their Target, Action, Context and Time (TACT). This process identified benzodiazepines behaviour targets as two separate behaviours. Not starting benzodiazepines was seen as a separate behaviour from stopping a patient already established on benzodiazepines. A direct measures approach where physicians were asked directly about each of the TPB predictor variables was used. Each of the three components of the questionnaire was anchored by a clinical scenario. The questionnaire was developed through an iterative process involving academic detailers, health services researchers, a psychologist and physicians. (A copy of the READ Study Survey can be found in Appendix B.)

The survey was prepared on a single sheet of letter size paper and mailed to all READ physician participants prior to randomisation into intervention groups. Survey data was analysed using SPSS 12.0.

Results

The survey had a 75% response rate with 45 of 60 surveys returned.

Beta Blocker Use in CHF

Physician reported a relatively high intention to prescribe beta-blockers to patients with CHF (5.67 on a 7-point scale). The range of response, however, covered the whole scale from 1 to 7. Despite these good intentions when asked about their past prescribing behaviour physicians only reported prescribing beta-blockers to 39% of their patients. Intentions (0.955) and subjective norms (0.646) displayed reasonable levels of internal consistency (Cronbach's alpha > 0.6). Attitudes (0.499) had a lower alpha but this seemed to be related to the attitude questions related to risk/safety that scored much lower (more risky) than other questions. Stepwise multiple linear regression included attitudes, subjective norms and PBC as significant predictors of intentions (as the antecedent of behaviour). These factors explained 68.2% of the variance in intentions. Given a choice of all of the beta-blockers on the Canadian market, physicians most preferred beta-blockers were metoprolol (59%) and carvedilol (39%).

Discontinuing Benzodiazepines

The intention to discontinue benzodiazepines was the lowest of the three prescribing behaviours studied (4.67 on a 7 point scale). Once again the response covered the whole scale from 1 to 7. The internal consistency of responses was reasonable: intentions (0.914),

In this model, perceived behavioural control (PBC), or the perceived ease/difficulty of performing the behaviour, combines with intention to predict the actual behaviour.

The READ study involved academic detailing on betablocker use in congestive heart failure (CHF) and benzodiazepine use in the elderly. attitudes (0.705), subjective norms (0.605) and PBC (0.699). Safety questions produced similar responses to other attitude questions. PBC questions suggested that discontinuing benzodiazepines was considered difficult (median score 2.00 on 1 to 7 scale from difficult to easy). Stepwise multiple linear regression included attitudes and subjective norms as significant predictors of intentions. These factors explained 50.6% (adjusted R²) of the variance in intentions.

Not Starting Benzodiazepines

The intention to avoid prescribing benzodiazepines was reasonable (5.33 on a 7 point scale) and self-reported past behaviour indicated that only 2 of 10 patients would be prescribed benzodiazepines. The internal consistency of responses was reasonable for intentions (0.919), attitudes (0.663) and subjective norms (0.900). The internal consistency for PBC (0.509) was lower but eliminating questions failed to raise alpha substantially so all questions were included in the summary PBC score. Managing insomnia without benzodiazepines was seen as difficult (median score 3.00 on 1 to 7 scale from difficult to easy). Stepwise linear regression included attitudes, subjective norms and PBC as significant predictors of intentions. These factors explained 44.4% of the variance in intentions.

Conclusions

Beta Blockers in CHF

Physicians reported a low rate of prescribing beta-blockers (3.9/10) with a broad range (0-9). This suggests there may be a role for general education of beta-blocker use in CHF. Attitudes were the best predictors of intentions, and the risk/safety issue stood out as an impediment to prescribing beta-blockers. Detailing materials were developed to address both general education and the risk/safety issues for prescribing beta-blockers in CHF.

Benzodiazepines in the Elderly

Self-reported past behaviour and intentions were higher for not starting benzodiazepines than discontinuing benzodiazepines. Discontinuing benzodiazepines and managing insomnia without benzodiazepines were both seen as difficult behaviours. Physicians seem to be aware of the issues around prescribing of benzodiazepines to elderly patients. General education on this issue is likely to produce only limited benefits and should address the risks of long term use to encourage discontinuation. The difficulty of discontinuing benzodiazepines was addressed by detailing materials. Materials that supported the management of insomnia without benzodiazepines were also produced.

TPB questionnaire may be a useful strategy to identify behaviour target for academic detailing interventions. Physician time to complete surveys may be a limitation to the widespread adoption of this approach.

E) NOVA SCOTIA: ACADEMIC DETAILING ON CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Evaluation is a requirement for accrediting CME programs. Dalhousie CME has developed a simple one-page evaluation form that meets the requirement for accreditation and provides useful information. The form asks participants to rate their satisfaction with the academic detailing visit and to indicate their intention to change behaviour in accordance with academic detailing messages. The evaluation form for the topic on statins and cardiovascular disease is in Appendix B.

Results from this study suggest there may be a role for general education of betablocker use in chronic heart failure. The evaluation form can also be used for other purposes. For instance:

• On the evaluation form for the topic on chronic obstructive pulmonary disease we asked physicians to list the factors that made caring for their patients easier or more difficult.

Factors enabling care of COPD patients were grouped into the following themes:

- Information received from academic detailing and guidelines 25 mentions
- Medications 17 mentions
- Patient education and compliance 10 mentions
- Use of and access to spirometry 10 mentions

Factors that make COPD care more difficult were grouped into the following themes:

- Smoking 27 mentions
- Patient adherence 19 mentions
- Management problems 19 mentions
- We asked physicians to rate the usefulness of our handout book and laminate from previous visits and received the following results

Figure: Usefulness of handout book and laminate

	Seldom used	Used not valuable	Used somewhat valuable	Used very valuable
Handout (N=106)	22	5	46	33
Laminate (N=95)	29	4	35	27

Figure: Evaluation results from the topic on statins and cardiovascular disease

	Mean	SD	N
1. The academic detailer acted in a polite and professional manner	4.85	0.43	220
2. The academic detailer was knowledgeable	4.72	0.51	220
3. The information I received was useful	4.55	0.63	220
4. The detailing visit was a valuable use of my time	4.57	0.60	219

As a result of this academic detailing visit I will be more likely to:				
6. Encourage patients to decrease their CV risk factors	4.09	0.90	214	
7. Assess benefits and risks when considering statin therapy	4.30	0.73	210	
8. Use statin therapy for secondary prevention	4.24	0.78	210	
9. Closely monitor for adverse effects	4.37	0.78	211	

Although the evaluation from does not provide objective evidence of practice change, it does provide useful information.

CHAPTER 3: PRINTED EDUCATIONAL MATERIALS

Information design professionals were hired to provide guidance on design principles that could be applied to printed educational materials.

As a result of collaboration on statins, the group produced a common summary of evidence to guide physicians in the prescribing of statins.

Local adaptation of educational materials developed through national collaboration was found to be important. Different academic detailing programs across Canada produce printed educational materials in diverse formats but are often interested in delivering detailing sessions to physicians on similar topics. This gives rise to questions about the production and design of these materials: Does the design of academic detailing materials have an impact on their effectiveness in changing prescribing? What information design principles might guide academic detailing programs in the production of printed educational materials (PEMs)? Would collaboration on production of materials create efficiencies for these programs? Members of the CADC proposed two types of studies to explore these questions.

First, the collaboration planned to collect and critically review existing printed educational materials. The group hired a group of information design consultants to perform this review and provide guidance on information design principles that could be applied to printed educational materials. The series of studies undertaken by these consultants is described below.

Second, the group proposed to collaborate on producing a template for printed educational materials. CADC members worked together to review evidence and develop educational materials on the topic of statin prescribing for dyslipidemia.

As a result of collaboration on statins, the group produced a common summary of evidence to guide physicians in the prescribing of statins. (This summary is reproduced on the following page.) CADC member programs chose to incorporate this summary into locally developed printed educational materials rather than produce one common set of materials to be used in all provinces. The group process was no more efficient than working independently (at this stage in the collaboration), although it was found to be useful as a comprehensive process for reviewing evidence. In addition, a letter from the group on evidence-based prescribing of statins was published in *American Family Physician* (March 16, 2006).

While the group may collaborate in future on topic development and research, a lesson learned from this project has been the need for local adaptation of educational materials.

Summary of Outcomes from Statin Studies¹

This table summarizes evidence for efficacy of statins from double-blind RCTs and sub-group analyses of them in the outcomes of major cardiac events and all-cause mortality for different populations. Major cardiac events include *non-fatal MI* and **deaths from coronary heart disease**.

- Results are given as approximate numbers needed to treat (NNT) for 5 years and 95% confidence intervals (95% CIs) and are calculated as an estimate from all the studies listed. For example:
- If NNT = 25, you would need to treat 25 patients for 5 years to prevent one bad outcome.
- If 95% CIs = 10-40, if the study were repeated 100 times using the same sample size, 95 times out of 100 the true NNT will lie between 10-40.

Blue colour = Evidence indicating statistically significant benefit.

Yellow colour = Evidence insufficient to confirm benefit or no benefit because numbers of subjects or events were small.

	Major Cardiac Events Non-fatal MI, deaths from CHD		ac Events All Cause Mortality	
Primary Prevention	Drugs and trials	NNT for 5 years (95% CIs)	Drugs and trials	NNT for 5 years (95% CIs)
All men	Pravastatin _{WOSCOPS} Lovastatin _{AFCAPS/TexCAPS} ² Atorvastatin _{ASCOT-LLA}	45 (35-64)	Pravastatin _{WOSCOPS} Lovastatin _{AFCAPS/TexCAPS} Atorvastatin _{ASCOT-LLA}	
All women	Lovastatin _{AFCAPS/TexCAPS} Atorvastatin _{ASCOT-LLA}		Lovastatin AFCAPS/TexCAPS	
Elderly (≥ 65 years old)	Pravastatin _{prosper}		Pravastatin _{prosper}	
Persons with diabetes ³	Atorvastatin _{CARDS, ASCOT-LLA} ⁴	65 (34-588)	Atorvastatin _{CARDS}	
Secondary Prevention				
All men	Pravastatin _{LIPID, CARE} Simvastatin _{4S, HPS}	27 (22-33)	Pravastatin _{LIPID} Simvastatin _{4S, HPS} ²	39 (30-57)
All women	Pravastatin _{CARE, LIFID} ⁴ Simvastatin _{4S, HPS}	35 (25-59)	Pravastatin _{LIPID} Simvastatin ₄₅	
Elderly (≥ 65 years old)	Pravastatin _{CARE, LIPID, PROSPER} Simvastatin _{4S, HPS}	26 (21-34)	Simvastatin _{4S} Pravastatin _{CARE}	19 (12-40)
Persons with diabetes ³	Pravastatin _{LIPID} ⁴ Simvastatin _{4S}	13 (8-32)	Simvastatin _{4S}	

 Includes major statin trials for which there are specific data for CHD death and non-fatal MI. Generally these are limited to trials categorized as First Tier by Oregon Evidence-Based Practice Centre (good or fair-to-good quality with primary endpoints of cardiovascular health outcomes).

2. Values are from overall results since they were 75-85% men and men were not reported separately.

4. No statistically significant benefit shown from drug therapy.

^{3.} HPS not included because it did not report outcomes specifically for non-fatal MI/CHD death or primary/secondary prevention.
PEMS DESIGN STUDIES

To investigate questions concerning the design of PEMs, a series of projects was undertaken by information design consultants Jorge Frascara, Stan Ruecker and Bernie Roessler in collaboration with the CADC. The projects were overseen by Harold Lopatka of the Alberta Drug Utilization Program.

The studies focused primarily on developing guidelines for PEMs design and piloting performance measurement methods which can be used to monitor the effectiveness of educational materials. An initial performance measurement study tested two designs for materials on chronic obstructive pulmonary disease (COPD) with six physicians. A second study proposed guidelines for PEMs design based on the information design literature, using the previous COPD study as an illustrative case study. A third study revisited performance measurement of PEMs involving interviews with 19 doctors to test and collect feedback on dyslipidemia (lipids) educational materials from four academic detailing programs.

A study on "channels of communication" was also conducted. Consultants interviewed doctors about their existing use and preferences for "alternative channels of communication" – focusing on electronic media – for educational purposes.

(A) PERFORMANCE BENCHMARKING: COPD CASE STUDY

As a case study for this project, information design consultants used a summary of the Canadian Thoracic Society guidelines for chronic obstructive pulmonary disease (COPD), a two-page educational handout that had been designed for academic detailing on the topic.

Objectives

To illustrate the application of information design principles and the use of performance measurement for design of PEMs, consultants Jorge Frascara and Stan Ruecker redesigned the COPD handout and consulted physicians on both designs. Carrying out this simple pilot of "performance benchmarking" for PEMs also allowed the CADC to preview this method before hiring the consultants for a larger, comparative study on PEMs used for dyslipidemia.

Methods

The main steps to this study were scoping, design, performance testing and evaluation. Initially, the consultants interviewed three family physicians and five academic detailing professionals to develop the "performance specifications"—or in other words, desired qualities—for the given educational materials (scoping). Following this, the COPD materials were re-designed (design), and six physicians were consulted about both the original two-page PEM and new prototype. Specifically, physicians were asked to perform search and recall tasks with each document (testing), and rate each document for ease of use and provide comments (evaluation). The original COPD handout and the re-designed handout are shown below.

Typically, an original document would be used for performance testing (benchmarking), then redesigned and re-tested in an iterative process (potentially several times). However, for practicality, only one re-designed document was used, and it was tested at the same time as the original.

Results

At the scoping stage, it was determined that the COPD sheets served two main functions: (1) general review and updating, when the sheet is used the first time, and (2) quick

An initial study tested two designs for educational materials on chronic obstructive pulmonary disease (COPD) with several physicians.

Design consultants redesigned the COPD handout and consulted physicians on both designs.

Figure: Initial COPD educational material (page one of a two-page handout)

SUMMARY OF CANADIAN THORACIC SOCIETY COPD GUIDELINES

Chronic obstructive pulmonary disease (COPD) is a respiratory disorder largely caused by smoking. It is characterized by progressive, partially reversible airway obstruction, systemic manifestations, and increasing frequency and severity of exacerbations.

Smoking cessation is the single most effective intervention to reduce the risk of developing COPD and the only intervention that has been shown to slow its progression.

Diagnosis

A postbronchodilator forced expiratory volume in $1 \sec (FEV_1)$ of less than 80% of the predicted normal value and a ratio of FEV to forced vital capacity (FVC) of less than 0.70 are both required for COPD to be diagnosed.

Most patients with COPD are not diagnosed until the disease is well advanced. Spirometry targeted at individuals who are at risk for COPD can establish an early diagnosis.

Who Should Undergo Spirometry Testing to Detect COPD: A Decision Support

- Smokers or ex-smokers 40 years of age and older
- Individuals with persistent cough and sputum production, with frequent respiratory tract infections, or with progressive activity-related shortnessof breath.

Evaluation of the COPD Patient

Figure 1 shows a functional scale that is useful to assess shortness of breath and disability, and can assist in the evaluation of disease severity (Table 1).

]	Figure 1:	Assessing Disability in COPD	Table 1: Classification of Disease Severity		
	0	0	COPD Stage	Symptoms	
none	Grade 1	Breathless with strenuous exercise	At risk (does not yet fulfill diagnosis)	Asymptomatic smoker, ex-smoker or chronic cough/ sputum, but postbronchodilator $\text{FEV}_1/\text{FVC} \ge 0.7$ and/ or $\text{FEV}_1 \ge 80\%$ predicted	
	Grade 2	Short of breath when hurrying on the level or walking up a slight hill	Mild	Shortness of breath for COPD when hurrying on the level or walking up a slight hill. $FEV_1/FVC < 0.7$ and/ or FEV_1 60% to 79% predicted	
	Grade 3	Walks slower than people of the same age on the level or stops for breath while walking at own pace on the level	Moderate	Shortness of breath causing patient to walk slower than people of same age on the level or stop after walking about 100 meters (or after a few minutes) on the level. FEV_1 , FVC < 0.7 and/or FEV_1 40% to 59% predicted	
V	Grade 4	Stops for breath after walking 100 yds	Savara	Shorthood of brooth regulting in the potiont too	
severe	Grade 5	Too breathless to leave the house or breathless when dressing	Severe	breathless of oreal resulting in the patient too breathless to leave the house or breathless after dressing/undressing or the presence of chronic respiratory failure or clinical signs of heart failure. $FEV_1/FVC < 0.7$ and/or $FEV_1 < 40\%$ predicted	

Physical examination and chest x-rays are not usually diagnostic but are helpful to rule out comorbidities and complicating diseases. Arterial blood gases should be considered in patients with an $FEV_1 < 40\%$ predicted.

COPD and asthma are fundamentally different and this diagnostic distinction should be made.

COPD patients tend to have later age onset, a significant smoking history and slowly progressive symptoms over years. Patients with COPD never normalize their lung function.

Consider referral to a specialist when:

- Diagnosis is uncertain
- Symptoms are severe or disproportionate relative to the severity of air flow obstruction on spirometry
- Onset of symptoms is at a younger age (< 40 years).

Specialists can assist with the management of COPD patients who fail to respond to combined bronchodilator therapy, have severe or recurrent exacerbations, have complex comorbidities, require pulmonary rehabilitation, require assessment for home oxygen or may be candidates for surgical therapies.

For complete guideline refer to: Can Respir J. 2003 May-Jun;10 Suppl A:11A-65A

Administered by the Alberta Medical Association

SUIDELINES Series.

Figue: Re-designed COPD educational material (page one fo a two-page handout. Produced by Jorge Frascare and Stan Ruecker for the Alberta Drug Utilization Program.

SUMMARY OF

CANADIAN THORACIC SOCIETY COPD GUIDELINES

Reproduced with permission. For complete guideline refer to Can Respir Journal 2003, May-June; 10 Suppl. A:11A-6

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) is a respiratory disorder largely caused by smoking. It is characterized by progressive, partially reversible airway obstruction, systemic manifestations, and increasing frequency and severity of exacerbations.

Smoking cessation is the single most effective intervention to reduce the risk of developing COPD and the only intervention that has been shown to slow down its progression.

1 DIAGNOSIS

Required conditions

A postbronchodilator forced expiratory volume in 1 second (FEV1) of less than 80% of the predicted normal value and a ratio of FEV1 to forced vital capacity (FVC) of less than 0.70.

Early diagnosis

Most patients with COPD are not diagnosed until the disease is well advanced. **Spirometry** targeted at individuals who are at risk for COPD can establish an early diagnosis.

Who should undergo spirometry testing to detect COPD

- Smokers or ex-smokers 40 years of age and older.
- Individuals with persistent cough and sputum production, with frequent respiratory tract infections, or with progressive activity-related shortness of breath.

2 EVALUATION OF THE COPD PATIENT

The **Medical Research Council Dyspnea Scale** is useful to assess shortness of breath and disability, and can assist in the evaluation of disease severity.

Assessing disability in COPD (Dyspnea scale)

Grade 1 (none)	Breathless with strenuous exercise
Grade 2	Short of breath when hurrying on the level or walking up a slight hill.
Grade 3	Walks slower than people of the same age on the level or stops for breath while walking at own pace on the level.
Grade 4	Stops for breath after walking 100 yds.
Grade 5 (severe)	Too breathless to leave the house or breathless when dressing.



COPD GUIDELINES

Administered by the Alberta Medical Association / Guidelines, Alberta Clinical Practice

COPD and asthma are fundamentally different and this diagnostic distinction should be made.

COPD patients tend to have:

- later age onset,
- a significant smoking history, and
- slowly progressive symptoms over years.
- Patients with COPD never normalize their lung function.

Consider referral to a specialist when:

- diagnosis is uncertain
- symptoms are severe or disproportionate relative to the severity of air flow obstruction on spirometry
- onset of symptoms is at a younger age (< 40 years).

Specialists can assist with the management of COPD patients who fail to respond to combined bronchodilator therapy, have severe or recurrent exacerbations, have complex comorbidities, require pulmonary rehabilitation, require assessment for home oxygen or may be candidates for surgical therapies. reference, typically in reference to a specific patient. A more detailed list of performance specifications was also made for the educational material prior to designing the new prototype. Specifically, it was determined that it should be easy to: find a sheet in a group of similar material, store the sheet, identify the topic of the sheet, follow the intended sequence of the text, read all texts, find a specific section in the text, identify different degrees of severity where they exist, find references to drugs, and remember the contents of the sheet.

In the performance testing, participating physicians performed better in search and recall tasks with the re-designed prototype as compared to the original COPD materials. As well, the new version ranked higher for ease of use. Elements of the new design included changes in colour, type and sequence of information.

Conclusion

This basic study demonstrated that applying principles from information design to PEMs can improve physicians' performance in search and recall tasks, and improve the ease of use for these materials. Further, the performance testing piloted in this study may provide a simple way to improve the quality of educational materials for physicians. For instance, this type of testing might be incorporated into the materials development so that materials would be piloted and tested with some physicians before they are used more widely.

(B) DESIGN CRITERIA AND GUIDELINES FOR THE VISUAL PRESENTATION OF INFORMATION

The field of information design provides theory and empirical literature which may be a resource in the development of better design for academic detailing materials. The following study was carried out by information design consultant Jorge Frascara.

Objectives

This study aims to set out practical guidelines to assist academic detailing program leaders in the design of educational materials by drawing on accepted principles from the field of information design. The guidelines are intended to assist in the oversight of design, where materials are designed through collaboration between a content expert and information design professional.

Methods

A review of information design literature is used to elicit guidelines applicable to visual design communications and specifically educational materials for academic detailing. A rationale accompanies each guideline, relying where possible on empirical sources. Educational materials on dyslipidemia from four provincial academic detailing programs are also reviewed and used as examples to explain the guidelines. In addition, the consultants' earlier performance benchmarking study focusing on COPD guidelines (described above) is excerpted as an illustrative example.

Results

In all, the study proposes 34 guidelines on five themes relating to visual presentation of information: the organization of informational content, typographic selection, layout and readability, use of colour, and evaluation.

To cite on example, one of several recommendations on organization of content reads: "The information should be divided into a maximum of five sections and each section should be divided into a maximum of five parts. Numbering the parts helps memorization of both the number of units and their sequence in either time or importance, particularly when they are three or more." A sample newsletter from one Better designed materials were easier to use and helped physicians perform search and recall tasks more efficiently. detailing program used ten subtitles, whereas these might be divided into two groups and perhaps numbered to assist memorization of content and sequence.

In addition to the larger list of guidelines, the study also produced a more concise checklist defining "steps of the design process" as a user-friendly reference.

Steps of the Design Process/ Checklist:

- 1. Define information content (identify related information sources).
- 2. Define information segmentation (no more than five sections).
- 3. Define information sequence.
- 4. Define ways of presenting the information (i.e., prose, list, diagram, chart, table, diagram, etc.)
- 5. Select a typeface that is readable in small sizes, has a good range of styles, and does not take too much space (For print: The Sans; for electronic documents: Arial or Georgia, that were specially designed for Microsoft Word. Also Times New Roman renders well on screen).
- 6. Define column width, considering between 7 and 12 words per line or 40 to 80 characters.
- 7. Use flush left composition (not justified), particularly for narrow columns.
- 8. Define type styles and sizes to distinguish hierarchies: titles, subtitles, sub-subtitles, text and emphases in text. Use size, tone, style consistently to distinguish levels of importance.
- 9. Define range of type sizes, between 6 and 12 points for text, and set it with two or three points of extra leading (line space).
- 10. Maintain editorial consistency so that the same kind of problem is solved in the same way across the document or the collection of documents.
- 11. Use blank spaces to facilitate reading and recognition of segments of information.
- 12. Use colour and tone making sure that colour or black texts maintain good contrast against their backgrounds, and that when a colour is used as a code it is in agreement with existing codes and it is used consistently.

Conclusion

Based on a review of information design literature, this study puts forward 34 pragmatic recommendations to guide the design of academic detailing materials. The recommendations are clarified by the use of examples from existing educational materials used by the participating detailing programs. This is enhanced by a 12-point checklist of the design process.

(C) PERFORMANCE BENCHMARKING AND INFORMATION DESIGN ANALYSIS: DYSLIPIDEMIA CASE STUDY

Academic detailing programs who are members of the CADC detailed on dyslipidemia during 2004-2005, and produced diverse printed educational materials for this purpose. While materials dealt with similar prescribing issues, their format ranged from one- or two-page summaries to a 55-page discussion document. For purposes of this study, a total of 12 dyslipidemia PEMs were provided by the B.C., Alberta, Saskatchewan and Nova Scotia programs. These diverse materials addressing the same detailing topic provided an opportunity for assessing the strengths of weaknesses of different designs for PEMs.

Objectives

In this study, consultants Stan Ruecker and Bernie Roessler aimed to assess the strengths and weakness of existing dyslipidemia materials through performance testing, collecting feedback from physicians and evaluation of documents by information designers. Using educational materials on the same topic from each participating province allowed for an assessment of diverse approaches. Since provinces produced documents not only with different design but also somewhat different goals, the objective of the study is not to rank the different designs but to provide a more indirect comparative analysis. The study aims to provide information to improve the performance of the educational materials in all programs.

Methods

In this two-part study, part one used "performance benchmarking" with physician interviews to assess the dyslipidemia materials (similar in approach to COPD benchmarking study described above), while part two consisted of an evaluation of the documents by the information design consultants.

The performance benchmarking component itself involved two steps. First, physicians were asked to use selected dyslipidemia materials from each province for simple performance tests. This involved asking physicians to respond to a pair of questions related to the content of a given province's educational materials. For example, the following two questions were asked to test the performance of Alberta's Framingham Risk Calculator tearaway sheet:

 What is the 10-year risk percentage for a 51-year-old male smoker with a cholesterol level of 4.73, and HDL-C level of 1.17 and a treated systolic BP of 138?
Which risk category is this person in?

Researchers recorded not only the time taken for each response but also whether the physician located the appropriate place in the package, located the relevant data or provided the correct answer to the question. As a second step in benchmarking, physicians were asked for their comments on all the dyslipidemia materials and also asked some general questions about their use and preferences regarding printed educational materials.

In part two of the study, the dyslipidemia materials from each province were individually assessed by the information design consultants according to the 12-point "Steps of the Design Process" checklist (developed in the PEMs design guidelines study described above).

Results

Performance benchmarking:

Most questions in the performance tests for the dyslipidemia materials were answered in about a minute or less. However, an interesting finding of this exercise was that physicians provided incorrect responses more often than one might expect. For instance, in response to the above questions based on the Alberta Framingham Risk Calculator, only half of participating doctors answered question 1 correctly and two thirds answered question 2 correctly. In this case, the researchers suggested that modifying the resource's design, such as closer grouping of related items and visual cues for differentiating sections, might improve performance of the document.

Similarly, the information designers performing the analysis were able to make design recommendations for each of the documents tested. Rates for correct answers in the performance testing varied, but for no document did all doctors answer correctly. Performance of PEMs from different provinces cannot be directly compared, since different questions were used for each set of documents.

Physicians were also asked to make comments on each province's materials and to respond to more general questions about educational materials. Many of the comments reflect the challenge of presenting comprehensive information in a concise, readily accessible format. As well, it's clear that preferences vary from physician to physician.

Saskatchewan's materials were praised for being comprehensive and including information not readily available elsewhere, while some found the its volume of information daunting. Conversely, physicians were very positive about the Alberta materials' easy of use and highlighting of information, while some indicated that additional information could be added. Other comments were aimed more directly at design rather than content, such as physicians' positive comments about Saskatchewan's effective use of colour coding, stratification of information and references.

Information design analysis:

Researchers provided feedback and suggestions for improved design for each of the 12 dyslipidemia documents, using their 12-point "steps of the design process" framework. This yielded practical suggestions for design changes in many cases.

Returning to the Alberta risk calculator example, the analysis makes the following observation: "The document begins with the reader calculating the risk points by reading horizontally to find the age, then vertically to find gender, arriving at an intersecting point (i.e., 46 year old + female = 3 points). Then the process changes, creating inconsistency and the possibility of a wrong calculation." In other words, the document could be revised to maintain editorial consistency, where the same kind of problem is solved in the same way throughout the document (point 10 from the design checklist).

Conclusion

This study provided both many specific suggestions for design improvements to the dyslipidemia PEMs and some more general observations about design approaches. The performance tests carried out with physicians provide the opportunity to determine whether physicians can find specific, important information in the documents or correctly use tools provided in the documents (such as the risk calculator). Since the tests are very specific, they may help pinpoint areas that require design improvement. Openended or general questions raised in interviews with doctors are more appropriate for eliciting comments on general points of content and design, such as an effective balance of concision and comprehensiveness.

This type of performance test cannot be conclusive about whether a given design has a greater impact on prescribing, but clearly it's important for the users of these documents to be able to find the relevant information in the documents and interpret information or tools provided effectively. Performance testing may provide a useful tool for quality improvement of PEMs. Tests could potentially be used in piloting of new materials or to periodically test materials to ensure quality.

The "information design analysis" component of this study demonstrated that the 12point "steps of the design process" checklist can be used to generate practical suggestions for design improvements. This could be used either in initial development or in re-design of educational materials.

Researchers provided practical suggestions for improved design for each of the 12 dyslipidemia documents from several provinces.

Performance testing may provide a useful tool for quality improvement of printed educational materials.

(D) ALTERNATIVE CHANNELS OF COMMUNICATION: REVIEW OF ELECTRONIC MEDIA

Academic detailing is typically part of a multifaceted intervention featuring printed educational materials and often other educational strategies such as audit and feedback or educational meetings. For most academic detailing programs in Canada, use of electronic media for educational outreach is limited to posting educational materials on program websites. Saskatchewan's RxFiles also provides drug charts and other health information in a format for personal digital assistants (PDAs).

Members of the B.C. Community Drug Utilization Program and Drug Policy Futures are participating as investigators in a Technology-Enabled Academic Detailing (TEAD) pilot project, based at the University of British Columbia. The TEAD study is comparing face-to-face academic detailing with "technology-enabled" academic detailing in which pharmacists and physicians communicate via web conferencing software rather than in person for educational sessions.

For this review, consultants Stan Ruecker and Bernie Roessler were engaged by the Alberta Drug Utilization Program to outline a variety of possibilities for using electronic media for communication between academic detailing programs and physicians to enhance the efficiency of effectiveness of academic detailing services.

Objectives

This review aimed to explore possibilities for using electronic media for academic detailing by considering media used in health information or other fields which might prove relevant to academic detailing.

Methods

Researchers compiled a list of 12 technologies for the review: personal digital assistant (PDA), teleconference, videoconference, website, blog, wiki, e-newsletter, listserv, online forum, synchronous chat, recommender system, and rich prospect browser.

Physicians, academic detailers and health information specialists were surveyed for this analysis. Questions about communication experience and preference were included in interviews with a total of 19 doctors in Saskatchewan and Alberta. Six academic detailers were also questioned about communication technologies. Health information specialists in Australia (Lynne Weekes and Judith Mackson) and Belgium (Karel van der Waarde) were consulted via email.

Results

For each technology in the review, the reviewers provided background, examples, a critique and an analysis of its possible use in academic detailing.

Findings include:

- PDAs were the most frequently mentioned alternative to print media by physicians surveyed (although this may not be surprising, since some participating physicians were based in Saskatchewan, where RxFiles assists doctors in using PDAs for educational purposes).
- Web logs, or blogs, might provide a useful means for detailers to record information about issues that arise during detailing session and share general questions and answers with other physicians. Or a collaborative blog might allow physicians to share information directly with one another.

RxFiles provides drug charts and other health information in a format for personal digital assistants (PDAs). Some studies have suggested that multifaceted interventions may be more effective than single interventions.

PDAs are likely the most promising technology for increased use by academic detailing programs.

Programs may be able to make more use of the web by adopting approaches such as collaborative blogs or online forums. • Online forums could facilitate discussion and debate among physicians or provide a venue for obtaining expert advice. An effective strategy to encourage membership would be an important part of making this work.

Conclusion

Some studies have suggested that multifaceted interventions may be more effective than single interventions (Grimshaw et al 2001; Gross and Pujat 2001; Hulscher et al 2005). Several of the technologies reviewed are mutually compatible and might complement multifaceted intervention incorporating academic detailing.

PDAs are already used to some extent by RxFiles in Saskatchewan, and this may be the most promising technology for increased use by academic detailing programs. Programs may be able to make more use of the web by adopting some of the innovative technologies reviewed in this study, such as collaborative blogs, wiki or online forums. An online forum could bring together physicians, specialists, detailers and even experts such as statisticians in a discussion of best practices.

CHAPTER 4: TIME AND MOTION STUDY

The value of an accurate assessment of the time and dollars devoted to specific components of academic detailing is clear. Detailing programs would like to make the best use of the available resources to promote cost effectiveness and quality of delivery. Assessing the time and costs associated with each part of program delivery is a first step to analyzing cost effectiveness, identifying improvements to efficiency, or simply predicting the cost of program changes. To this end, the CADC collaborated on a "time and motion study" involving four detailing programs.

RxFiles Program Coordinator Loren Regier carried out the study in collaboration with the other participating programs. Four programs participated: Saskatchewan, B.C., Alberta and Nova Scotia. Programs collected time and motion data on activities related to topic research and development, training, and detailing visits. Each province recorded data such as time spent in training sessions on a given topic, distance travelled to a detailing visit and the number of prescribers seen in each visit. The data collection tool was initially piloted when programs were detailing on chronic obstructive pulmonary disease (COPD). Following this pilot of data collection, the study focused on detailing for dyslipidemia (lipids) in four provinces and for multiple topics in Saskatchewan.

Objectives

Researchers aimed to carry out a time and motion study that would provide an accurate record and analysis of the activities involved in academic detailing in various provinces. A key part of the analysis is accounting for variation between program approaches for detailing on the same topic (lipids), or variation within a program, e.g., urban versus rural detailing. More broadly, the purpose of the analysis was to contribute to better understanding and decision-making within programs on allocation of time and resources.

Methods

The study involved developing tools for data collection and analysis, collection of data by four provincial detailing programs, and analysis of time and motion descriptive statistics.

As an initial step, key activities for academic detailing were identified. For purposes of later analysis, these activities were grouped into the categories of topic research and development, training, and detailing visits (a category for administration was not measured, but was included in the overall estimate of total detailing costs). For instance, training costs included preparation, training sessions, travel and "other" training expenses. Forms were created for tracking and recording time and motion data. (See Appendix C for a sample of forms used.) A database in Microsoft Access was also designed for storing data and converting data into summary statistics.

Programs collected data by recording time and distances in the forms designed for this purpose. Data was then re-entered in electronic version of the form (in an Excel spreadsheet). Upon completion of detailing on the lipid topic, each program submitted its completed spreadsheets to the Saskatchewan program. Data was then imported into Programs tracked time and distances related to topic research and development, training and physician visits. the database for generation of summary statistics, such as time and cost spent on research, training or detailing by a given province, or time and cost per prescriber. In Saskatchewan, time and motion data were also collected on additional topics (Parkinson's & restless leg syndrome, and chronic pain) and on the orientation of new physicians.

Analysis was based on comparison of descriptive statistics across programs and within programs (e.g., comparing urban and rural detailing, and one topic versus another).

Results

Topic Research and Development

Each of the four programs participating in this study approached the topic of lipids (and prescribing of statins) in a different way. B.C. covered the topic as part of a crossover project and had a limited number of physician visits. Alberta detailed on key guideline areas and the session was the first offered as part of a program expansion. Saskatchewan included the topic in conjunction with another topic on Post-MI Pharmacotherapy. Since lipids had been discussed two years previously and trial Q&A Summaries had been published on new major outcome trials, the research time was limited to time necessary to update information rather than develop the topic from scratch. Nova Scotia did an extensive "first-time" work-up on the topic and developed a detailed discussion document in addition to a concise detailing document. All programs also participated in discussions of evidence and printed educational materials development (in monthly web conferences), although this project related time is not fully reflected in the data.

Variations in the approach required result in wide variation in the estimated research time required for topic development. At the low end, research on lipids required 80 hours in B.C., 109 hours in Alberta and 240 hours in Saskatchewan, while at the high end Nova Scotia invested 925 hours in research on this topic. Time spent on research largely followed from the different requirements and approaches to the topic by the different programs, who produced different types of detailing resources in both form and content.

Research costs can also be considered as a percentage of total topic cost. The cost of research time represented approximately 33% of total topic cost for Nova Scotia and Saskatchewan, while research represented 60% of total topic cost for B.C. (since B.C.'s other costs are also relatively low due to having a single detailer and low number of physicians participating in this topic).

In Saskatchewan, research time devoted to different topics was relatively consistent, varying from 224 hours on Parkinson's disease and 240 hours on lipids to 300 hours on chronic pain.

	Time (Hours)	Total Cost Estimate	Cost/Visit	Cost/Prescriber
BC	80	\$3,360	\$258.46	\$210
AB	109	\$4,558.40	\$53.63	\$24.12
SK	240	\$10,080.00	\$61.84	\$25.78
NS	925	\$38,850.00	\$125.73	\$99.62

Table 1: Topic Research & Development – Lipid Lowering

Table 2: Topic Research & Development – Other Topics – Saskatchewan Only

	Time (Hours)	Total Cost Estimate	Cost/Visit	Cost/Prescriber
Parkinson's & Restless Leg	224	\$9,408.00	\$75.26	\$52.85
Chronic Non-Malignant Pain	300	\$12,600.00	n/a	n/a

Training

Training costs follow from time spent preparing training sessions, time spent delivering or attending training sessions, travel time and travel costs, and other costs (such as honorariums for specialist participation). Variation in training costs is expected based on the background of detailers and how extensive, complicated or controversial a topic is.

Typically, programs with multiple detailers provided training one or two days of inperson training sessions for detailers, while a single detailer program did not require inperson training. For example, the Saskatchewan program delivered an eight-hour session on dyslipidemia to five detailers for a total of 40 hours spent in training. For multiple detailer programs, training costs ranged between \$1883 and \$5129.67 per detailer trained and accounted for between 13% and 21% of the total detailing cost. Predictably, programs with more detailers tend to have a lower training cost per detailer.

Table 3: Detailer Training – Lipid Lowering

	Time (Hours)	Associated Costs	Total Cost Estimate	Cost/Visit	Cost/Prescriber
BC ^{1 detailer}	0	0	0	0	0
AB ^{5 detailers}	191	\$1,670.90	\$9,671.90	\$113.79	\$51.17
SK ^{5 detailers}	176	\$2151.40	\$9,543.40	\$58.55	\$24.41
NS ^{3 detailers}	350	\$689.00	\$15,389.00	\$49.80	\$39.46

Academic Detailing Visits

Cost in "time" of an actual detailing visit is comprised of time to book, travel, wait, discuss topic and follow up on questions arising from the visit. Average time spent discussing the topic with prescribers ranged from an average of 21 minutes in BC to 39 minutes in Saskatchewan.

Some programs provide academic detailing visits to groups of physicians as well as visits to individual physicians. A subanalysis of individual visits in Saskatchewan found that individual sessions are shorter, averaging 17.5 minutes per visit.

Travel variation: Saskatchewan 24 min/visit – 59 min/visit (accounting for rural visits)

Total time required per visit ranged from 60 minutes in B.C. to 94 minutes in Nova Scotia. Average number of prescribers seen per visit ranged from 1.3 in Nova Scotia to 2.4 in Saskatchewan.

Total cost per visit (excluding research/training) also includes travel allowance cost (0.35/ Km). Total visit cost ranged from \$52 - \$118 per visit and \$33 - \$94 per prescriber seen. The kilometres per visit ranged considerably from 13 km/visit in B.C. to 37 km/visit in Saskatchewan and 67 km/ visit in Nova Scotia. This travel component combined with

Table 4: Academic Detailing Visits – Lipid Lowering	Table 4: Academic Detailing Visits – Lipid Lowering	
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	Time (Hours)	Visits	Prescribers	Travel Km	Total Cost Estimate	Cost/Visit	Cost/Prescriber
BC	13	13	16	175	\$687.75	\$52.90	\$42.98
AB	96	85	189	1,853	\$6,379.45	\$75.05	\$33.75
SK	238	163	391	5,956	\$6,627.10	\$102.01	\$42.52
NS	483	309	390	20,852	\$36,705.20	\$118.79	\$94.12

the predominance of individual visits accounts for a fair increase in cost per visit in Nova Scotia compared to other programs. The B.C. program, with detailing area limited to North and West Vancouver required little travel compared to Saskatchewan and Nova Scotia programs, which have a greater geographical reach.

Total Costs to Provide an Academic Detailing Session

Time spent on office work, networking, accounting, organization, etc., will be significant especially for multi-detailer programs. Thus, an administration factor of 25% is included in overall Total Costs to the program.

Table 5: Academic Detailing Visits - Total Costs - Lipid Lowering Sessions

	Cost / Visit	Cost / Prescriber
BC	\$389	\$316
AB	\$303	\$136
SK	\$278	\$115
NS	\$368	\$296

Variation Within Programs

A number of factors vary even within the same program. In Saskatchewan, the cost of making a detailing visit (excluding other costs, such as research, training and administration costs) ranged from \$86 to \$145 per visit. Total cost per visit (including research, training, and administration) varies significantly more, ranging from \$170/visit in an urban area to \$703/visit in a rural area with relatively few doctors participating in this round of visits. The cost per prescriber ranged from \$70 to \$502 with the average cost being \$115. Geographic factors and number of physicians seen had the most impact on variation in average cost.

Variation - Program to Program

Extent of research and training required contributes significantly to the variation in overall cost of providing academic detailing. In Nova Scotia where the most extensive research work was done, this extra work amounted to an extra \$175.53/prescriber seen whereas in Saskatchewan where the topic was being revisited in conjunction with another topic, the research training component amounted to \$50/prescriber seen. In B.C. the actual research and training time was low compared to other programs; however with a lower number of prescribers detailed, it also contributed extensively to the total cost per prescriber (\$210/prescriber).



Geographic factors and number of physicians seen had the most impact on variation in the cost of academic detailing within the Saskatchewan program.

Extent of research and training required contributes significantly to the variation in overall cost of providing academic detailing from program to program.

Figure 1: Relative Contribution of Program Activities to Overall Cost for the Largest Canadian Academic Detailing Programs (Saskatchewan & Nova Scotia)

Physician Orientation Visits

A "New Physician RxFiles Orientation" is available to physicians who are new to Saskatchewan. Physicians are given an overview of program materials (e.g., comparison charts) that may be especially useful in getting orientated to drug therapy matters. They also receive information on the Saskatchewan Drug Information Service and the Saskatchewan Drug Plan.

Data on physician orientation visits in Saskatchewan shows the cost of ongoing orientation service that does not require research/training. This service is provided alongside of the academic detailing service. In 2005, 47 physicians received this service. Each visit averaged 22 minutes detailing time and 41 minutes total time including travel. The estimated cost per physician was \$38.49.

Conclusion

This study highlights significant differences in time and costs among programs for delivery of the lipid topic. Considerable differences in the research and development time devoted to lipids reflected different approaches to the topic in terms of printed educational materials produced and the content emphasized in detailing. Cost differences following from varied approaches to the topic also appeared to carry over into training costs for multiple detailer programs. Variation in academic detailing visit costs largely followed from distances travelled and the rate of individual versus group physician visits.

Given the considerable variation in costs for research, training and visits across programs, the total expenditures by programs including all of these components (plus administration) were surprisingly consistent. Variation in costs per prescriber were wider, again due to variation in rate of individual and group visits.

Interpreting the results of this preliminary study requires some caution. Programs are working in different contexts and produce different types of detailing materials while aiming to be responsive to local needs. Differences in cost do not necessarily mean that one program is more "cost effective" than another. A meaningful cost effectiveness analysis would require analysis of variations in information and messages provided, variations in expectations by the physicians and the impact on health outcomes, where expenditures per outcome might be examined. An accurate record of costs could be used as a first step for a fuller cost effectiveness analysis.

Caution is also required in assessing total program costs. Programs such as Saskatchewan's take a multifaceted approach. Significant time is allocated to activities beyond academic detailing that enhance credibility and reach of the program information. Such activities include supplying speakers with handout material, teaching and facilitating student, resident and practitioner education, providing services to nurses, pharmacists, psychologists, and other allied healthcare professionals, consulting service to local and national initiatives such as guideline, practice and research groups. Such interactions add value, visibility and credibility for the program.

The results of this study can be expected to act as a guide to estimating costs of program changes or, ideally, identifying program efficiencies. For instance, moving toward more detailing of groups of physicians could save time in reducing the number of sessions, but this would be partially offset by the greater length of time required for each session by physicians. Such an increase in required time may result in some physicians opting out of detailing sessions due to time constraints. Expanding a detailing program in a rural area may be expected involve very different costs for delivering each detailing visit. Similarly, any jurisdiction contemplating establishing an academic detailing program would benefit from considering expenditures incurred by existing programs and factors that contribute to costs.

The total cost of delivering academic detailing in each province varied from \$278 to \$389 per academic detailing visit.

The scope of this study did not include cost effectiveness analysis, which would require data on health outcomes.



Part Two: Outcome Evaluation

The studies in Part One of this report are concerned with improving the delivery of academic detailing by identifying best practices from existing programs, better responding to physician needs, integrating better information design into printed education materials or organizing program delivery in an efficient manner. An underlying aim of many of these studies is to increase the effectiveness of academic detailing. It is also important to measure the impact of academic detailing on prescribing and patient outcomes. Part two of this report focuses on steps taken by Canadian academic detailing programs toward rigorous impact evaluation.

Randomized crossover trials in B.C. have provided a model for impact evaluation among Canadian academic detailing programs.

In Canada, the BC Community Drug Utilization Program's crossover trial to evaluate academic detailing on the topic of congestive heart failure (with cox-2 inhibitors as a control topic) has set a precedent for rigorous evaluation of academic detailing. This trial was completed in 2000–2001, and impact analysis of the trial has been carried out as part of the CADC's two-year program of process and outcome evaluation (chapter 5).

As part of the group's evaluation program, the CADC proposed analyzing the feasibility and validity of using provincial drug claims and health services data for impact evaluation of academic detailing. These issues were studied using provincial data from BC CDUP's crossover trial on congestive heart failure as an illustrative case study. The findings from this analysis have been summarized in an article appearing in March 2006 issue of *Basic* & *Clinical Pharmacology and Toxicology*² and are briefly summarized in chapter 6 of this report. The study's review of methods for impact evaluation applies not only to academic detailing but also to a proposed trial of physician education materials and more broadly to trials of educational and policy interventions in primary care.

The B.C. program followed its congestive heart failure trial with additional randomized crossover trials on the topics of diabetes and anti-thrombotics in 2003, and dyslipidemia and oral contraceptives in 2005-2006. This series of trials has provided a model for further impact evaluation among Canadian academic detailing programs.

Malcolm Maclure, Anne Nguyen, Greg Carney, Colin Dormuth, Hendrik Roelants, Kendall Ho, Sebastian Schneeweiss. (March, 2006). "Measuring Prescribing Improvements in Pragmatic Trials of Educational Tools for General Practitioners." *Basic and Clinical Pharmacology and Toxicology* 98 (3): 235-330.

Over the past two years, the CADC set out to test the feasibility of using this same methodology in other provinces, focusing on the topic of dyslipidemia. While B.C. was able to implement an additional trial with a randomized crossover design, other provinces decided during the course of the larger feasibility study to pilot a randomized delay without crossover for purposes of impact evaluation. The Saskatchewan-based RxFiles program and the Dalhousie Academic Detailing Service in Nova Scotia experienced some success with this approach. The experiences of all provinces participating in this feasibility study are described in chapter 7.

Independently, the Prescription Information Service of Manitoba (PrISM) set out to do an impact evaluation using a randomized control trial design focused congestive heart failure. The trial has been successfully completed, although the data analysis for the impact evaluation has not yet been completed. The approach and progress of this study is presented in chapter 8.

The CADC and Drug Policy Futures also set out to examine the feasibility and impact of physician reminders. In B.C., Drug Policy Futures has surveyed physicians across the province on their preferences related to using chart inserts to encourage optimal prescribing (described in chapter 2). In Nova Scotia, the Dalhousie Academic Detailing Service has initiated a study to assess the impact of patient lists as physician reminders. Physicians can request from the provincial Ministry of Health a list of their patients relevant to a current topic used in printed educational materials and detailing visits. The patient list acts to prompt the physician to consider treating these patients as recommended in the educational materials or visits. The study is described in more detail in chapter 9.

Since the Canadian Institute for Health Information (CIHI) is tasked with collecting and managing prescription drug claims data as part of the National Prescription Drug Utilization Information System (NPDUIS), the CADC also proposed to test the feasibility of using this database for ongoing impact evaluation (chapter 10).

Outcome evaluation of academic detailing has many challenges and is still in its early stages among most CADC member programs. Still, considerable progress has been made, and efforts over the past two years have given rise to the following findings:

- Preliminary analysis of results from the B.C. Community Drug Utilization's randomized crossover study of academic detailing on congestive heart failure indicate that educational outreach influenced physicians to increase prescribing of some recommended drugs.
- While a crossover design is feasible in B.C., a randomized delay design is a more feasible approach to impact evaluation for most Canadian academic detailing programs. Programs in Saskatchewan and Nova Scotia implemented designed delays when detailing on dyslipidemia.
- There are significant logistical challenges to integrating rigorous randomized testing into existing academic detailing programs. Changes in research methods or program planning have been proposed to address these challenges.
- While national coordination of impact evaluation using data from NPDUIS may offer the promise of efficiencies in evaluation, this database does not yet contain data from many provinces and the feasibility of this approach is uncertain.

Some Canadian academic detailing programs piloted a randomized "designed delay" approach to impact evaluation.

Preliminary results from B.C.'s study on heart failure indicate educational outreach influenced physicians to increase prescribing of recommended drugs. Canadian programs are interested in ongoing impact evaluation. Additional funding will likely be required for building capacity in this area.

- Canadian programs are interested in ongoing impact evaluation. However, the resources required for conducting trials and completing data analysis represent another challenge for academic detailing programs. Additional external funding will likely be required for building capacity in this area.
- Continuing to work toward completing impact evaluations in all Canadian academic detailing programs would be a worthwhile goal and a significant legacy of work to date in this area by CADC member programs.

The following chapters summarize B.C.'s congestive heart failure crossover trial, a study of methods for measuring academic detailing impacts using provincial data, a study testing the feasibility of using crossover or designed delay trials for impact evaluation, Manitoba's randomized controlled trial, the use of patient lists as physician reminders, and a feasibility analysis of using NPDUIS for impact evaluation.

CHAPTER 5: RANDOMIZED CROSSOVER TRIAL ON CONGESTIVE HEART FAILURE IN BRITISH COLUMBIA

While a small but growing literature has demonstrated the impact of academic detailing on prescribing in other jurisdictions, no studies of academic detailing in Canada using a randomized design have yet been published. The B.C. Community Drug Utilization Program (BC CDUP) typically produces a newsletter for physicians four times a year and follows up with academic detailing visits to GPs in North and West Vancouver. In 2000-2001, the program conducted a randomized crossover trial to study the impact of its educational material and physician visits on prescribing related to systolic congestive heart failure. Funding to support this research was provided by North Shore Health Research Foundation (formerly Lions Gate Healthcare Research Foundation).

Systolic congestive heart failure (CHF) is a common serious illness with many proven therapies. While angiotensin-converting enzyme (ACE) inhibitors have been shown to reduce morbidity and mortality in patients with heart failure, some evidence suggests that this therapy is under-prescribed. Beta-blockers and spironolactone may be similarly under-prescribed for CHF. Conversely, other medications have some degree of contraindication in CHF, and their use should be avoided if possible. These include non-steroidal anti-inflammatory drugs (NSAIDs), peripheral alpha-blockers (e.g., doxazosin), most antiarrhythmics, and most calcium channel blockers.

Objectives

This study aimed to quantify the impact of academic detailing on prescribing related to CHF and on health outcomes. As primary objectives, the study set out to determine whether academic detailing resulted in:

- An increase in the prescribing of ACE inhibitors, beta-blockers, or spironolactone in patients not previously prescribed these medications
- An increase in the number of patients stopping alpha-blockers.

As secondary objectives, researchers examined the impact of academic detailing on prescribing of other drugs contraindicated for CHF and on hospitalizations and patient mortality.

Methods

Randomized delay and crossover design

This randomized crossover trial included three arms, or groups of physicians. Two groups of physicians were randomized as "early intervention" and "delayed control" groups. Both of these groups of physicians were detailed on CHF, but the delayed group was initially detailed on a different topic and received a CHF-related detailing session only after a delay. Following the delay, these groups of physicians were crossed over so that the early group received detailing on another topic while the delayed group was detailed on CHF. A third, non-randomized group of physicians received no educational materials or academic detailing sessions.

BC CDUP conducted a randomized crossover trial to study the impact of academic detailing on prescribing related to heart failure.

It is suspected that betablockers and spironolactone are under-prescribed for congestive heart failure.

Data

Provincial, administrative databases were stripped of identifiers which could identify physicians or their patients, encrypted, linked, and analyzed to assess physician prescribing and patient outcomes. Databases used included the B.C. Medical Services Plan (BC MSP), the Hospital Discharge Abstract Database (DAD), the B.C. Client Registry, and B.C. PharmaNet.

Time periods

Three time periods were defined for the study: a one-year period prior to the newsletter date (period 1), a period starting with the date of the CHF visit in the early intervention group and ending with the CHF visit in the delayed group (period 2), and a period starting with the CHF visit in the delayed group and ending 180 days later (period 3). During period 2, the delayed group and the non-randomized group act as control groups for the early intervention group.

Patients

Only patients identified with having CHF (based on diagnostic codes) who received more than 50 percent of their MSP-paid medical services from a single study GP were included in the study. Analysis was restricted to these "majority source of care" patients to decrease noise that would mask the impact of academic detailing.

Impact on prescribing

The impact of academic detailing on prescribing was evaluated by comparing starting and stopping of CHF-related prescriptions in the early intervention and the delayed control and non-randomized control groups in period 2. Differences in prescribing between the intervention and control groups were evaluated using calculations of adjusted relative risk.

Results

Preliminary analysis of results from the CHF trial indicate that academic detailing influenced physicians to increase prescribing of some recommended drugs.

The study had hypothesized there would be increases in prescribing of ACE inhibitors, beta-blockers (bisoprolol, carvediolol, metoprolol) and spironolactone, which are believed to be under-prescribed. A comparison of the early intervention group to the non-randomized control group shows that more patients were started on beta-blockers and spironolactone in the intervention group (as indicated by an adjusted relative risk of 3.88 for beta-blockers and 2.00 for spironolactone). These trends were statistically significant.

Other comparisons suggest a trend toward more patients being initiated appropriately on recommended heart failure medications. However, these trends were not found to be statistically significant. Similarly, there were no statistically significant trends in either the stopping of alpha-blockers (contraindicated for CHF patients) or in hospitalizations or deaths (not shown).

More patients in the early intervention group as compared with the nonrandomized control group were started on beta-blockers and spironolactone.

Table: Impact of academic detailing on prescribing of recommended CHF medications

New starts (no previous prescription in 365 days prior) in patients by drug category			
Drug Group	Expected change after academic detailing	Adjusted relative risk (Early vs. non-randomized control group)	95% CI
ACE inhibitors	+	1.21	0.74-1.98
ACE or ACE + diuretic	+	1.23	0.75-2.0
BB (bisop, carved, metop)	+	3.88	1.003-15.0
All BBs or BB + diuretic	+	2.18	0.998-4.78
Spironolactone	+	2.00	1.003-3.98
Drug Group	Expected change after academic detailing	Adjusted relative risk (Early vs. delayed control group)	95% CI
ACE inhibitors	+	1.01	0.46-2.2
ACE or ACE + diuretic	+	1.05	0.48-2.28
BB (bisop, carved, metop)	+	6.00	0.7-51.13
All BBs or BB + diuretic	+	2.25	0.76-6.62
Spironolactone	+	2.22	0.77-6.42

Conclusion

Researchers were able to document appropriate changes in prescribing of physicians who participated in an academic detailing session on congestive heart failure. In particular, physicians in the intervention group increased prescribing of beta-blockers (bisoprolol, carvediolol, metoprolol) and spironolactone, compared to a non-randomized control group.

A key limitation of the study was that the small sample size prevented researchers from analyzing potential changes in health outcomes that may have resulted from the academic detailing intervention under study. Similarly, only some measures of prescribing differences were statistically significant, and this may also be related to sample size. Collaboration among multiple Canadian academic detailing programs to establish a larger sample to test interventions is one option for addressing this shortcoming in future studies. This has been initiated in a pilot study of lipid-lowering drugs (described in chapter 7).

The B.C. Community Drug Utilization Program's significant degree of success in conducting this trial and analysis illustrates the feasibility of using a randomized delay and crossover design to provide a rigorous evaluation of the impact of academic detailing on prescribing. The study provides a model for future impact evaluation by BC CDUP and other academic detailing programs to use or adapt for evaluation, although different settings will provide different challenges. This study also provides a methodology to determine prescribing changes using provincial administrative databases. The potential benefits of inter-provincial collaboration in this area such as increased sample size and sharing of expertise may provide a further impetus for collaboration.

Researchers found appropriate changes in prescribing by physicians who participated in academic detailing on congestive heart failure.

BC CDUP's success in conducting this trial and analysis illustrates the feasibility of using a randomized delay and crossover design.

Further collaboration among programs may provide a larger sample and enable a more complete evaluation including health outcomes.

CHAPTER 6: MEASURING ACADEMIC DETAILING IMPACTS USING DRUG CLAIMS AND HEALTH SERVICES DATA

Since 1994, methods for lowcost education and policy trials to improve prescribing in British Columbia have been developed and tested.

Experience from these education and policy trials provides lessons for measuring the impacts of academic detailing or other interventions. The B.C. Community Drug Utilization Program's impact evaluation of academic detailing on congestive heart failure described in the preceding chapter demonstrates a randomized study design and a methodology for measuring prescribing changes using provincial drug claims and health services data.

Randomized pragmatic trials of academic detailing and other educational and policy interventions are needed to improve the quality and cost effectiveness of prescribing. Since 1994, methods for low-cost education and policy trials to improve prescribing in primary care settings in British Columbia have been developed and tested. Experience from these education and policy trials including BC CDUP's randomized trial on congestive heart failure provides a number of lessons for measuring the impacts of academic detailing or other interventions.

Objectives

This study reviews the methodology for using drug claims and other health services data to evaluate prescribing improvement programs and policies. Lessons are applied to a proposed trial of physician education tools for quality improvement of prescribing.

Method

Design issues for the trial include defining the potential program in causal terms using counterfactuals, narrowing analysis to the population affected, calculating the prescribing preference, adjusting for baseline differences, controlling for modifiers and confounders, and accounting for uncertainty when measuring impacts. Data from BC CDUP's randomized trial of academic detailing on congestive heart failure is used to illustrate measurement challenges.

Results

The review presents key findings on topics including randomized designed delays, measuring target behaviour changes, adjusting for past prescribing, detection of outcomes and re-use of control groups.

Randomized designed delays

Previous policy trials including BC CDUP's congestive heart failure trial demonstrate the feasibility of using randomized designed delays. A planned trial of physician education tools similarly proposes to randomize physicians by practice location into early intervention and delayed control groups. During the delay period, the control group demonstrates the counterfactual experience, or what would have occurred in absence of the policy. Pair matching can be used to reduce chance imbalances of practice characteristics between the early and delayed groups.

Prescribing and health outcomes can be monitored using data on drug claims, medical services, hospitalizations and deaths. For prescribing, medication starting, renewals and stopping rates can be examined.

Measuring target behaviour changes

Various measures could be used to monitor changes in prescribing. The simplest way to monitor changes in quality of prescribing is to use the numbers of patients (starting, renewing or stopping a prescription) to calculate odds ratios to approximate "relative risks" (ratios of probabilities) of prescribing a medication of interest across the intervention and control groups. Other data that may be taken into account to create more precise measures include the number of patient-physician visits, patient-physician visits followed by a dispensing of a relevant drug, first dispensings of any drug mentioned within educational materials, or first dispensings of any drug in a therapeutic class (e.g., any anti-hypertensive).

For impact evaluation of academic detailing, the "adjusted relative risk" of starting, renewing or stopping a particular prescription drug can be calculated as an appropriate measure to compare prescribing outcomes in the early intervention and delayed control groups. This measure would take into account not only the number of patients starting, renewing or stopping a prescription (in the numerator) but also the first dispensings of a drug mentioned in academic detailing materials and visits (in the denominator).

When estimating the average relative impact across diverse types of drugs, some commonly and some only rarely prescribed, ratios make more sense than differences. However, for trials interested in quantifying savings that results from an intervention, it will be necessary to measure absolute effects, differences between preferences, so the differences can be translated into dollars saved per prescription.

Adjusting for past prescribing

It may be desirable to adjust for chance imbalances in prescribing preferences at baseline to eliminate noise and improve the statistical power of the analysis. For trials in which the performance of individual GPs is of interest, individual-level adjustments can be made comparing each GP's change in prescribing preferences during the trial to the average change between the early and delayed groups.

Various methods of pair-matching can be used to adjust for chance imbalances between the early and delayed groups. One approach is pair-matching practice addresses and towns by geography and approximate number of physicians and target patients before randomization. Pair-matching on more characteristics can be done using propensity scores or by a process of re-randomization until a pre-determined minimum level of imbalance is achieved.

Detection of outcomes

Detection of outcomes and impacts is influenced by a range of factors. Issues to address include the following:

- Physician-days of follow-up for early and delayed groups. In the academic detailing trial on congestive heart failure, matching by visit times made follow-up durations similar.
- Patients who receive services from both early and delayed GPs might obscure the contrast and mask the true effect of the intervention. One way that this can be addressed is by restricting patients considered to those who receive the majority of their care from one physician.
- Since refills do not reflect a current decision by a prescriber, inclusion of refills tends to lead to underestimation of the impact of the intervention. To address this, analysis should aim to include renewals involving consultation with a physician but exclude refills.

Re-use of control groups

While doing pragmatic trials with multiple interventions, it can be efficient to re-use control groups. This approach has been effectively used in impact evaluation for *The*

For evaluation of academic detailing, the "adjusted relative risk" of starting, renewing or stopping a prescription drug can be used to compare prescribing outcomes.

Detection of outcomes and impacts is influenced by a range of factors. While doing pragmatic trials with multiple interventions, it can be efficient to re-use control groups.

A decade of experience provides a pragmatic approach for randomized trials of academic detailing and other educational tools and policies. *Therapeutics Letter*, incorporating an early intervention and delayed control design over a decade of evaluation (Dormuth et al 2004). While this presents the potential for confounding "carry-over effects" between interventions, carry-over effects in this context may alternatively be viewed as intentional parts of the educational intervention rather than confounders.

Conclusion

A decade of progress on methods for evaluating prescribing improvement programs with drug claims data provides a pragmatic approach for randomized trials of academic detailing and other educational tools and policies in primary care in BC. The following chapter describes initial efforts to conduct randomized trials of academic detailing in other Canadian provinces with educational outreach programs.

CHAPTER 7: FEASABILITY OF USING DESIGNED DELAY TRIALS FOR EVALUATION OF ACADEMIC DETAILING IMPACTS

Based on the B.C. Community Drug Utilization Program's previous success in piloting a crossover trial for evaluating the impact of academic detailing, the CADC proposed to assess the feasibility of using a similar approach to impact evaluation in other provincial programs.

The B.C. program's **randomized crossover** trial and subsequent evaluation focusing on congestive heart failure (with cox-2 inhibitors as a control topic) is described in chapter 5. Since this initial pilot, the program has undertaken two additional crossover trials. The first of these was based on the program's physician outreach on the topics of diabetes and anti-thrombotics, and the second is focused on the topics of dyslipidemia and oral contraceptives (in progress).

A crossover design involves initially randomly assigning physicians into two groups (after pair-matching to ensure similar physician characteristics across groups). Physicians in one group receive detailing sessions on the intervention topic (e.g., congestive heart failure), while physicians in the second group receive detailing sessions on a control topic (e.g., cox-2 inhibitors). Later, detailers deliver sessions on the control topic to group one and on the intervention topic to group two. All physicians are visited on both topics but at different times.

When the CADC set out to implement a similar study design in all participating programs, member programs chose to focus on dyslipidemia (as an intervention topic). Programs were already collaborating on developing this topic, so it made sense to use the topic as a test case for impact evaluation.

While the crossover design is being implemented in B.C. for dyslipidemia, other provinces have found this design to be impractical. A similar study design using a **designed delay** without crossover was proposed as a more practical alternative that would also offer the benefit of rigorous evaluation. Under this design, the control group of physicians does not receive a detailing session on a second topic but does receive a detailing session on the intervention topic after a time delay (such as six weeks). Again, all participating physicians receive detailing on the topic but at different times. Assuming that an academic detailing intervention is effective, the impact on prescribing might look like the Figure on the following page.

In addition to the B.C. program's implementation of a crossover study on dyslipidemia, programs in Saskatchewan and Nova Scotia implemented trials using designed delays for this topic with some degree of success. Designed delays were not feasible for the dyslipidemia topic in Alberta or Manitoba (for reasons described elsewhere in this chapter). However, PrISM has separately planned and implemented a randomized controlled trial as an approach to impact evaluation for another topic (as described in chapter 8).

This chapter reviews some of the feasibility issues relating to implementing crossover or designed delay studies for impact evaluation in each of the participating programs.

The B.C. program has used a randomized crossover model of impact evaluation for academic detailing.

In "designed delay" evaluation, a control group of physicians receives detailing on the intervention topic only after a time delay.

Two programs have implemented "designed delay" trials as a model for impact evaluation with some degree of success.



Change in prescribing after visit to early physician, compared to matching delayed physician, prior to the delayed visit.

BRITISH COLUMBIA EXPERIENCE

The Community Drug Utilization Program (BC CDUP) in North Vancouver has managed twice to do a crossover trial for impact evaluation, with a 6-month delay between the early and the delayed group, and another crossover trial is in progress. This has not been as easy to achieve in other provinces. What are potential unique factors contributing to the success in BC?

- 1. The suggestion to evaluate impacts using a crossover design originated from B.C. PharmaCare, the organization sponsoring BC CDUP. It was made after a Treasury Board official reportedly said to PharmaCare, the BC CDUP program should be cut if it has not been evaluated and shown to be of benefit to PharmaCare. PharmaCare's message to BC CDUP was clear: a rigorous evaluation will help sustain the program.
- 2. The high priority placed by PharmaCare on evaluation meant that the risk to BC CDUP of delays from preparing 2 topics in parallel were low. In contrast, when academic detailing programs in other provinces expressed willingness to try doing a crossover trial, they were taking more of a risk of displeasure from their funders if their efficiency of operation were reduced because of the crossover trial.
- 3. BC CDUP has been considered a pilot program, although it has had this status for 10 years. This meant that the need to recruit additional doctors from the non-participants was less than the need to do a good job among participants. Therefore, the ability to prepare 2 topics simultaneously was not impeded by a growing demand for visits by newly recruited physicians.
- 4. The pharmacist doing the review of evidence was also the pharmacist delivering the educational messages, so the risk of confusing studies between the two topics was low. If BC CDUP were a large program, the detailing would be done by detailers who do not have time to be immersed in the original studies, but can only be given brief training sessions. Getting two simultaneous brief training sessions might confused the detailer.

ALBERTA EXPERIENCE

The Alberta program details physicians in two health regions; David Thompson and Calgary. The design delay could not be implemented in either region for the dyslipidemia topic. The detailer covering the David Thompson health region resigned before the topic was to be detailed. As a result the topic was delivered only to a limited number of physicians as a replacement detailer could not be hired in time to deliver the topic to all physicians. The dyslipidemia topic was the first topic delivered in the expansion into the Calgary Health Region. The detailers were new to the region and this was their first attempt at recruiting physicians to the new program. They could not balance the activities of becoming familiar to the region, recruiting new physicians and carrying out the design delay for this topic.

SASKATCHEWAN EXPERIENCE

The RxFiles originally was willing to try a crossover trial if other programs were willing. However, there was concern that it would produce inefficiencies.

After Alberta's concerns led to abandonment of the plan for a crossover trial in multiple provinces, Saskatchewan was first to do the designed delay trial. Physicians' addresses were pair-matched by approximate size and geography, and randomized to Early or Delayed groups. Physicians at Early addresses were contacted first. The delay until the Delayed group needed to be contacted was only about three weeks. This is because many physicians in the Early group were unable to schedule an appointment for many weeks, so the easy-to-meet physicians in the Early group were already "used up" by three weeks, and pressure quickly mounted to contact Delayed physicians as soon as possible. Some physicians in the delayed group actually booked visits before being contacted due to word getting around that visits were being booked. Also, several physicians work in more than one office setting, especially if providing coverage for minor emergency/walk-in clinics.

A typical pattern of workflow for the detailing programs is for easy-to-meet physicians to produce heavy demand for detailing as soon as a new topic has been prepared. As the detailing moves from the easy-to-meet to the difficult-to-meet physicians, the demand for detailing time shrinks, allowing more time to be spent preparing the next topic.

For designed delays to be implemented on an ongoing basis, the workflow might need to be re-designed to some degree. One issue is that the longer the delay, the more likely that a new study will be published requiring an update of the printed materials.

Saskatchewan detailers reported that designed delays were difficult for them to accommodate in smaller/remote rural towns. This led to reconsideration of the unit of aggregation. If neighbouring towns were aggregated, so that both would be in either the Early or Delayed group, then the detailer would continue to be able to combine several visits on one longer journey to remote towns. Alternatively, a procedure might be created for allowing pairs of practices to drop out of the randomized design if they encounter scheduling difficulties. These could be grouped into a non-randomized group for parallel impact analysis.

MANITOBA EXPERIENCE

The Prescribing Information Service of Manitoba (PrISM) was committed to doing a randomized crossover trial. Like the Calgary area for the Alberta Drug Utilization Program, PrISM is a new program. A list of existing participants was not available. Therefore, the plan was to randomize pairs of remote towns. However, the ability to recruit new participants to an academic detailing program is influenced by the topic. Randomly assigning towns to two different academic detailing topics would probably result in different participation rates in each town. Therefore, the impact analysis would need to be an "intention to treat" analysis using the entire physician population, combining non-participants with participants. This would reduce the ability of the trial to detect an impact of academic detailing.

PrISM asked whether the two topics in the crossover trial needed to be exactly simultaneous. The answer was no. A randomized delay for one topic, followed a month or two later by another topic with its own designed delay, would be fine. It could even be 6 months before the second wave of the crossover trial, where the second topic is given early to the previously Delayed group, and it is delayed in the previously Early group. The principal advantage of doing two interventions simultaneously is to avoid going 9 to 12 months without seeing a participating physician. (Managers of academic detailing programs regard frequent visits as desirable, because the help build the physician's trust of the detailer.)

PrISM is planning to use a crossover design for an intervention to enhance adverse drug reaction reporting.

NOVA SCOTIA EXPERIENCE

The addresses of participating physicians were paired and randomized to early or delayed. Invitations were sent to the early group first. The delay between the earliest early physicians and the earliest delayed physician was about 6 weeks. There were numerous examples of early physicians being greatly delayed until after the delayed group began to be invited. However, for the easy-to-meet physicians, there was fairly good separation of the early and delayed physicians. The distributions of actual visit dates in the early versus delayed groups need to be compared to identify what factors influence the ability to implement randomized delays. It may be that larger practices are more difficult to schedule, whereas solo practices are easy.

Conclusions

Most member programs of the CADC preferred designed delays to a crossover design as an approach to impact evaluation of academic detailing. While crossover trials have been repeatedly used by the B.C. program, some circumstances in B.C. may make this approach easier than it would be in other provinces. Specific conditions in B.C. include a small program with one detailer and a relatively restricted geographical area. The designed delay was preferred by some provinces because it does not require preparing and delivering two topics simultaneously.

Despite significant challenges, this feasibility study provides some reason for optimism that regular impact evaluation using designed delays is feasible. The Saskatchewan and Nova Scotia programs were able to implement designed delays with some degree of success.

One challenge is that designed delays can be difficult to schedule due to physician needs or a program's time and resource constraints. Sometimes it can be difficult to schedule physicians for a detailing visit during the "early intervention" window of time during a trial, while at other times a physician randomized into the "delay control" group may prefer an earlier visit. Other concerns include a detailer's need to schedule travel in an efficient manner to conserve time and resources. Adapting study design may help address travel concerns, such as aggregating neighbouring towns and putting both into either "early" or "delayed."

Most programs preferred designed delays to a crossover design as an approach to impact evaluation of academic detailing.

Despite challenges, there is reason for optimism that regular impact evaluation using designed delays is feasible. Another challenge is that that delays of only 6 weeks may be insufficient to detect an impact. However, it is noteworthy that a 6-week delay among 400 physicians produces as much physician-patient follow-up time as a 6-month delay among 100 physicians. A statistically significant impact on prescribing of thiazide diuretics was seen within 6 months in The Better Prescribing Project, a randomized trial of educational modules and prescribing portraits, involving 200 GPs in British Columbia. Therefore, it is possible that aggregating across close to 1000 physicians in 5 provinces, impacts will be detectable in as narrow a window as 6 weeks.

Lastly, rigorous impact evaluation using crossover or designed delays requires resources, particularly for specialized data analysis which may typically need to be contracted out. External funding has supported analysis of the B.C. program's crossover trial on congestive heart failure, and additional funds will likely also be required for analysis of other trials in B.C. or other provinces. However, it can be expected that as programs add to their experience in impact evaluation, this will build capacity both for conducting trials and for data analysis.

CHAPTER 8: RANDOMIZED CONTROLLED TRIAL ON CONGESTIVE HEART FAILURE IN MANITOBA

In 2003-2004 the province of Manitoba spent \$185 million on prescription drugs. This was \$13 million more than budgeted and 15% more than in the previous years. There have been discussions about the need for a drug use management/education centre in Manitoba for more than 10 years. In this regard the Prescription Information Services of Manitoba (PrISM) was set up as a pilot project by Manitoba Health and the Manitoba Pharmaceutical Association. Initial efforts of PrISM focussed on the production of the Spectrum and SpectrumMD newsletters. PrISM has now delivered 30,000 newsletters on 17 different topics into the hands of every family doctor and every pharmacist in Manitoba. While the potential impact and cost effectiveness (Grimshaw et al. 2004) of this approach was recognised so were the potential limitations of passive distribution (Oxman et al. 1995, Mason et al. 2001). In partnership with CADC, PrISM looked to expand it service to include academic detailing. The Rural Evaluation of Academic Detailing (READ) study was set up as a randomised controlled trial to assess PrISM's academic detailing efforts. Rural Manitoba was chosen because some data suggest academic detailing may have a larger impact in smaller practices (Freemantle et al. 2002). It was recognised that academic detailing is a complex intervention and benefit from the sequential phased development of randomised controlled trials suggest by the Medical Research Council (Campbell et al. 2000).

Theory	Modelling	Exploratory Trial	Definitive RCT Compare a fully-defined	Long-term Implementation Determine whether others can reliably replicate your
Explore relevant theory to ensure best choice of intervention and hypothesis and to predict major confounders and strategic design issues.	Identify the components of the intervention, and the underlying mechanisms by which they will influence outcomes to provide evidence that you can predict how they relate to and interact with each other.	Describe the constant and variable components of a replicable intervention AND a feasible protocol for comparing the intervention to an appropriate alternative.	intervention to an appropriate alternative using a protocol that is theoretically defensible, reproducible and adequately controlled, in a study with appropriate statistical power.	intervention and results in uncontrolled settings over the long term.
Pre-clinical	Phase I	Phase II	Phase III	Phase IV
	CONTINUUM C	OF INCREASING E	VIDENCE	

Figure 1. Sequential phases of developing randomised controlled trials of complex interventions (taken from Campbell et al. 2000)

Given the limited time for the pilot a fully sequential approach was not possible. However, the project did involve a theory-based assessment of target behaviours (pre-clinical and phase I - see the summary of the READ Survey in chapter 2 of this report).

Benzodiazepine use in the elderly was selected as the control topic for the READ study. Benzodiazepine use in elderly Canadians is very common with 20-25% of the population over the age of 65 receiving at least one prescription per year (Therapeutic Initiative 2004, Osborne et al. 2004, Bogunovic 2004). Short term use (<3 weeks) is a safe and effective treatment of insomnia (Pimlott et al 2003), but long term use actually reduces the quality of sleep (Morin et al. 2004, Poyares et al. 2004) and is associated with dependence of these medications (Baillargeon et al. 2003). Furthermore benzodiazepine use in the elderly has been associated with memory impairment (Longo et al 2000, Matalon 1990), falls resulting in fractures (Ray et al 1987, Sorock et al 1988) and motor vehicle accidents (Hemmelgarn et al 1997). Unfortunately, efforts (bulletins, audit/feed-back, academic detailing) to reduce the prescribing of benzodiazepines to elderly patients have not always been successful (Pimlott et al. 2003, Zwar et al. 2000). The READ project will take advantage of benzodiazepine use in the elderly as the control topic in order to gain a greater understanding of the prescribing behaviour change required to make future interventions in this area more successful.

The experimental arm of the READ study involves the prescribing of beta-blockers in congestive heart failure. Beta-blockers have a strong evidence base showing that they can reduce hospitalisations and mortality (Packer et al. 2001, CIBIS II Investigators 1999, MERIT-HF 1999, BEST 2001). Despite this evidence-base, beta-blockers remain underprescribed in congestive heart failure patients (Lee et al. 2004, Lee et al. 2005, Cleland et al. 2002). The Carvedilol or Metoprolol European Trial (COMET) showed a 6% absolute mortality advantage of carvedilol over metoprolol – immediate release (Poole et al. 2003). This trial is of particular interest in Canada where metoprolol immediate release is used widely and the carvedilol patent expired right after this trial was published. From contraindication in the early 1980s to part of standard therapy today, beta-blockers represent an interesting prescribing behaviour target. The challenge of titration and the delay of benefit also impact the prescribing of beta-blockers. The combination of behavioural complexity and high potential health impacts make beta-blocker use in CHF and ideal intervention for the READ study.

Objectives

The aim of the READ study was to evaluate the impact of an academic detailing service in rural Manitoba. Our primary research question asks – Does academic detailing on the topic of beta-blocker use in CHF change the prescribing practice of Manitoba's rural family physicians over a control group of practitioners receiving only written materials on a non-cardiac topic (benzodiazepine use in the elderly)? As part of this process we made use of the Theory of Planned Behaviour (TPB) to guide the development of our academic detailing intervention tools. Our initial task was to design and implement an overall framework for intervention that would facilitate the evaluation of academic detailing outcomes to answer the primary research objective.

Methods

The randomised-controlled trial is considered the best research design (94) to evaluate a variety of interventions including complex interventions to change professional behaviour (30). The READ study made use of a randomised design to avoid confounding and ensure the greatest degree of rigour possible. Because physicians did not function in a completely independent manner, the grouping of physicians in clinics had to be considered in the research design. Cluster randomisation involves randomisation at one level of an organisation (physician, clinic, region) and evaluation of outcomes at a lower Long-term use of benzodiazepines by elderly patients is associated with dependence on these medications and a number of adverse effects.

Efforts to reduce the prescribing of benzodiazepines to elderly patients have not always been successful.

Despite evidence that they can reduce hospitalisations and mortality, beta-blockers are under-prescribed in congestive heart failure patients.

PrISM made use of the Theory of Planned Behaviour (TPB) to guide the development of academic detailing intervention tools. level (patients). Since it is practically impossible to provide different forms of education to physicians within a clinic without expecting a contaminating flow of information between physicians, the READ study randomised at the level of the clinic. This avoids this contamination but has implications of the statistical power and the required study sample size. Although the READ trial was originally designed as a three-arm trial, these sample size requirements and recruitment challenges forced the reduction to a two-arm trial. The final design compared a control-arm receiving written materials on a non-cardiac topic (benzodiazepines in the elderly) to the experimental-arm that received both written materials and academic detailing on beta-blocker use in congestive heart failure.



Figure 2. Rural Evaluation of Academic Detailing (READ) Study Design

Family physicians from the Central and Assiniboine Regional Health Authorities (RHAs) were recruited to participate in this study. Presentations were made at medical staff meeting in both RHAs and individual physicians were contacted in-person, by phone and by fax regarding participation. A short invitation was also prepared and inserted into our provincial newsletter mailings for physicians. Physicians agreeing to participate signed the required 4-page informed consent. Physicians were then sent the READ TPB survey to complete. After completion of the READ TPB survey, physicians were randomised to the control or intervention arm of the study. The Methods Centre at the Ottawa Health Research Institute (James Jaffey and Keith O'Rourke) performed the independent randomisation of physicians/ clinics. All benzodiazepine materials were then mailed to physicians in the control arm. Physicians in the intervention arm were mailed an initial newsletter on beta-blocker use in CHF and were then contacted to arrange an academic detailing appointment. Further written materials were provided during the academic detailing interview. Ethics approval for the READ study was received from the University of Manitoba Research Ethics Board for the survey and intervention components of the study.

Results

Recruitment in rural Manitoba was a significant challenge. Although a three-arm trial with 90 physicians was originally planned, the final trial involved 60 physicians and was reduced to two arms. The large geographical area limited the amount of in-person recruitment that was practically possible. The 6-months time frame (January to June 2005) given to recruitment exceeded expectations. It was felt the need for informed consent and a 4-page consent form were barriers to participation. The TPB survey was mailed with a self-addressed stamped envelope in June 2005. Reminders were sent in

July, August and September. The TPB results were analysed and used to develop the final written detailing documents in October 2005.

The benzodiazepine documents included:

- Benzodiazepines: Efficacy, Safety and Use Management. This newsletter outlines the problems associated with benzodiazepine use in the elderly and briefly outlines the methods of limiting prescribing, avoiding long-term use, and discontinuing benzodiazepines.
- Tapering Benzodiazepines: A Resource Reference for Physicians. This document specifically addresses the strategies and approaches required for effectively discontinuing benzodiazepines. This resource specifically addresses the difficulty of discontinuing benzodiazepines by provided a detailed guide to the process.
- 3. Patient Information on Benzodiazepines. This document was intended as a resource for patients, to aid physicians in making initial benzodiazepine prescribing decisions with their patients. The avoidance of benzodiazepines or limitation of their use to the short tem could avoid many of the problems with long-term use.

The beta-blocker materials included:

- 1. Evidence and Practice: COMET Carvedilol or Metoprolol European Trial. This newsletter was developed to provide a general introduction to beta-blockers in CHF. It set the stage for academic detailing discussions by providing an evidence based review of the use of carvedilol in heat failure.
- Beta Blockers in CHF: Initiation and Titration Guide. This document was used in the academic detailing sessions. It describes the care gap but also attempts to address both safety concerns and the difficulty issues identified in the TPB questionnaire.
- 3. Case Studies: Initiation and Titration of Beta-Blockers in Systolic Heart Failure. This document was used in the academic detailing sessions. It provides some further practical examples in case study format to address the issues of patient selection, safety and methods of handling the difficulties encountered when prescribing beta-blockers to CHF patients.

These materials were used in the detailing sessions scheduled in December 2005 and January 2006. Detailing sessions were well received with many participants requesting detailing on the statin topic recently released from PrISM. The framework of these interventions will allow for the evaluation of the impact of academic detailing on prescribing.

Conclusion

There were several issues that have limited the success of the READ project. Recruitment in a rural area of a newly established academic detailing program was as significant challenge. The length of the consent form (4-pages) also caused problems, particularly with phone/fax recruitment. The reduction from a three-arm to a two-arm trial helped to address recruitment issues but also limited the questions that can be addresses by this research. Setting these limitations aside there were a number of success with the READ project. TPB data did serve a useful purpose in guiding and informing the selection and development of academic detailing materials. The work to date has set the framework to allow for the evaluation of academic detailing prescribing outcomes. Separate ethics and privacy applications are required for this phase of the project. The assessment of outcomes will involve analysis of prescription databases in partnership with the Manitoba Centre for Health Policy / National Prescription Drug Utilisation Information System (NPDUIS). This important next step in the research will provide the ultimate assessment of the impact of our detailing efforts. While the randomised, controlled trial represents a high degree of research rigour, some aspects of this approach interfere with the practical reality of delivering an academic detailing service. Future consideration should be given to a better balance between rigorous evaluation and the pragmatic requirements of service delivery.

Theory of Planned Behaviour data helped to inform the selection and development of academic detailing materials.

CHAPTER 9: EVALUATION OF PATIENT LISTS AS PHYSICIAN REMINDERS IN NOVA SCOTIA

Dalhousie CME has had an academic detailing service since 2001. It offers academic detailing throughout Nova Scotia to approximately 700 family physicians. About 360 of these physicians participate each time a new topic is developed. A recently completed study of our service indicated that substantial barriers to the participation of some physicians are scheduling time to see the academic detailer and having CME provided by a non-physician. We are seeking other ways to take our educational messages to non-participating physicians.

One method that may be useful is to provide physicians a form that they can fax to Pharmacare, (the provincial drug insurance program) to receive a list of their patients who may be suitable for the therapy covered in the academic detailing topic. We will subsequently refer to this as the **patient list**. For example, a key message for the topic, *Update on Osteoporosis* was that patients taking long-term oral corticosteroids are at high risk for developing osteoporosis and should be managed appropriately. The academic detailers left physicians with a form they could fax to Pharmacare to obtain a list of their senior Pharmacare patients receiving oral corticosteroids within the previous 6 months. Twenty percent (N = 70) of physicians seeing the academic detailers for this topic requested the patient list.

The patient list acts as a reminder system to prompt the physician to take appropriate action for specific patients. Reminder systems have been shown to be one of the most effective forms of changing physician behaviour.

We have recently completed our academic detailing topic on hyperlipidemia and the role of statins. Once again, the detailers provided a form that physicians could fax to Pharmacare to obtain a patient list of those with cardiovascular disease who should be considered for statin therapy (Appendix D). In this instance, the patient list consists of Pharmacare patients who have received a prescription for a nitrate in the previous six months. Nitrates are being used as a marker for cardiovascular disease.

While this patient list does not indicate if the patient's current therapy includes a statin, it was designed as a tool to remind physicians to consider treating patients with cardiovascular disease with a statin. Ideally, physicians would review the charts of the patients on their patients lists to see if they should be on statins and whether they are on statins. Then they will either ask the patient to come in or leave a note in the chart to remind them to review the issue with the patients at their next visit.

We wish to determine the effectiveness of patient lists in changing behaviour and to see if they can be used to reach physicians who do not participate in academic detailing.

The patient list acts as a reminder system to prompt the physician to take appropriate action for specific patients.

Reminder systems have been shown to be one of the most effective forms of changing physician behaviour.

Objectives

The two primary objectives of this project are to determine if physicians:

- **1. Receiving academic detailing** prescribe statins to seniors with cardiovascular disease differently depending on whether they request a patient list.
- **2. Not receiving academic detailing** prescribe statins to seniors with cardiovascular disease differently depending on whether they request a patient list.

A **secondary objective** is to determine if physicians **requesting a patient list** prescribe statins to seniors with cardiovascular disease differently depending on whether they request the patient lists in conjunction with academic detailing.

Methods

379 physicians participated in the academic detailing topic on statins. We expect approximately 50 will request a patient list of their Pharmacare patients receiving nitrates. In January 2006 we mailed a one-page summary of information on prescribing statins to seniors with cardiovascular disease to family physicians who **did not see** the academic detailers. We included the same form so these physicians can also request a patient list of their Pharmacare patients receiving nitrates. We specifed that physicians should fax the form within 30 days.

Therefore, the study population consists of all the family physicians in the Dalhousie CME administrative database who prescribe nitrates to seniors. We divided this study population into four groups:

- 1. Those receiving academic detailing and requesting patient list
- 2. Those receiving academic detailing and not requesting patient list
- 3. Those not receiving academic detailing and requesting patient list
- 4. Those not receiving academic detailing and not requesting patient list

The following table summarizes the design and approximate numbers of physicians in each group.

	Patient List: YES	Patient List: NO
Academic Detailing: YES	48	331
Academic Detailing: NO	31	320

Differences in the percentage of physicians within the groups increasing prescribing of statins to seniors with cardiovascular disease will be assessed by using an ANOVA test.

Status

We are waiting for physicians to have had their patient lists for six months before we track their prescribing.

CHAPTER 10: FEASABILITY OF USING NPDUIS FOR ONGOING IMPACT STUDIES

CIHI is tasked with collecting and managing a database of prescription drug claims data from participating publicly funded drug plans. The National Prescription Drug Utilization Information System (NPDUIS) has been established as a federal/provincial/territorial initiative to track and analyze prescription drug utilization in Canada. As a part of this initiative, the Canadian Institute for Health Information (CIHI) is to collect and manage a database of prescription drug claims data from participating publicly funded drug plans.

Member programs of the Canadian Academic Detailing Collaboration (CADC) envisioned that the claims database of NPDUIS could be a valuable resource for evaluating the impact of academic detailing on prescribing. If concerns about data privacy could be addressed, this might offer an efficient way to access data for impact evaluation. The arrangement might provide the opportunity for a coordinated national evaluation of academic detailing (a stronger evaluation with a larger sample size) or simply more efficient province-by-province evaluation.

One provincial academic detailing program (B.C.) had previously undertaken a randomized trial to study the impact academic detailing on the topic of congestive heart failure, and all five Canadian programs proposed conducting similar randomized trials using the topic of dyslipidemia. The experiences of each province in conducting these trials are described in more detail elsewhere in this report.

Since NDPUIS was still in the earlier stages of its development at the outset of the CADC's two-year evaluation program and the CADC's impact evaluation was also a new program, the challenges of making this approach work were recognized from the beginning. Nonetheless, given the potential advantages of this approach, the CADC proposed to study the feasibility of using NPDUIS for impact evaluation.

Objectives

The CADC set out to determine the feasibility of using drug claims data from NPDUIS for impact evaluation of academic detailing, using a randomized trial in several provinces as a test case.

Method

The approach for this study included:

- Developing a proposal for using NPDUIS for impact evaluation of academic detailing while addressing concerns for protection of privacy,
- Liaising with CIHI to keep up to date on the status of the NPDUIS claims database and develop a pragmatic approach to data access, and
- Perform analysis for impact evaluation using claims data from NPDUIS and data on academic detailing visits collected by provincial academic detailing programs, during or following the current two-year project.

Results

Following preliminary discussions with CIHI, a briefing note was submitted to CIHI in early 2005 to outline proposed steps for enabling data access for impact evaluation. These steps included:

- Each academic detailing program will give to its Pharmacare program or Ministry of Health a small spreadsheet on its detailing visits. The data will include province, physician numbers, dates of visits for each topic, and codes for tools (e.g. chart inserts).
- The information systems managers in Pharmacare or the Ministry of Health, who are responsible for supplying encrypted data to NPDUIS, will use the same official algorithm to encrypt the physician numbers in the academic detailing database. They will pass the partially encrypted database to CIHI.
- NPDUIS analysts at CIHI will join all five CADC databases and merge them with NPDUIS. They will perform data checks and then extract drug claims relevant to the CADC impact evaluation, with encrypted patient identifiers and further encrypted physician identifiers.
- The encrypted extract of NPDUIS will be made available to an analyst on the premises of the Western office of CIHI in Victoria. Controlled time series analyses will be done for each province separately and aggregating over all provinces.

The above steps for enabling data access for impact evaluation are illustrated in the following diagram. (Steps 1–3 in the figure represent the final three bullets in the above list.)



Analyst in CIHI's west	rn office a	inalyses :	merged d	ata.
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MD	Window	Group	Province	Patient	Drugs Claimed
1	30 59	Е	BC	1	204,297,384
1	30 59	Е	BC	2	165,257,354
1	30 59	Е	BC	3	213,304,390
2	30 59	D	BC	4	214,340,222
2	30 59	D	BC	5	134,230,325
Following submission of a briefing note to CIHI, the CADC continued to liaise with CIHI about the proposed data sharing arrangements later in 2005.

A key barrier to the current feasibility of proposed data sharing is that NPDUIS has experienced delays in collecting provincial claims data. NPDUIS has recently started receiving data from Manitoba and Saskatchewan, but is not yet receiving data from other provinces.

Based on the current status of NPDUIS, a next step may be for the Prescription Information Services of Manitoba (PrISM) to request access to NPDUIS data for impact evaluation. Although the Manitoba program was not able to conduct the proposed trial for dyslipidemia impact evaluation (due in part to the fact the program was just being established at the time of detailing on this topic), the program has conducted a randomized controlled trial to study the impact of a detailing on congestive heart failure.

Academic detailing programs in B.C., Saskatchewan and Nova Scotia were more successful in establishing the feasibility of designed delay randomized trials on the topic of dyslipidemia for purposes of impact evaluation, and in theory could make use of NPDUIS data for purposes of impact evaluation related to dyslipidemia if this data becomes available.

Conclusion

The ongoing development of a national database of prescription drug claims through NPDUIS represents an opportunity to enhance the capacity and efficiency of impact evaluation for academic detailing. Delays in data collection from provincial drug programs continue to be a key barrier to accessing data for these purposes. Other barriers include provincial concerns about the cost and quality of data analysis from CIHI.

A key barrier to data sharing for impact evaluation is that NPDUIS has experienced delays in collecting provincial claims data.

Part Three: Collaboration on Academic Detailing



The process and outcome evaluation studies summarized in earlier sections of this report represent a key focus of the CADC's work over a two-year period. Collaboration on these projects has not only moved forward these projects but also helped build the capacity of Canadian academic detailing programs to partner with one another and with groups such as Drug Policy Futures and COMPUS.

The following chapter describes a process evaluation of the CADC. Drug policy researcher Richard Morrow conducted and prepared a report on the evaluation. The evaluation was developed based on the CADC's strategic plan and on the deliverables for the group's two-year project on evaluation in academic detailing.

The process evaluation reviewed how the group has carried out its planned activities, how the collaboration has functioned, and the current issues facing the collaboration. Key themes covered in the study include strategic planning, delivery of projects, the value of collaboration and partnerships, structure and operations, and looking into the future.

CHAPTER 11: A PROCESS EVALUATION OF THE CANADIAN ACADEMIC DETAILING COLLABORATION

Canada's five provincial academic detailing programs have been working in concert for a little over two years.

Canadian academic detailing programs work closely with Drug Policy Futures, which specializes in evaluation of drug policy.

A logic model was created to serve as a guide to the planned activities and longer term objectives of the collaboration. Canada's five provincial academic detailing programs have been working in concert for a little over two years as the Canadian Academic Detailing Collaboration (CADC). Since 2003-2004, the CADC has also worked closely with the Drug Policy Futures research group based at the University of Victoria on research and evaluation.

The CADC's stated mission is to "enhance the depth and breadth, reach, efficiency and effectiveness of academic detailing programs in Canada." The group's activities include regular communication, education and training, advocacy, partnering with other agencies, and research and evaluation.

This study evaluates the group's process of collaboration in pursuing its planned activities and goals. At a later stage in the collaboration's development, it may become appropriate to undertake an impact evaluation to assess the longer-term impact of the CADC's activities on its member programs or external stakeholders such as physicians or drug programs. At this point in time, a process evaluation focused on how the group has implemented its planned activities is more appropriate.

Objectives

This process evaluation of Canadian Academic Detailing Collaboration has the following aims:

- Assess how well the collaboration has met its aims over the past two years,
- Identify areas for improvement or change, and
- · Provide insight into the value of inter-provincial collaboration in academic detailing.

Method

A logic model was created to map out the CADC's resources, activities, outputs, outcomes and impacts as a tool for this evaluation and further planning. It is based on the CADC's strategic plan and on the deliverables for the group's two-year project on evaluation in academic detailing. The logic model serves as a guide to the planned activities and longer term objectives of the collaboration.

The principal method for this evaluation consisted of interviews with the key participants in the CADC. The director or leader of each of the five academic detailing programs and the principal investigator of the Drug Policy Futures research group were interviewed. A survey interview was developed based on the CADC strategic plan, the deliverables for the group's "best practices" grant, and consultation with participants. The survey was initially piloted with some participants and revised based on feedback. Survey interviews were conducted by telephone and were typically 80 - 90 minutes in duration.

In these interviews, participants were asked about the CADC's effectiveness in carrying out the core businesses, objectives and strategies set out in the group's strategic plan. Additional questions collected views on the delivery of projects, collaboration, structure and operations, and priorities for future collaboration.

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The findings reported in this evaluation are based on a summary and analysis of these interviews, review of key CADC documents, and participant observation in monthly CADC meetings during the fall and winter of 2005.

Results and conclusions

Over the past two years, the CADC's level of activity has grown from informal discussion into regular collaboration on a number of projects. The main vehicle for this has been a *Best Practices Contribution Program* grant from Health Canada, which has focused the group on a several research and evaluation projects and provided funding to enable the group to carry these out. While the grant has been an important resource, it should not be overlooked that members of the group have also made significant in-kind contributions of time and expertise to making collaboration work.

This process evaluation has reviewed how the group has carried out its planned activities, how the collaboration has functioned, and the current issues facing the collaboration. This raised issues in the areas of strategic planning, delivery of projects, the value of collaboration, structure and operations, and looking forward into the future.

Logic model

A logic model of the CADC has been developed as a tool for this evaluation and for ongoing assessment and planning (see Figure). The logic model depicts the group's planned activities and the intended results of these activities.³

Since the collaboration is at an early stage in its development, part of the value of the logic model is to illustrate the way activities and outputs are expected to translate into outcomes and impacts over time. For example, one research and development activity the group has undertaken is topic development for dyslipidemia/ statins. A review was completed, and the group produced a chart summarizing evidence for optimal prescribing of statins (outputs). In the short and medium term, this may contribute to the development of consensus among academic detailing programs and physicians directly served by these programs (outcome). In the longer term, this may contribute to a broader stakeholder consensus for optimal prescribing for this therapeutic category (impact).

In other words, many of the outcomes and impacts illustrated in the logic model represent the longer term benefits or fundamental change the group is trying to achieve through its activities and projects. At this stage, the model acts as a reference point mainly for how the group has implemented its planned activities.

Key activities and strategic plan

The group has focused primarily on the strategies of regular communication, developing a partnership with the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS), and research and evaluation.

- Regular communication has allowed members to learn about one another's practices and ideas, and apply lessons learned to quality improvement in management and service delivery.
- While collaboration with COMPUS has developed slowly over the past two years, the groups have recently identified two projects to collaborate on. One project involves development of an academic detailing toolkit, and the other is a training series for academic detailers.
- Research and evaluation studies have provided valuable insights and enabled capacity-building in evaluation within programs.

3. The format used for this model follows the structure set out in the W.K. Kellogg Foundation's Logic Model Development Guide.

The CADC's level of activity has grown from informal discussion into regular collaboration on projects such as evaluation and training.

The outcomes and impacts in the logic model represent longer term benefits or fundamental change the group aims to achieve.



The area of education and training has not been a focus over the past two years but will be a focus in the current year through a training series for academic detailers sponsored by COMPUS. Efforts in the area of advocacy have taken the form of meeting with COMPUS and disseminating research findings in peer-reviewed articles, posters and presentations at conferences and other meetings. The completion of the group's two-year process and outcome evaluation program represents an opportunity to share findings with stakeholders.

It is an appropriate time in the collaboration's development to re-evaluate the strategic plan in light of progress to date and current priorities. The logic model may be a useful tool for revisiting the strategic plan, since it interprets the strategies set out in the strategic plan and how they may extend to outcomes and impacts.

Delivery of projects

Among the CADC's successes are the level of cooperation it has achieved and the implementation of several evaluation projects. Cooperating on several projects and sharing ideas and strategies has been valuable. Key challenges of collaboration include how to collaborate efficiently and how to reconcile local and national priorities. Collaboration has been more difficult and time-consuming than anticipated. The process of collaboration takes time, effort and resources for building relationships and developing ways of working together.

If the CADC aims to continue collaborating on topic research and development, it is recommended that the group re-examine its process for collaboration in this area before moving forward on another topic. Since this was a difficult and slow process during the dyslipidemia topic, it is expected the group would benefit from clarifying whether this is an appropriate area for collaboration or what practical "lessons learned" might be applied in future efforts.

Similarly, the group may benefit from discussing the issue of how to reconcile CADC priorities with provincial-level priorities within the context of any of its projects. This may enable the group to anticipate and address challenges in a proactive manner.

Value of collaboration

While the CADC's activities have focused primarily on research and evaluation projects over the past two years, the value of collaboration both grown out of these projects and extended beyond them. Members of the CADC valued the process of sharing feedback and expertise and developing a more comprehensive approach in project areas such as topic development or needs assessment. Regular communication collaboration with other detailing programs also provided lessons from other's practices and contributed to capacity building in several areas of process and outcome evaluation.

While building effective collaboration requires considerable effort and time to develop, benefits would be expected to grow over time. It is reasonable to expect that a partnership requires time for developing capacity and identifying the most effective areas for collaboration. As illustrated by the logic model, it also requires time for current activities to translate into longer term impacts.

Structure and operations

Now that the group is at the stage of completing a project that has helped structure the group's activities for two years, the group needs to discuss how roles and responsibilities may continue or should change. Suggestions from CADC members include electing a chair for a given term or hiring a part-time coordinator to provide administrative support and a greater level of coordination to the group.

Among the CADC's successes are the level of cooperation it has achieved and the implementation of several evaluation projects.

Key challenges of collaboration include how to collaborate efficiently and how to reconcile local and national priorities.

While building effective collaboration requires considerable effort and time to develop, benefits would be expected to grow over time. While it is expected that the group would continue to work by consensus, the group should be proactive about how to make consensus work effectively. For example, the group may wish to discuss which issues the group should collaborate on or which programs wish to collaborate on given initiatives. Or as noted above, the group may benefit from a discussion of how to apply "lessons learned" to current decision-making in a given area such as topic development.

Looking forward

While the CADC has encountered challenges since the group was formed, it has also met with significant success both in carrying forward projects and in building capacity for collaboration.

CADC members have identified building the group's relationship with COMPUS as a clear priority. Two recently developed initiatives represent a step forward in collaboration between the two groups. The CADC has agreed to develop an academic detailing toolkit in conjunction with COMPUS's evidence-based recommendations on proton pump inhibitors, and the two groups are also partnering in a training series for academic detailers.

The partnership has the potential to contribute to both the CADC's capacity and COMPUS's relevance to frontline practice and needs. Provinces will need a vehicle for implementing or testing COMPUS's recommendations, and that represents an opportunity for the CADC.

While working closely with COMPUS represents a key opportunity for the CADC, a major threat to the group and its member programs is the uncertainty of funding in some provinces for academic detailing.

Other priorities articulated by the group include medium/long-term planning and continuing to develop pragmatic approaches to evaluation.

While the group could likely move forward collaborating among programs on an inkind, voluntary basis, its ability to build on its successes and expand its capacity would be enhanced by additional funding.

It's clear that the group needs to strategize about projects and activities to focus on and the scale or organization and funding the group should pursue. While this evaluation surveyed key participants on their views, a group discussion of strategy is necessary to come to terms with priorities and capacity issues.

Partnering has the potential to contribute to both the CADC's capacity and COMPUS's relevance to frontline practice and needs.

The uncertainty of funding for academic detailing in some provinces remains one of the largest challenges of the CADC and its members.

CONCLUSION: FROM EVALUATION TO BEST PRACTICES

The existence of evidence or guidelines for appropriate prescribing is in itself insufficient to ensure prescribing decisions are evidence-based. Effective educational interventions are also required to promote evidence-based prescribing. Academic detailing represents a well-tested, effective educational intervention that can be used to promote appropriate drug therapy and better patient health while helping to control rising prescription drug benefit costs.

This project has aimed to use a series of process and outcome evaluation projects to strengthen the effectiveness of academic detailing interventions for promotion of optimal prescribing. These evaluation projects have elicited practical lessons learned and built valuable capacity within the Canadian Academic Detailing Collaboration (CADC) for research, evaluation and collaboration.

Findings and next steps

As a result of research findings and lessons learned from this project, academic detailing programs are working to implement quality improvement for their programs in a range of areas.

Process evaluation

- A survey of national and ten international academic detailing programs has highlighted recommended practices concerning selecting successful topics; physician incentives to participate and be influenced by prescribing recommendations; effective printed educational materials; characteristics of a good academic detailer and a good visit; complementary strategies; and evaluation methods.
- Physician needs assessment has identified the need for alternative ways to reach non-participating physicians.
- Several studies focused on printed educational materials (PEMs) design have produced accessible principles to apply to PEMs development and specific feedback for individual programs based on critique of previous educational materials.
- Collaboration on topic research and educational materials development has highlighted the need for local adaptation of educational materials to suit local programs and physician needs.
- A time and motion study has brought to light reasons for differences in program expenditures in the areas of research, training and dissemination.

Outcome evaluation

• Building on the precedent of randomized trials for impact evaluation in B.C., randomized designed delays have been piloted as a methodology for conducting impact evaluation of academic detailing in other provinces.

Academic detailing represents a well-tested, effective strategy that can be used to promote better patient health and cost effectiveness.

BC CDUP would like to make impact evaluation a regular part of program activities, and other programs would like to continue to build capacity in this area.

- The B.C. Community Drug Utilization Program would like to make impact evaluation a regular part of program activities, and other programs would like to continue to build capacity in this area.
- Continuing to work toward completing impact evaluations in all Canadian academic detailing programs would be a worthwhile goal and a significant legacy of work to date in this area by CADC member programs.

Collaboration in academic detailing

- While the CADC's activities have focused primarily on research and evaluation projects over the past two years, the value of collaboration has both grown out of these projects and extended beyond them. Members of the CADC valued the process of sharing feedback and expertise and developing a more comprehensive approach in project areas such as topic development or needs assessment.
- A growing partnership between the CADC and COMPUS has developed during the course of this project. These groups are natural partners in the sense that COMPUS would benefit from the testing of interventions it is developing, while the CADC has developed expertise in evaluation and is in regular contact with over a thousand physicians across the country.
- CADC has recently agreed to develop an academic detailing toolkit in conjunction with COMPUS's evidence-based recommendations on proton pump inhibitors. The two groups are also partnering in a training series for academic detailers which aims to include participants from existing programs and stakeholders from other provinces.
- While building effective collaboration requires considerable effort and time to develop, benefits would be expected to grow over time. It is reasonable to expect that a partnership requires time for developing capacity and identifying the most effective areas for collaboration.

The CADC envisions applying the many lessons learned through this project and continuing to build on its capacity in the areas of research and evaluation of academic detailing in pursuit of best practices in the field. Current priorities for the CADC include development of an academic detailing toolkit and a training series for academic detailers in collaboration with COMPUS, continuing to develop impact evaluation, and developing partnerships with COMPUS and other stakeholders.

Role for academic detailing in Canada

First Ministers have directed that Canada's National Pharmaceuticals Strategy include as one of its priority actions: *Enhance action to influence the prescribing behaviour of health care professionals so that drugs are used only when needed and the right drug is used for the right problem* (Health Canada 2004). Since academic detailing programs have been established in Canada for precisely this purpose, it is fair to ask: What steps have provinces taken to expand the use of academic detailing in Canada? How does academic detailing form part of a larger evidence-based strategy to promote the appropriate drug therapy that is safe, effective and cost-effective?

To date, academic detailing services in Canada have operated on a modest scale. While drug companies employ a sales force of more than five thousand, five Canadian academic detailing programs employ a combined workforce of 10.2 full-time equivalent (FTE) positions (Bacovsky *et al.* 2006). In 2005, programs detailed from two to five topics each and collectively reached about 1,000 doctors per topic (in a country with more than 60,000 doctors). While academic programs in the smaller provinces of Nova Scotia and

A growing partnership has developed between the CADC and COMPUS. The two groups are natural partners in evaluation. Saskatchewan operate on a province-wide basis, other existing programs are less extensive.

One might expect that provinces are planning to ramp up these modest programs to address public concerns about drug safety and a growing drug cost crisis and that the larger provinces would be moving to establish academic detailing programs. In reality, there is evidence that the existing academic detailing services in Canada are under threat.

Alberta Health and Wellness has recently decided to eliminate funding for the Alberta Drug Utilization Program. The rationale for cutting the program is not clear but apparently relates to shifting priorities within the ministry. Fortunately, the Calgary Health Region has made a decision to fund academic detailing for family physicians within the health region. However, the elimination of the Alberta Drug Utilization Program represents a reduction in the reach of academic detailing services within the province, since these services were also being delivered in the David Thompson Health Region.

Similarly, funding for academic detailing in Manitoba (delivered by the Prescription Information Services of Manitoba) may not be extended in the near future.

This runs contrary to the evidence that academic detailing represents a well-tested, effective strategy that can be used to promote both cost effectiveness and better patient health by providing evidence-based information to physicians on appropriate prescribing. Academic detailing has a major role to play in the strengthening of evidence-based practice of medicine in Canada. We offer provincial and federal decision-makers the following recommendations.

Recommendations

- National policy towards pharmaceutical use as reflected in the evolving National Pharmaceuticals Strategy should be grounded in evidence-based medicine and measures to promote appropriate, cost-effective drug therapy and better patient outcomes. Academic detailing should form a primary component of the strategy (among other evidence-based policies, such as maximum allowable cost).
- The National Pharmaceuticals Strategy should include plans to ramp up existing academic detailing programs and initiate programs in provinces where these services are not currently provided. This would support the dissemination of evidence-based recommendations from the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS).
- Alberta Health and Wellness and Manitoba Health should recognize the value of academic detailing and ensure funding for the delivery of these services to address the need to promote effectiveness, safety and cost-effectiveness in prescribing practices.
- Ongoing evaluation of academic detailing should be supported by provincial drug plans and federal agencies to promote best practices and strengthen the impact of these programs. Impact evaluation using randomized trials should be used to assess prescribing and health outcomes.

Academic detailing has a major role to play in the strengthening of evidencebased practice of medicine in Canada.

Expansion of academic detailing would support the dissemination and testing of COMPUS's evidence-based recommendations on optimal prescribing.

Ongoing evaluation of academic detailing should be supported by provincial drug plans and federal agencies to promote best practices.

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APPENDIX A: CANADIAN ACADEMIC DETAILING PROGRAMS

	BC Community Drug Utilization Program	Optimal Prescribing in the Millennium (Alberta)	RxFiles (Saskatchewan)	Prescription Information Services of Manitoba (PrISM)	Dalhousie Academic Detailing Service (Nova Scotia)
Started	August 1993	Initial demonstration project 2001	Initial pilot May 1997	Spring 2003	Fall 2001
Funding	British Columbia Pharmacare	Alberta Health & Wellness	Saskatchewan Health	Unrestricted grant from industry to Manitoba Health and directed to the Manitoba Pharmaceutical Association	Nova Scotia Department of Health
Managed by	Pharmacy Department, Lions Gate Hospital	Alberta Drug Utilization Program	Pharmaceutical Services, Saskatoon Health Region	Manitoba Pharmaceutical Association	Dalhousie University Continuing Medical Education
Staff	1 FTE detailer/ researcher (pharmacist); 0.2 FTE pharmacy manager	2.2 FTE detailers (pharmacists); ~0.2 FTE secretary; 0.3 FTE director; development and production of education materials contracted out	5 detailers (pharmacists); 2 researchers plus support staff (i.e., total 2.9 FTEs)	1 FTE (2 part-time pharmacists)	1.8 FTEs among3 detailers (2 pharmacists & 1 nurse);0.3 FTE director;0.3 FTE drug evaluation pharmacist
Target audience	~80 family physicians in North Vancouver	250 physicians in Calgary and David Thompson Health Regions	~600 physicians and other health care providers in Saskatchewan	family physicians, pharmacists and other healthcare providers in Manitoba	700 family physicians and other health care providers in Nova Scotia
Physicians detailed per topic/session	~50 detailed/topic	~75 physicians detailed/topic in central Alberta and ~75 in Calgary	~350 detailed/topic	~50 detailed/topic	~350 physicians detailed/topic
Academic detailing topics in 2005	Atrial fibrillation, statin update, aggressive statin therapy, hormonal contraception	Dyslipidemia, pneumonia	Fluoroquinolones; anti- infective guidelines; Parkinson's treatment; restless legs syndrome; opioids in chronic non- malignant pain	Spironolactone in heart failure; oral vitamin K ₁ in the management of high INR; transdermal fentanyl; pitfalls in drug therapy; statin usage in dyslipidemia	Statins and prevention of CHD; clopidogrel in acute coronary syndrome
Academic detailing session	10–15 minutes in duration	~25 minutes in duration	20–30 minutes in duration for individuals; 30+ minutes for groups	~15 minutes in duration; group sessions 30–60 mins.	20–25 minutes in duration
Complementary interventions	Newsletter The Review published at least 4 times/year	Provincial clinical practice guidelines Local physician opinion leader Multidisciplinary CE event to launch topic Prescribing feedback reports to physicians	Newsletter RxFiles published 3 to 4 times per year Additional Q&As Small group education; resident & student training Medicine/Pharmacy/ Nursing continuing education Annual Drug Comparison Chart Book, PDA support	Newsletter Spectrum (pharmacists) and Spectrum MD (physicians) Both individual and group sessions held CE presentations to pharmacists and nurses	Detailed handbook on topic Small group interactive sessions Pharmacy/nursing CE programs

FTE = full-time equivalent

APPENDIX B: NEEDS ASSESSMENT OF PHYSICIANS

Fami	y Physicians' Perceptions Of Academic Detailing						
1. Ge	ıder Male Female						
2. Yea 19	r of graduation from medical school (i.e. MD degree) 59 or earlier 1970-1979 1990-1999 1960-1969 1980-1989 2000-	-2004	÷				
3. Poj >5	ulation of community <u>in which you practice</u> (not size of population <u>served by</u> your practice) 0,000 5,000–50,000 <5,000						
4. Ty	be of practice group solo						
5. Av	erage number of patients you see per week						
6. Ap (of 1-2	proximately how many hours per week do you spend in practice-related activities, excluding on call fice care, hospital care, committee meetings, completing forms etc)? 0 hrs 21-35 hrs 36-50 hrs 51-75 hrs > 75 hrs						
7. Are	you a member of the College of Family Physicians of Canada? yes no						
Please 1 =	rate the usefulness to your practice of the following sources of informationvery poor2 = poor3= average4= good5 = very goodNA	. = no	t app	licab	le		
a.	Dalhousie CME refreshers and short courses	1	2	3	4	5	NA
b.	Other Nova Scotian conferences	1	2	3	4	5	NA
с.	National and international conferences	1	2	3	4	5	NA
d.	Academic detailing	1	2	3	4	5	NA
e.	Interactive practice-based workshops	1	2	3	4	5	NA
f.	Interactive videoconferences	1	2	3	4	5	NA
g.	Interactive Internet courses	1	2	3	4	5	NA
h.	Local hospital programs, including grand rounds	1	2	3	4	5	NA
i.	Non-accredited pharmaceutical company programs with a social event	1	2	3	4	5	NA
j.	Informal discussion with colleagues	1	2	3	4	5	NA
k.	Discussion with pharmaceutical representatives	1	2	3	4	5	NA
ι.	Journals, books and newsletters	1	2	3	4	5	NA
m.	Journal clubs	1	2	3	4	5	NA
n.	Other (please specify)	1	2	3	4	5	NA

Compared to other forms of CME, how would you rate the value of academic detailing?

much lower somewhat lower equal somewhat higher much higher

Many factors may determine whether physicians see an academic detailer for CME. Using the scale below, please rate how much the following aspects of the Dalhousie Academic Detailing Service <u>discourage</u> or <u>encourage</u> you from seeing an academic detailer.

1 = strongly	2 = somewhat	3 = neither discourage	4 = somewhat	5 = strongly	NA = not
discourage	discourage	or encourage	encourage	encourage	applicable

a.	My awareness that topics were being presented (adequate publicity)						
	Influenza/flu vaccine	1	2	3	4	5	NA
	Osteoarthritis	1	2	3	4	5	NA
	HRT	1	2	3	4	5	NA
	Osteoporosis	1	2	3	4	5	NA
b.	My clinical knowledge about the topics being presented						
	Influenza/flu vaccine	1	2	3	4	5	NA
	Osteoarthritis	1	2	3	4	5	NA
	HRT	1	2	3	4	5	NA
	Osteoporosis	1	2	3	4	5	NA
с.	Relevance to my practice of topics that were presented						
	Influenza/flu vaccine	1	2	3	4	5	NA
	Osteoarthritis	1	2	3	4	5	NA
	HRT	1	2	3	4	5	NA
	Osteoporosis	1	2	3	4	5	NA
d.	Spending office time doing CME	1	2	3	4	5	NA
e.	Scheduling a time to see the Academic Detailer	1	2	3	4	5	NA
f.	Access to CME in other ways	1	2	3	4	5	NA
g.	Effectiveness of academic detailing for me as a way of learning	1	2	3	4	5	NA
h.	Usefulness of handout material for me	1	2	3	4	5	NA
i.	Evidence-based approach used in academic detailing	1	2	3	4	5	NA
j.	Having CME provided by non-MD	1	2	3	4	5	NA
k.	The academic detailer following up by finding answers to my questions	1	2	3	4	5	NA
ι.	Obtaining CME credits	1	2	3	4	5	NA
m.	Other (please specify)	1	2	3	4	5	NA

Please rate the likelihood that you might use the Academic Detailing Service in the future. definitely not not likely unsure somewhat likely definitely

Have you seen an Academic Detailer for the present topic, COPD? yes no

If not, do you plan to see an Academic Detailer for this topic? yes no unsure Please list suggestions to make the Academic Detailing Service better meet your CME needs.

If you were to see an academic detailer again, what topics would you like covered?

Other comments or questions about the Academic Detailing Service.

Thank you for completing this questionnaire. Please return in the enclosed envelope to: Perceptions Academic Detailing, Dalhousie CME 5849 University Ave., Halifax, Nova Scotia, B3H 4H7



READ Study Survey

Prescription Information Services of Manitoba

Rural Evaluation of Academic Detailing

Directions

Please read each question carefully and answer it to the best of your ability. There are no correct or incorrect responses. This survey is interested in your point of view. The survey uses questions worded in a repetitive manner and may appear monotonous. It is the nature of this study to use this methodological approach. Your conscientious co-operation is vital as it is important that we get an accurate assessment of your opinions. For each question please circle the number that best matches your view.

Physician Perspectives on Beta-blocker use in Congestive Heart Failure (CHF)

A.J. is a 67 year old male with Class III CHF. His history includes long-standing hypertension and TIA's. A.J.'s echocardiogram shows an ejection fraction of 25%. His current medications include: enalapril 10mg BID, ASA 325mg daily, digoxin 0.125mg daily, spironolactone 25mg daily and furosemide 80mg daily.

- Thinking about your last ten patients presenting with Congestive Heart Failure (CHF), for how many of them did you prescribe beta-blockers? of 10
- I feel under social pressure to prescribe beta-blockers to patients with CHF.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

- I have complete control over whether to prescribe beta-blockers to my CHF patients. Strongly disagree 1 2 3 4 5 6 7 Strongly agree
- I intend to prescribe beta-blockers to patients with CHF.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

In my opinion, prescribing beta-blockers for a patient with CHF is:

a.	Harmful	1	2	3	4	5	6	7	Beneficial
b.	Good practice	1	2	3	4	5	6	7	Bad practice
c.	Satisfying	1	2	3	4	5	6	7	Not Satisfying
d.	Risky	1	2	3	4	5	6	7	Safe
C.	Easy	1	2	3	4	5	6	7	Difficult

 I will prescribe beta-blockers to patients with CHF. Strongly disagree 1 2 3 4 5 6 7 Strongly agree There are factors outside of my control that would prevent me from prescribing beta-blockers to my CHF patients.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

 People who are important to me professionally think that I should prescribe beta-blockers to patients that have CHF.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

 I plan to prescribe beta-blockers to patients with CHF. Strongly disagree 1 2 3 4 5 6 7 Strongly agree

 I am confident that I could prescribe beta-blockers for my patients if I wanted.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

 My colleagues whose opinions I respect think that I should prescribe beta-blockers for my patients that have CHF.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

 My preferred beta-blocker for patients with CHF is: (/ one)

□ Atenolol □ Metoprolol

Bisoprolol Acebutolol

Other_____

_(please specify)

Carvedilol

187 St. Mary's Road
 Winnipeg, Manitoba R2H 1J2
 Tel. (204) 231-4688
 Fax. (204) 231-5964
 Email: manitobaptism@mts.net

÷	rny	sic	tan	II.	ers	pe	u	165	5 0	n the use of be	1 azodi.	wel	anes (Dz	,,,	ne	a	an,	y p	au	en	IS	
	Mrs N.T. is a 73-yea nome. She is changi mual check up. She and is currently treat lurazepam 15mg hs sast 6 years.	r-ol ng j ha ed v Sl	d, w physis a l with he h	vido siciu histo hyv as b	w v ins ory droc seen	who and of hy shlor taki	live ent ype oth	ers al ers rter niaz flur	lon yo iside raz	e in her own ur office for her on and insomnia 25mg daily and epam daily for	K.T. is and hy Valley buride nurses night.	perte Pers Smg	t year old m insion who l onal Care H , pravastatir rate he is ha	ale tas lom 40 vin	with rece ie. I img g tro	a lintly lis and ubl	histo be cun l ran le se	ery c en b rent aipr ettlin	ne me il S ig i	iab sfer dica mg n ar	etes, dys red to th itions ins On rou id sloepi	lipidemia e Pleasant clude gly- nds the ng at
L	Thinking about you long-term BZ use fi tempt to discontinu	ar la or i e fr	nsoe rom	en e mni BZ	ilder a, h ?	dy p ow r	atik nar ct	ents w o 10	pro-	esenting with hem did you at-	1. Th ins	inkin omni of	g about you a, how man 10	r la: y of	st ter f the	n el m c	derl lid y	ly pa you j	ntien	nts scri	presentin be a BZ1	ng with
 I plan to attempt to discontinue BZ for my elderly patients with insomnia on long-term BZ therapy. 								rly patients with	2. I fe ins	el un omni	der social p a without pr	res: resc	sure ribir	to r g I	man 3Z.	nge	my	eld	lerly pati	ents with		
	Strongly disagree	1	2	3	4	5	6	1	7 1	Strongly agree	St	rong	ly disagree	1	2	3	4	5	б	7	Strong	ly agree
3.	People who are imp attempt to discontin on long-term BZ th	xort xae	ant BZ	to n for	ne p eld	erofe erly	ssii pat	ona ieni	lly ts ti	think that I should hat have insomnia	3. I w out	ill m pres	anage my el cribing BZ.	der	ly pi	tie	nts	pres	enti	ing	with ins	omnia wit
	Stronely disagree	1	2	3	4	5	6		7.3	Strongly agree	50	rong	ty disagree	1	2	3	4	5	0	1	Strong	ly agree
4	There are factors of	utsi	de o	d m	v ce	ontro	d ti	hat	pre	vent me from at-	4. 1 h	ave c	omplete con satients pres	tro	l ove	r w	thet	her o	or n	iot l	present	e BZ for
	tempting to discont long-term BZ thera	inu pv.	e Bi	Z fo	rel	derly	/ pi	atie	nts	with insomnia on	S	rong	ly disagree	1	2	3	4	5	6	7	Strong	ly agree
	Strongly disagree	1	2	3	4	5	6	0	1	Strongly agree	5. I in wit	tend hout	to manage : prescribing	ny BZ	elde	rly	pati	ients	pre	eser	nting wit	h insemnia
5,	In my opinion, atter with insomnia on la	mpi	ting -terr	to c m B	diso Z tł	ontin	iue w i	BZ is:	fo	r elderly patients	S	rong	ly disagree	1	2	3	4	5	6	7	Strong	ly agree
	a. Harmfu	1	1	2	3	4	5	6	7	Beneficial	6. I a	m cor	afident that I	I co	uld	mai	182	e my	ek	derl	y patient	ts with in-
	b. Good practice	e	1	2	3	4	5	6	7	Bad practice	sor	nnia	without pres	eril	bing	B2	if	l wa	nte	d		
	c. Satisfying	ç	1	2	3	4 :	5	6	7	Not Satisfying	S	nong	ly disagree	1	2	3	4	5	6	7	Strong	ly agree
	d. Risky	y .	1	2	3	4	5	6	7	Safe	7.14	- alla	and the second second			_					Tabaut	
	e. Eas	y .	1	2	3	4	5	6	7	Difficult	elde	erly p	atients pres	e oj enti	ng v	vith	ins	omr	a u un v	una with	tout pres	cribing Ba
6.	My colleagues who discontinue BZ for	se c eld	pini	ions pat	i I re	espe ts on	et t	hini ng-t	k I tem	should attempt to n BZ therapy.	S	rong	ly disagree	1	2	3	4	5	6	7	Strong	ly agree
	Strongly disagree	1	2	3	4	5	6	7	1 3	strongly agree	8. I pl wit	an to	manage my prescribing l	eld BZ.	lerly	pa	tien	ts pr	ese	intin	ng with i	nsomnia
7.	I will attempt to dis insomnia on long-to	erm	stim BZ	the	Z f	or m y.	y e	lde	rly	patients with	S	rong	ly disagree	1	2	3	4	5	6	7	Strong	ly agree
	Strongly disagree	1	2	3	4	5	6	7	3	ùrongly agree	9. Pec ma	ple w	ho are impo elderly patie	ints	nt to that	pe	e pr	ofes st wi	sice th i	nall	y think t mnia wi	hat I shoul thout pre-
8.	I feel under social p erly patients with in	sco	sure nnia	ion	lon	mpt g-ter	m	disc BZ	the	tinue BZ for eld- erapy.	S	nong	ыс. ly disagree	1	2	3	4	5	6	7	Strong	ly agree
	Strongly disagree	1	2	3	4	5	6	7	3	arongly agree	10 Th	ete 04	e factors ou	teid	la of			ntro	1 th		officiance	wy obility
9.	I have complete con for elderly retients	ntro with	lov	er v	whet	her l	at	tem	pt	to discontinue BZ BZ therapy	to	mana	ge elderly p	atic	nts	vit	in	somi	nia	wit	hout pre	scribing
	Strongly disagree	1	2	3	4	5	6	7	s	trongly agree	S	rong	ly disagree	1	2	3	4	5	6	7	Strong	ly agree
10	I intend to attempt insomnia on long-to	to d	lisco BZ	ontio the	nue trap	BZ y.	for	my	ek	derly patients with	11.In nia	my oj is w	pinion, man thout presci	agir ribir	ng el	kler Z i	ily p s:	atie	nts	pre	senting 1	with insom
	Strongly disagree	1	2	3	4	5	6	7	5	trongly agree	а.		Harmful	1	2	1	3 .	4 5		6	7 Bene	ficial
	I am asafidara da a	1.2	and d				die			DZ for my	b.	Ge	ood practice	1	2	1	; .	4 5	5 1	6	7 Bad	practice
11	elderly patients wit	i ci h ir	ison	nnis	emp	lone	ais t-te	m	B/	therapy if I	c.		Satisfying	1	2	1	ş .	1 5		б	7 Not	Satisfying
	wanted.	37				-	1				d,		Risky	1	2	1	3 .	4 5		6	7 Safe	
	Strongly disagree	1	2	3	4	5	6	7	1.8	tennelo assos	1 .		Easy	1	2	- 1	ι.	4 5		6	7 Diffi	cult



Faculty of Medicine



STATINS & CARDIOVASCULAR DISEASE — PHYSICIAN'S EVALUATION

Thank you for participating in the Academic Detailing Service (ADS). Please take a few moments to complete this evaluation form. Your responses will be kept strictly confidential and you will not be identified in any way.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	The academic detailer acted in a polite and professional manner	. 1	2	3	4	5
2.	The academic detailer was knowledgeable	. 1	2	3	4	5
3.	The information I received was useful	. 1	2	3	4	5
4.	The detailing visit was a valuable use of my time	. 1	2	3	4	5
5.	I would like to have another detailing visit on another topic	. 1	2	3	4	5
1	Specify					
As	a result of this educational visit I will be more likely to:					
6.	Encourage patients to decrease CV risk by controlling life-style related risk factors	1	2	3	4	5
7.	Assess benefits and risks when considering statin therapy for primary prevention in patient populations where the evidence is insufficient to confirm benefit or no benefit	1	2	3	4	5
8.	Use statin therapy for secondary prevention	. 1	2	3	4	5
9.	Closely monitor for adverse effects if using higher doses of statins	. 1	2	3	4	5
10.	. Was the amount of time you spent with the academic detailer					
	Too long Too short	Just rig	ght	_		
11.	Comments					
	Thank you.					
	Please return to Dalhousie CME in the envelope provided of	r fax to (902) 494	-1479		
	Fax: 902.494.1479 • cme.medicial Education • C106, 5849 University Avenue • Halit	Tax NS B3H	H 4H/			

APPENDIX C: TIME-AND-MOTION STUDY DATA COLLECTION TOOLS

1. Time-and-motion tracking sheet for academic detailing activities												
Name:	Тор	ic:			I	Enter time	e in for ea	ch item;	Approxir	nate tota	l time for	each day
Date - dd/mm/yy												TOTALS
Lit Search & Review												
Core Documents Prep												
Revisions/Final Prep												
Local Adaptation Prep												
PowerPoint Overview												
NEWSL'R DIST'N												
# Newsletters Printed												
# Newsletter Mailed												
Mailing Costs (\$)												
Supporting Tools: Dev												
Ongoing Updates												
TRAINING												
Individual Prep												
Training Seminar												
Travel time												
Booking Visits												
Acad Detailing (Total)												
Door to Door Travel												
Waiting Time												
Detailing-Time on Topic												
-Time on Other												
# of Prescribers seen												
# seen for 1st time												
# of Non-Prescribers												
<pre># cancelled/rescheduled</pre>												
Km Travelled												
SESSION FOLLOW-UP												
Follow-up / Q&As												
Written Response Y/N												
Spin-Off Activities #												
Preparation/presentation												
# Physicians/Prescribers												
# RNs												
# Pharmacists												
# Other Health Professionals												
# Other - public, etc												
Program Evaluation hr												

per Visit (minutes)											
Date - dd/mm/yy											
Acad Detailing (Total)											
Door to Door Travel											
Waiting Time											
Detailing-Time on Topic											
-Time on Other											
# of Prescribers seen											
# seen for 1st time											
# of Non-Prescribers											
<pre># cancelled/rescheduled</pre>											
Km Travelled											

2. Description of items for time-and-motion tracking sheet T&M - TOPIC: • list specific Topic Enter time in for each item; . Approximate total time for each day Name: • name of personnel / detailer Date - dd/mm/yy • date in numerical day/month/year format Lit Search & Review • hours spent conducting literature search and review of literature hours spent working on actual draft document **Core Documents Prep** ٠ • **Revisions/Final Prep** hours spent working on document after $1^{\mbox{\tiny st}}$ draft hours spent working on document for use in your specific region **Local Adaptation Prep** ٠ **PowerPoint Overview** . hours spent to put together a formal didactic presentation of topic hours spent for local distribution of newsletter NEWSL'R DIST'N • **# Newsletters Printed** • number of newsletters printed **# Newsletters Mailed** number of newsletters mailed • Mailing Costs estimate cost of mailing (material, postage & envelopes) - per newsletter • **Supporting Tools: Dev** • hours spent for development of any supporting tools (e.g. PDA, internet) **Ongoing Updates** hours spent in providing updates on any previous topics (e.g. chart revisions) ٠ TRAINING- total time . hours spent participating in any training events (as a learner/participant) Individual Topic Prep ٠ hours spent preparing for detailing topic Training Seminar • hours spent attending detailer training seminar/discussion on training topic Travel time ٠ hours spent (paid) travelling to attend training events Booking Visits ٠ hours spent phoning, faxing, emailing, etc to book detailing visits minutes spent providing detailing visits including travel, waiting, and detailing Acad Detailing (Total) . Door to Door Travel • minutes spent to get detailing session Waiting Time ٠ minutes spent waiting to see physician / prescriber Detailing-Time on Topic minutes spent detailing physician / prescriber on detailing topic • -Time on Other ٠ minutes spent discussing any non-detailing topics (medical) # of Prescribers seen . total number of prescribers seen for the day # seen for 1st time total number of prescribers seen for the 1st time ٠ # of Non-Prescribers . number of non-prescribers (e.g. nurses, students) that participated in visit

total number of sessions cancelled or rescheduled without prior notice

Km traveled to provide detailing session (only document costs once)

cancelled/rescheduled

Km Traveled

٠

•

2. Description of items for time-and-motion tracking sheet – continued on page 92.

2. Description of items for time-and-motion tracking sheet – continued from page 91.

Follow-up / Q&As	• hours spent responding to questions, sending CE credit notices, etc.
Written Response #	number of written memos/responses to follow up on sessions
Spin-Off Activities #	• Enter "1" for each activity entered
- Preparation	• additional hours to prepare & present a given presentation
# Physicians/Prescribers	number of physicians /prescribers attending in formal presentation
# RNs	• number of nurses attending
# Pharmacists	number of pharmacists attending
# Other Professionals	• number of other professionals attending (e.g. psychology, social work)
# Other - public, etc	• number of public attending
Program Evaluation	• hours spent in evaluating program (DUE's, Surveys, etc.)

per Visit	Per-visit data will be collected and added up to provide per-day data (above)
Date - dd/mm/yy	
Acad Detailing (Total)	• time spent providing detailing visits including travel, waiting, and detailing
Door to Door Travel	• time spent to get detailing session
Waiting Time	• time spent waiting to see physician / prescriber
Detailing-Time on Topic	• time spent detailing physician / prescriber on detailing topic
-Time on Other	• time spent discussing any non-detailing topics (medical)
# of Prescribers seen	• total number of prescribers seen for the day
# seen for 1st time	• total number of prescribers seen for the 1 st time
# of Non-Prescribers	• number of non-prescribers (e.g. nurses, students) that participated in visit
# cancelled/rescheduled	• total number of sessions cancelled or rescheduled without prior notice
Km Traveled	• Km traveled to provide detailing session

Time & Motion Access Database - How to input data

- Open File
- Open Time/Motion Users Data Entry window (if not already opened)
- Enter User (if first time) at bottom of window using arrows to advance to correct or new user.
- To enter new topic, click on "add topic to topic list" (some topics already entered)
- Topic must be added to "Users list of topic" by clicking on "down arrow"; then select topic you want to add; click Add; confirm "yes"
- To enter data on specific topic for user, press "View"; This brings up the data entry screen. Confirm correct User (yellow at top-left) and topic in "topic name". You may wish to maximize the window (buttons upper right) as whole entry window should be visible on 17" screen.
- Enter date.
- · Enter data under correct category; e.g. far right of window has section for actual detailing visits.
- Press "Close Form" button at bottom left. Then press the arrow-asterisk button bottom left to advance to the next record entry.
- When done; press save and exit program.

File can be selected, winziped, and sent to RxFiles for merging with overall data. (to winzip, right click on file in Windows Explorer, and "add to zip")

3. Time-and-r	notion tracking: Participation list	
	The RxFiles c/o Saskatoon City Hospital 701 Queen Street, Saskatoon, SK Canada S7K 0M7 TEL: (306) 655-8506 FAX: (306) 655-8804 CEL: (306) 221-2163 Email: regierl@rxfiles.ca Internet: www.RxFiles.ca	

Participation List – <u>Lipid</u> – Jan 2005

)ATE a/mo	vel-min	it-min	it-min	seen	#1 st	DN-MD	ancel	km	Name (Print)	Signature or Initials	M1 🗸			Topics	
d I	tra	Wa	vis	#		n	J				CME /	Fax	Lipid	Other	Charts 2004

Site: _____

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APPENDIX D: PATIENT LIST REQUEST FORM

o:	MSI Statistics	
	Fax #: (902) 481-3157	
	P.O. Box 500	
	Halifax, Nova Scotia B3J 2S1	
rom:		Fax#:
		Date:
Jumbe /Iessag urther lease fo eriod o	er of pages, including this one: 1 ge: to information on dyslipidemia management provide orward a report of all the Pharmacare beneficiaries to of time. I understand this report will list: the first and last name of each Pharmacare beneficia	ed by the Dalhousie CME Academic Detailing Service, whom I prescribed a nitrate during a recent 6-month ry who filled one or more prescriptions for a nitrate
Numbe Messag Jurther please fo period c - - - - - - unders end the	er of pages, including this one: 1 ge: to information on dyslipidemia management provide orward a report of all the Pharmacare beneficiaries to of time. I understand this report will list: the first and last name of each Pharmacare beneficia prescribed by me during a recent 6-month period; the health card number of each Pharmacare benefici the date of birth of each Pharmacare beneficiary; an the name and strength of the nitrate prescribed. stand the report being produced by MSI Statistics will e report to my attention at the following address:	ed by the Dalhousie CME Academic Detailing Service, whom I prescribed a nitrate during a recent 6-month ry who filled one or more prescriptions for a nitrate iary; d
Numbe Messag Further blease fo beriod c - - - - unders end the Physic	er of pages, including this one: 1 ge: to information on dyslipidemia management provide orward a report of all the Pharmacare beneficiaries to of time. I understand this report will list: the first and last name of each Pharmacare beneficia prescribed by me during a recent 6-month period; the health card number of each Pharmacare benefici the date of birth of each Pharmacare beneficiary; an the name and strength of the nitrate prescribed. stand the report being produced by MSI Statistics will e report to my attention at the following address:	ed by the Dalhousie CME Academic Detailing Service whom I prescribed a nitrate during a recent 6-month ry who filled one or more prescriptions for a nitrate iary; d only be used for the purpose of this request. Please 'hysician Mailing Address
Vumbe Vlessag Further blease fo beriod o - - - - unders end the Physic:	er of pages, including this one: 1 ge: to information on dyslipidemia management provide orward a report of all the Pharmacare beneficiaries to of time. I understand this report will list: the first and last name of each Pharmacare beneficia prescribed by me during a recent 6-month period; the health card number of each Pharmacare beneficiary; an the date of birth of each Pharmacare beneficiary; an the name and strength of the nitrate prescribed. stand the report being produced by MSI Statistics will e report to my attention at the following address:	ed by the Dalhousie CME Academic Detailing Service whom I prescribed a nitrate during a recent 6-month ry who filled one or more prescriptions for a nitrate iary; d only be used for the purpose of this request. Please 'hysician Mailing Address

Date

APPENDIX E: CADC REPORTS, POSTERS AND PUBLICATIONS

Scholarly articles, manuscripts or letters to editor

- Malcolm Maclure, Anne Nguyen, Greg Carney, Colin Dormuth, Hendrik Roelants, Kendall Ho, Sebastian Schneeweiss. (March, 2006). "Measuring Prescribing Improvements in Pragmatic Trials of Educational Tools for General Practitioners." *Basic and Clinical Pharmacology and Toxicology* 98 (3): 235-330.
- Anne Nguyen, Malcolm Maclure, Greg Carney, Hendrik WM Roelants, Colin R Dormuth. A crossover trial to study impacts of academic detailing on congestive heart failure. (Manuscript being prepared to be submitted for publication.)
- Rosemary Bacovsky, Malcolm Maclure, Anne Nguyen, Harold Lopatka, Loren Regier, Shawn Bugden, Michael Allen. (March-April, 2006) "Canadian Academic Detailing Collaboration: Evaluating Processes and Outcomes of Academic Detailing." *Canadian Pharmacists Journal* 139 (2): 54-57.
- Michael Allen. (2006, March 16). Statins in Primary Prevention: Uncertainty in Women, Elderly [Letter to the editor]. *American Family Physician* 73 (6): 973.
- Michael Allen, P McLean-Veysey, I Fleming. (2005, Oct. 11). Coxibs and cardiovascular risk. [Letter to the editor.] *CMAJ* 173(8): 853.

Reports

Canadian and international experience

• Bacovsky, Rosemary. Best Practices and Innovative Approaches to Academic Detailing: A Synthesis of Canadian and International Experiences. April 2006.

PEMs studies

- Frascara, Jorge and Stan Ruecker. *Performance Benchmarking: COPD Case Study*. April 2005.
- Frascara, Jorge. *Design Criteria and Guidelines for the Visual Presentation of Information.* January 2006.
- Ruecker, Stan and Bernie Roessler. *Alternative Channels of Communication*. January 2006.
- Ruecker, Stan and Bernie Roessler. *Performance Benchmarking and Information Design Analysis.* January 2006.

Collaboration on Academic Detailing

 Morrow, Richard. Canadian Academic Detailing Collaboration: Process Evaluation. April 2006

Posters and presentations

- Malcolm Maclure, Michael Allen, Rosemary Bacovsky, Shawn Bugden, Harold Lopatka, Richard Morrow, Anne Nguyen, Loren Regier. Evaluation of the Canadian Academic Detailing Collaboration. (Presented at CHSPR conference, Toward a National Pharmaceutical Strategy: Lessons from Abroad, February 2006).
- Harold Lopatka, Malcolm Maclure, Michael Allen, Rosemary Bacovsky, Shawn Bugden, Richard Morrow, Anne Nguyen, Loren Regier. Process and Outcome Evaluation of Academic Detailing in Five Canadian Provinces. (Presented at the 3rd Annual Canadian Therapeutics Congress, May 2006.)
- Anne Nguyen, Malcolm Maclure, Greg Carney, Hendrik WM Roelants, Colin R Dormuth. Can NPDUIS be used to evaluate and academic detailing trial? Lessons from B.C.'s impact evaluation. (Presented at CHSPR conference, Toward a National Pharmaceutical Strategy: Lessons from Abroad, February 2006.)
- Anne Nguyen, Malcolm Maclure, Greg Carney, Hendrik Roleants, Colin Dormuth. An assessment of academic detailing on congestive heart failure, using a prospective, randomized, cross-over design, in North and West Vancouver. (Presented at the 3rd

Annual Canadian Therapeutics Congress, May 2006.)

- Michael Allen, Isobel Fleming and Suzanne Ferrier. Family Physicians' Perceptions Of Academic Detailing. (Presented at CAPT 2005 Conference)
- Rosemary Bacovsky, Malcolm Maclure, Michael Allen, Shawn Bugden, Harold Lopatka, Anne Nguyen, Loren Regier. Best Practices and Innovative Approaches to Academic Detailing: A Synthesis of Canadian and International Experiences. (Presented at CHSPR conference, Toward a National Pharmaceutical Strategy: Lessons from Abroad, February 2006.)
- Loren Regier. Academic Detailing: Physician Acceptance and Prescribing Behaviour Change (Presented at CHSPR conference, Toward a National Pharmaceutical Strategy: Lessons from Abroad, February 2006).
- Loren Regier. "Academic Detailing, The RxFiles Experience" (Presented Feb 11, 2005 to at the Influencing Prescriber Behaviour conference, Calgary AB.)

Presentations about the CADC

- Allen M. Canadian Academic Detailing Collaboration. Presentation at 6th Annual HTA CCOHTA Symposium Ottawa ON, April 2006
- Allen M. Canadian Academic Detailing Collaboration. Presentation at Conference on Influencing Provider Behaviour in Medication Use, Calgary AB, February 2005.

Presentations about needs assessment

- Allen M, Ferrier S, Fleming I. Family physicians' perceptions of academic detailing. Presentation at Canadian Association of Health Education. Calgary AB, September 2005.
- Allen M, Ferrier S, Fleming I. Family physicians' perceptions of academic detailing. Poster at Association of Medical Education in Europe, Amsterdam NL, August 2005.
- Allen M, Ferrier S, Fleming I. Family physicians' perceptions of academic detailing. Presentation at Division of Medical Education Symposium, Dalhousie University, Halifax NS, May 2005.
- Allen M, Ferrier S, Fleming I. Family physicians' perceptions of academic detailing. Poster at Canadian Association of Population Therapeutics, Vancouver BC, April 2005.

Presentations on statins

- Fleming I, McLean-Veysey, Allen M, . Statins in Diabetes: Perspective of Dalhousie Academic Detailing Service. Presentation at Annual Workshop of Diabetes Care Program of Nova Scotia, Halifax NS, April, 2006.
- Fleming I, McLean-Veysey, Allen M, Giacomontonio N. Statins in Prevention of Cardiovascular Disease: Perspective of Dalhousie Academic Detailing Service. Presentation at Grand Rounds Division of Cardiology, Halifax NS, September, 2005.
- Fleming I, McLean-Veysey, Allen M. Uncertainties in Prevention of Cardiovascular Disease. Presentation at Conjoint Assembly of Family Physicians, Charlottetown PEI, August, 2005. <u>Invited presentation.</u>

Literature Reviews

• Fortin, Patricia. CME Communication/ Delivery Channels Literature Review. (unpublished)

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The CADC's stated mission is to enhance the depth and breadth, reach, efficiency and effectiveness of academic detailing programs in Canada. The group's activities include regular communication, education and training, advocacy, partnering with other agencies, and research and evaluation.

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Drug Policy Futures

Our team, Drug Policy Futures, operates from the School of Health Information Science at the University of Victoria with funding from the Canadian Institutes of Health Research and the Canadian Medical Association to study innovations in pharmaceutical policy.

We conduct research with a variety of partners, including academic researchers, provincial drug plan managers and employers to develop tools for better policies and management for drug benefit plans.

A key focus of our work is the use of evidence to improve pharmaceutical policies.

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