



**Centre for Community Pharmacy Research and
Interdisciplinary Strategies (COMPRIS)
Annual Report
2006/07**

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DIRECTOR'S REMARKS



We are pleased to issue the third Annual Report for the Centre for COMmunity Pharmacy Research and Interdisciplinary Strategies (c/ COMPRIS). The year 2006-7 saw us complete four research studies, start four new studies, and initiate planning for a province-wide collaborative project with Alberta Health and Wellness, which could have a major impact on patient care and pharmacy practice.

First of all, congratulations to **Dr. Tammy Bungard** and the staff of the Anticoagulation Management Service (AMS) at the University of Alberta Hospital for a very successful program. Results from the AMS research project, originally funded by the Health Innovation Fund (Alberta Health and Wellness) from 2001-2004, were recently published in abstract form. Results demonstrated improved anticoagulation care, fewer blood clotting events, fewer bleeding events, and fewer hospitalizations during AMS care than usual care (by family physician). In addition, patients preferred pharmacist-led AMS care to usual physician care. Finally, the economic analysis suggested a cost savings in addition to improved patient outcomes. The AMS training model received a Commonwealth of Learning Award in October, 2006, a Capital Health REACH Award in May 2007, and Dr. Bungard received the Canadian Pharmacists Journal paper of the year award on June 3, 2007.

The project entitled “Impact of opinion leader endorsed evidence summaries on quality of prescribing for patients with cardiovascular disease” has been completed and has been published in the American Heart Journal in January 2007. The study determined that an intervention consisting of patient-specific one-page evidence summaries, generated and endorsed by local opinion leaders, improved cardiovascular drug prescribing in the community but the benefits are likely modest and may be disease specific.

PHIND-OA (Pharmacist Identification of New, Diagnostically Confirmed Osteoarthritis) has been completed and an abstract was presented at the European League Against Rheumatism Meeting in Amsterdam in late June, by **Dr. Carlo Marra** of the University of British Columbia. This research study was conducted in **Save-on-Foods** Pharmacies in Vancouver and Edmonton. The study demonstrated that the use of a simple screening questionnaire by community pharmacists can identify >80% of those individuals with knee pain who have undiagnosed knee OA that may be amenable to intervention. This finding has important implications for possible intervention programs in the future. The main results paper has been accepted for publication in Arthritis Care and Research.

SCRIP-Hypertension (SCRIP-*HTN*) started enrolment in May 2005, and has now been completed. Results were presented by **Ms. Donna McLean** at the joint annual meeting of the Alberta College of Pharmacists, the Alberta Medical Association, and the College and Association of Registered Nurses of Alberta (“Tripartite”) meeting in Banff Alberta, in May 2007. Key findings were a difference in reduction in systolic blood pressure by 5.6 mmHg favoring the intervention group, and a 46% increase in the proportion of patients reaching target blood pressure in the intervention group. Interestingly, this was achieved with no increase in the use of prescribed medication. The clinical implications of these findings are impressive. If sustained, this would lead to a **30% reduction in stroke, a 23% reduction in coronary events, and a 13% reduction in mortality**. Almost certainly, adding pharmacist’s ability to prescribe and modify medications in patients already diagnosed with hypertension would result in an even greater impact.

The COLLABORATE (Capturing Outcomes of Clinical Activities Performed by a Rounding Pharmacist Practicing in a Team Environment) study assessed the impact of the addition of a clinical pharmacist to internal medicine and family medicine teams. Interim results were presented by **Dr. Mark Makowsky** at the Tripartite meeting in Banff in May 2007, and showed interesting trends towards improved use of evidence-based drug therapies. Six month follow-up of the remaining patients is ongoing, with final results expected in September 2007.

ACHIEVA (A Cohort and Intervention Study Evaluating Antidepressant Epidemiology and Adherence) was launched in June 2006 to study antidepressant prescribing by family physicians in the community and to evaluate the impact of pharmacist counseling on patient adherence to medication regimens.

HEARTT (Heart failure Evaluation - Acute Referral Team Trial) is a multidisciplinary referral service for patients discharged from emergency with the diagnosis of heart failure. In this randomized trial, patients will be educated and managed by a team consisting of a pharmacist, nurse and dietician. Primary outcome is hospitalization and mortality at 6 months. This project received funding from the University Hospital Foundation and the Heart and Stroke Foundation of Canada.

Further details of these projects and all COMPRIS research studies can be found in this Annual Report.

Significant work has been done over the past year to advance our major goals of leading change in pharmacy practice and promoting health policy change to facilitate sustained provision of proven clinical interventions by pharmacists. COMPRIS activities included presentations to pharmacy and other professional groups and associations across Canada and worldwide, “recruitment” of like-minded partners, and formation of a coalition of key stakeholders, to lead the policy change initiative. In May of 2006 a presentation was made to the joint Annual Meetings of the Canadian Pharmacists Association, the Alberta College of Pharmacists and the Association of Faculties of Pharmacy of Canada on the need for pharmacy practice change. Subsequently, I was invited to speak at most provincial pharmacy association meetings, indicating a strong interest in accelerating pharmacy practice change. For details of these and other presentations, please see the section entitled “Publications and Presentations”.

Pharmacy practice change in Alberta is supported by several major initiatives including the approval of a regulation under the Health Professions Act granting prescribing authority to pharmacists, the continued development of the Electronic Health Record, and the recognition of the pharmacist as a member of several teams being established within primary care networks. The opportunity for implementing sustained innovative pharmacy practice in Alberta has never been better.

Although the benefits of pharmacist intervention have been clearly established in previous COMPRIS studies, a sustainable pharmacy practice change has not yet occurred, even in the pharmacies that participated in the research. It is evident that a new compensation model is required that facilitates patient-centered care and provides adequate incentives for pharmacists to dedicate time and resources to provide clinical service to patients. Upon the advice of the Research Advisory Committee at last year's Annual Meeting, COMPRIS has been working in partnership with Alberta Health and Wellness, the Faculty of Pharmacy and Pharmaceutical Sciences and the Alberta College of Pharmacists to propose a four year program featuring the pharmacist's role in chronic disease management. The program will include design and implementation of a new reimbursement model in pharmacist operated clinics throughout the province of Alberta, and potentially will incorporate a component of pharmacist prescribing. Needless to say, we are extremely excited about the prospect of initiating a program of such magnitude and significance and eagerly await a government decision regarding support for the program.

I would like to take this opportunity to thank our sponsors for their ongoing support of COMPRIS. Without your financial support, many of our projects would not be possible. Thank you very much to AstraZeneca Inc., Bristol-Myers Squibb/sanofi-aventis, Merck-Frosst Canada, Apotex, Bayer, and Overwaitea Food Group. COMPRIS is also very pleased to welcome ManthaMed, who joined us as an Associate Corporate Sponsor, effective June 1, 2006.

COMPRIS faculty and staff were again involved in a large number of publications and presentations throughout 2006-7. Details can be found under Publications/Presentations.

Thank you for your continuing interest in our initiatives and for your support for COMPRIS. We look forward to working with you during 2007-8.

Respectfully Submitted,

Ross T. Tsuyuki, BSc(Pharm), PharmD, MSc, FCSHP, FACC
Professor of Medicine and Director,
EPICORE Centre/COMPRIS
Professor and Merck Frosst Chair in Patient Health Management
Faculty of Pharmacy and Pharmaceutical Sciences
University of Alberta

INTRODUCTION

Established within the University of Alberta in 2003, the **Centre for COMMunity Pharmacy Research and Interdisciplinary Strategies (c/ COMPRIS)** is a unique multidisciplinary health research centre with a focus on practice based research promotes inter-professional care, professional development, and evaluation to improve health outcomes. COMPRIS is supported by the Faculties of Medicine and Pharmacy of the University of Alberta, and sponsored by AstraZeneca Canada Inc., Bristol-Myers Squibb/sanofi aventis Ltd, Merck Frosst Canada Ltd., Overwaitea Food Group (Save-on Foods Pharmacies), Bayer HealthCare Pharmaceuticals, ManthaMed Inc., and Apotex Inc. COMPRIS is a subsidiary of the Epidemiology Coordinating and Research (EPICORE) Centre and shares space and resources, and purchasing some services from the parent centre.

For more information on the activities of EPICORE Centre and COMPRIS, please see the website: www.epicore.ualberta.ca.

VISION/MISSION

VISION STATEMENT

To be the leading internationally recognized coordinating centre for pharmacy practice research.

We envision pharmacists engaged in patient-centered care, supported by high quality research evidence of its efficacy, empowered in their work environment, continuously developing their professional skills, and recognized for their important contributions to patient care.

MISSION STATEMENT

To demonstrate, support, and promote the development of new and renewed roles for pharmacists within the interdisciplinary health care team.

GOALS AND OBJECTIVES

1. To design, implement, analyze, publicize, and promote pharmacy practice research,
2. To act as a resource for practice research stakeholders to conduct, promote, apply and integrate research, education, training and practice,
3. To identify and steward resources (human, intellectual and financial) in support of practice research,
4. To apply clinical trials methodology to examine the impact of a) collaboration between pharmacists, physicians and other health care professionals, and b) pharmacist intervention in disease management programs,
5. To deliver education and training in practice research,
6. To advocate and support translation of research results into Canadian health care policy and sustained pharmacy practice change.

STRUCTURE OF COMPRIS

MANAGEMENT

Director

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University of Alberta 8215 – 112 Street
Edmonton, Alberta T6G 2C8
www.epicore.ualberta.ca

FACULTY

COMPRIS has access to a unique cadre of staff knowledge and experience in a wide range of health research and clinical expertise:

- **Ross Tsuyuki**, BSc(Pharm), PharmD, MSc, FCSHP, FACC (Professor – Medicine/Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta, Director – EPICORE Centre)
- **Tammy Bungard**, BSP, PharmD (Assistant Professor – Medicine, Director – Anticoagulation Management Services, University of Alberta)
- **Lisa Dolovich**, PharmD, MSc (Associate Professor, McMaster University)
- **David Gardner**, PharmD, MSc (Associate Professor, Department of Psychiatry & College of Pharmacy, Dalhousie University)
- **Jeffrey A. Johnson**, BSP, MSc, PhD (Professor - Public Health Sciences, University of Alberta)
- **Kathryn King**, RN, PhD (Professor - Faculty of Nursing, University of Calgary)
- **Sumit R. Majumdar**, MD, MPH, FRCPC (Associate Professor -Medicine/General Internist, University of Alberta)

- **Carlo Marra**, PharmD. Ph.D., FCSHP (Assistant Professor, Faculty of Pharmaceutical Sciences and Pharmaco-Economist, Centre for Clinical Epidemiology and Evaluation, University of British Columbia)
- **Finlay A. McAlister**, MD, MSc, FRCPC (Associate Professor -Medicine/General Internist, University of Alberta)
- **Stephen Newman**, MD, MSc (Professor, School of Public Health)
- **Lyne Lalonde**, BPharm, PhD (Professeur adjoint Faculté de pharmacie, Université de Montréal)
- **Glen Pearson**, BSc, BScPharm, PharmD (Associate Professor – Cardiology, Co-Director, Cardiovascular Risk Reduction Clinic, University of Alberta)
- **Maricel Reddy**, BHE, RD (Clinical Dietician, Capital Health Region)
- **Marcelo Shibata**, MD (Clinical Instructor – Medicine, University of Alberta and Cardiologist, Misericordia Hospital)
- **Terri Schindel**, BSP, MCE, FCSHP (Director, Outreach Education, Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta)
- **Scot Simpson**, PharmD, MSc, (Assistant Professor, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta)
- **Jeff Taylor**, BSP, PhD (Associate Professor, College of Pharmacy and Nutrition, University of Saskatchewan)
- **Nesé Yuksel**, Pharm.D. (Associate Professor, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta)

RESEARCH ADVISORY COMMITTEE

The Centre’s sponsors and collaborators participate in its activities through membership in a Research Advisory Committee (Terms of Reference Appendix 1). Membership of the Research Advisory Committee follows:

Dr. Franco Pasutto	Dean	Faculty of Pharmacy and Pharmaceutical Sciences 3118 Dentistry/Pharmacy Centre University of Alberta Edmonton, AB T6G 2N8
Dr. Tom Marrie	Dean	Faculty of Medicine and Dentistry 2J2.02 WMC University of Alberta Edmonton, AB T6G 2R7
Mr. Rick Webster	Patient Access Manager, Alberta	AstraZeneca Canada Inc. 321 Woodbriar Place SW, Calgary, AB T2W 6A9

Ms. Hawley Crosby	Senior Consultant, Health Outcomes	Bristol-Myers Squibb/Sanofi-Aventis 2365 Côte-de-Liesse Saint-Laurent, QC H4N 2M7
Ms. Lori-Jean Manness	Manager of Patient Health	Merck Frosst Canada Ltd. 55 Fairgrove Bay Winnipeg, MB R2R 1C9
Mr. Ralph Lai	Director, Pharmacies	Overwaitea Food Group 19855 - 92A Avenue Langley, BC V1M 3B6
Mr. Jamie Davis	Director, Government Affairs & Patient Access	Bayer HealthCare Pharmaceuticals 14720 – 86 Ave Edmonton, AB T5E 4B8
Mr. Peter Mantha	President	ManthMed Inc. Unit 6 - 6695 Millcreek Drive Mississauga, ON L5N 5R8
Ms. Karen Sullivan	Manager, Professional Services	Apotex Inc. 16 Scenic Ridge Green NW Calgary, AB T3L 1V7
Mr. Jeff Poston	Executive Director	Canadian Pharmacists Association 1785, prom. Alta Vista Dr. Ottawa, ON K1G 3Y6
Mr. Greg Eberhart	Registrar	Alberta College of Pharmacists 1200, 10303 Jasper Avenue Edmonton, AB T5J 3N6
Mr. Keith Stewart	Chief Executive Officer	Alberta Pharmacists Association 1800 – 10303 Jasper Avenue NW Edmonton, AB T5J 3N6
Mr. Murray McKay	Project Leader Quality Improvement , Health Accountability Division Research and Evidence Branch	Alberta Health and Wellness 22nd Floor , TELUS Plaza North Tower 10025 Jasper Ave Edmonton, AB T5J 1S6
Mr. Glenn Monteith	Executive Director, Pharmaceutical Policy and Programs	Alberta Health and Wellness 24th Floor, TELUS Plaza North Tower 10025 Jasper Avenue Edmonton, Alberta T5J 1S6
Dr. William Hyndyk	Senior Medical Advisor	Alberta Medical Association 12230 – 106 Avenue Edmonton, AB T5N 3Z1
Ms. Marguerite Rowe	Chief Operating Officer, Community Care, Rehabilitation and Mental Health	Capital Health 10216 - 124 Street Edmonton, AB T5J 1S6
Dr. Lynn Redfern	Director, Policy and Practice	College and Association of Registered Nurses of Alberta 1620 – 168 Street Edmonton, AB T5M 4A6
Dr. Ross Tsuyuki	Director, COMPRIS	EPICORE Centre University of Alberta 220 College Plaza Edmonton, AB T6G 2C8
Mr. Chuck Wilgosh	Business Manager, COMPRIS	EPICORE Centre University of Alberta 220 College Plaza Edmonton, AB T6G 2C8

Mr. David Bougher	Consultant – Health Policy	EPICORE Centre University of Alberta 220 College Plaza Edmonton, AB T6G 2C8
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SPONSORS

- Merck Frosst Canada Ltd
- AstraZeneca Canada Inc
- Bristol-Myers Squibb / sanofi-aventis
- Bayer HealthCare Pharmaceuticals
- Overwaitea Food Group
- Apotex Inc.
- ManthaMed (Associate)

COLLABORATORS

- Faculty of Pharmacy and Pharmaceutical Sciences
- Faculty of Medicine and Dentistry
- Alberta College of Pharmacists
- College and Association of Registered Nurses of Alberta
- Alberta Medical Association
- Capital Health Region Pharmacists Association
- Capital Health Region
- Canadian Pharmacists Association
- Alberta Health and Wellness
- Pharmacists' Association of Alberta

PARTNERSHIPS

COMPRIS continues to maintain a collaborative relationship with the following partners:

EPICORE (Epidemiology Coordinating and Research) Centre, University of Alberta

EPICORE Centre provides infrastructure support for COMPRIS including study design, clinical trial co-ordination, logistics, and data management.

University of Alberta, Faculty of Pharmacy and Pharmaceutical Sciences

COMPRIS's mission and objectives continue to complement and enhance the University and Faculty priorities, in particular those of the Faculty of Pharmacy and Pharmaceutical Sciences, related to education, research and community service. In this regard, a high priority for the Faculty is to be a leader in practice-related research programs in pharmaceutical sciences and of pharmacy practice. With the support and input of Dean Pasutto, COMPRIS partners with the Faculty in addressing the pharmacy practice research component of its priorities.

Dr. Ross Tsuyuki holds the positions of Professor and Merck Frosst Chair in Patient Health Management.

Dean Franco Pasutto is a staunch supporter of the need to translate research results into sustained pharmacy practice change. He has been very influential in bringing the chronic disease management proposal forward to government.

Several members of COMPRIS faculty are also members of the Faculty of Pharmacy and Pharmaceutical Sciences.

COMPRIS continues to work with the Division of Continuing Education, Faculty of Pharmacy and Pharmaceutical Sciences to maintain PHARMA*Learn*. See www.pharmalearn.com.

A number of COMPRIS Faculty members including Ross Tsuyuki, Sheri Koshman and Mark Makowsky did some teaching at the Faculty of Pharmacy and Pharmaceutical Sciences.

Ross Tsuyuki will be the plenary speaker for PDW 2008, hosted by the Faculty of Pharmacy and Pharmaceutical Sciences.

University of Alberta, Faculty of Medicine and Dentistry

Dr. Ross Tsuyuki holds the position of Professor of Medicine (Cardiology), Department of Medicine, Division of Cardiology.

Dr. Finlay McAlister, Associate Professor Medicine and General Internist, University of Alberta, also holds the position of Aventis Chair in Patient Management in the Faculty of Medicine and Dentistry.

Alberta Health and Wellness

Alberta Health and Wellness (AH&W) continues to be a valued collaborating member through the COMPRIS Research Advisory Committee. **Glenn Monteith, Karen Smilski and Andrea Nagel** have worked closely with COMPRIS in the preparation of the chronic disease management proposal and have facilitated the submission of the proposal to government.

Canadian Pharmacists Association (CPhA)

COMPRIS continues to work with the Canadian Pharmacists Association regarding advocating for practice and health policy change.

Dr. Ross Tsuyuki serves as Chair of the Editorial Board of the Canadian Pharmacists Journal.

Dr. Ross Tsuyuki has been an ongoing contributor to development of the CPhA Blueprint for Pharmacy. The Blueprint will identify structural, legislative, policy, program and funding requirements to support change in the pharmacy profession and will identify actions necessary to move the profession forward. Elements of the Blueprint include role change and pharmacy practice models; pharmacy human resources; pharmacy education and continuing professional development; information and communications technology; financial viability and sustainability; legislation, regulation and liability; and leadership for the profession.

The Canadian Pharmacy Practice Research Group (CPPRG) has developed a repository of research projects on their Website. COMPRIS research summaries for past and current research projects are continue to be added to the CPPRG Website.

Alberta Medical Association (AMA)

AMA is represented by **Dr. William Hyndyk**, Senior Medical Advisor on the COMPRIS Research Advisory Committee. The support and assistance of AMA was greatly appreciated prior to and during the recently completed SCRIP-*HTN* Study.

College and Association of Registered Nurses of Alberta (CARNA)

Dr. Lynn Redfern, Director, Policy and Practice represents CARNA on the COMPRIS Research Advisory Committee. CARNA was also an active participant before and during the SCRIP-*HTN* project.

Capital Health Region

Ms. Marguerite Rowe, Chief Operating Officer, Community Care, Rehabilitation and Mental Health, represents Capital Health on the COMPRIS Research Advisory Committee.

Dr. Ken Gardener, Vice President Medical Services, was a member of the SCRIP-*HTN* Advisory Committee.

COMPRIS collaborated with Capital Health, Regional Pharmacy Services on two research projects, COLLABORATE AND HEARTT. Details if these studies can be found elsewhere in this report.

Dr. Sheri Koshman serves the Cardiac EASE Program at the University of Alberta Hospital.

ManthaMed Inc.

ManthaMed, a distributor of medical equipment, provided their state of the art blood pressure measuring device BPTru® at a reduced cost for use in SCRIP-*HTN*. **Ms. Laura Sterns** represented ManthaMed on the SCRIP-*HTN* Advisory Committee. Recently, ManthaMed officially joined COMPRIS as an Associate Sponsor. Welcome to ManthaMed and President **Mr. Peter Mantha**.

Medicine Shoppe Canada

Medicine Shoppe pharmacies in Edmonton and surrounding areas participated in the SCRIP-*HTN* study. **Mr. Ross McKay**, Vice President Operations and Managed Care, was a member of the SCRIP-*HTN* advisory committee and has been a strong advocate of SCRIP-*HTN* within the Katz Group of Pharmacies and in promoting SCRIP-*HTN* to the public.

CADTH/COMPUS

The Canadian Optimal Medication Prescribing and Utilization Service (COMPUS) is funded by Health Canada within The Canadian Agency for Drugs and Technologies in Health (CADTH). Their Medication Prescribing and Use Project (MPUP) Collection contains a database of research projects and programs across Canada. COMPRIS submits summaries of our research projects for posting on the MPUP website.

COMPRIS FINANCIAL POSITION

BUDGET VERSUS ACTUAL REVENUES AND EXPENDITURES

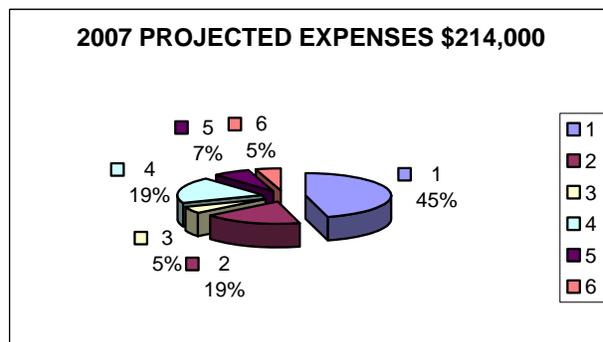
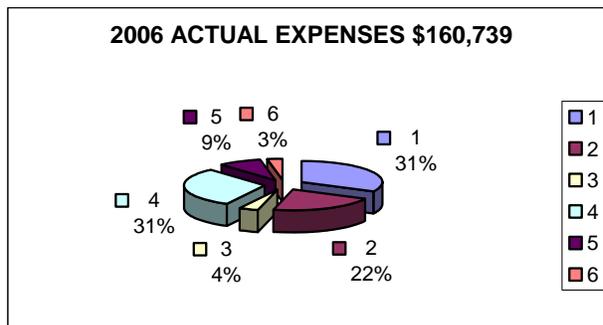
	2006 Budget	2006 Actual	Variance	2007 Projected
REVENUES				
Balance Previous Year	\$13,572	\$13,572	\$0	\$6,613
Revenues	\$150,000	\$153,780	\$3,780	\$235,000
TOTAL REVENUES	\$163,572	\$167,352	\$3,780	\$241,613
EXPENSES				
Salaries	\$48,000	\$52,089	-\$4,089	\$98,000
Fellowships/Students	\$35,000	\$34,668	\$332	\$40,000
Supplies/Office	\$13,000	\$5,902	\$7,098	\$10,000
EPICORE Infrastructure	\$41,000	\$49,400	-\$8,400	\$41,000
Meetings/Travel	\$14,000	\$13,680	\$320	\$15,000
Contingency	\$10,000	\$5,000	\$5,000	\$10,000
TOTAL EXPENSES	\$161,000	\$160,739	\$261	\$214,000
SURPLUS (DEFICIT)		\$6,613		\$27,613

NOTES

1. Increased EPICORE Infrastructure cost in 2006 are related to salaries of staff supporting COMPRIS Studies.
2. Increased staffing budget in 2007 is related to cost of conducting systematic literature reviews.

CHART KEY

- | | |
|--------------|---------------------|
| 1 = Salaries | 4 = Infrastructure |
| 2 = Students | 5 = Meetings/Travel |
| 3 = Supplies | 6 = Contingency |



EDUCATION

Continuing Education and Training

COMPRIS continues to work with the Office of Continuing Education, Faculty of Pharmacy and Pharmaceutical Sciences. Their unique web-based education for pharmacists (PHARMA*Learn*) was updated in 2005 with revisions to the Hypertension and Diabetes modules. Both of these modules serve as a training tool and ongoing resource for pharmacists participating in the SCRIP-*HTN* study. All of the educational programs developed within Pharma*Learn* have been custom designed for ease of application in practice settings to promote practice change. Ongoing maintenance of PHARMA*Learn* is uncertain at this time. See the report of the Office of Continuing Pharmacy Education Submission for COMPRIS (Appendix 2).

Ms. Terri Schindel, Director of Outreach Education, Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta, collaborated with **Dr. Tammy Bungard** and **Dr. Ross Tsuyuki** in writing the award winning application “A Comprehensive Continuing Professional Development Program for Anticoagulation Management by Pharmacists”. The Anticoagulation Management Service education model received a Commonwealth of Learning Award in October, 2006.

Fellowships/Grad Students

Two postdoctoral fellows continued their 2-year post-PharmD fellowship programs in 2006.

Dr. Mark Makowsky coordinated the COLLABORATE project, evaluating the role of a team-based hospital pharmacist in internal medicine and family medicine. Mark also provided substantive assistance to the SCRIP-*HTN* study.

Dr. Sheri Koshman, the first (in Canada) post doctoral clinical fellow in ambulatory cardiology, continued working with co-supervisors **Dr. Ross Tsuyuki** and **Dr. Glen Pearson**. This unique position is jointly funded by the Cardiac EASE program (Division of Cardiology), Capital Health Regional Pharmacy Services, the Faculty of Pharmacy and Pharmaceutical Sciences, and COMPRIS. Sheri’s primary clinical responsibility is with the Cardiac EASE program (a rapid response cardiology consultation service for outpatients). She has developed exceptional physical assessment skills and has been rotating through ambulatory cardiology clinics (heart failure, risk reduction, transplant, anticoagulation), as well as inpatient coronary care. Her research project will assess the effect of a pharmacist and nurse led subacute heart failure clinic, which will act as a referral service for patients seen in the emergency room. This study received funding from the University Hospital Foundation. Dr. Koshman has also been involved in significant amounts of teaching of pharmacy and medicine undergraduate students, as well as pharmacy and medical residents.

Donna McLean, RN, MS is a Ph.D student in Medicine, who recently completed her major research project, SCRIP-*HTN*. Donna’s research was funded through the Canadian Diabetes Association, the Alberta Heritage Foundation for Medical Research, the Canadian Council of Cardiovascular Nurses, the Heart and Stroke Foundation and Merck Frosst Canada Ltd.

SUPPORT OF RESEARCHERS

COMPRIS continues to act as a resource for practice research stakeholders to conduct, promote, apply and integrate research, education and practice. COMPRIS's research support services include protocol design, grant application, clinical trial co-ordination, data management and quality assurance, database creation, health records, biostatistics, and report writing.

FEATURED COMPRIS FACULTY MEMBER

Dr. Carlo Marra B.Sc.(Pharm.), Pharm.D., Ph.D., FCSHP



Dr. Carlo Marra

COMPRIS is proud to profile one of our out-of-province faculty members, Dr. Carlo Marra. Carlo is currently an Assistant Professor in Pharmacy Practice at the Faculty of Pharmaceutical Sciences, University of British Columbia, a Research Scientist at St. Paul's Hospital - Centre for Health Evaluation and Outcome Sciences (CHEOS), as well as an adjunct Research Scientist at Vancouver Coastal Health Research Institute's Centre for Clinical Epidemiology and Evaluation.

Carlo received his Bachelor of Science in Pharmacy in 1992, completed a hospital pharmacy residency at Vancouver General Hospital in 1993, followed by a Pharm.D. in 1995, and a Ph.D. in Epidemiology/Health Economics in 2004, all from the University of British Columbia. Carlo completed a Postdoctoral fellowship in Outcomes Research at the Arthritis Research Centre of Canada, from September 1999 to May 2002.

After receiving his Ph.D., Carlo joined the Faculty of Pharmaceutical Sciences as an Assistant Professor and was also employed as Head of the Health Economics Programme at the Vancouver

Coastal Health Research Institute, Centre for Clinical Epidemiology and Evaluation, in January 2004. Prior to this, he had also worked as a research pharmacist at Vancouver General Hospital.

Carlo's primary teaching responsibilities include courses in the area of health services research with specific emphasis on health economics, economic evaluation and pharmacoepidemiology. In addition, he teaches Pharm.D. students clinical therapeutics of rheumatic diseases and frequently serves as preceptor for Pharm.D. student outcomes research rotations

Carlo's main research interests are in investigating the Pharmacist's Role in Primary Care, Epidemiology, Economic Evaluation, Health Measurement, Quality of Life, and Health Technology Assessment. He has been successful in securing a number of research grants from various sources including the Canadian Institutes of Health Research (CIHR), the Michael Smith Foundation for Health Research, and the Canadian Coordination Office for Health Technology Assessment, as well as the Canadian Arthritis Network - Networks of Centres of Excellence (NCE).

Notably, Carlo was the recipient of a prestigious Michael Smith Foundation for Health Research Scholar Award in 2005, which provides financial support for a 5-year period until 2010. That was followed in 2006 by Carlo being named a Tier II Canadian Research Chair in Pharmaceutical Outcomes for a 5-year period from 2006-2011. In addition, Dr. Marra recently received the Patient Care Achievement Award for Innovative Practice from the Canadian Pharmacists' Association.

Together with Dr. Larry Lynd, Carlo directs the Faculty of Pharmaceutical Sciences University of British Columbia outcomes research group called CORE (Collaboration for Outcomes Research and Evaluation). Members of CORE are diverse and include academics from the Faculty of Pharmaceutical Sciences as well as researchers (statisticians, health economists, epidemiologists) and Associate Members from other faculties and universities (www.CORE.UBC.Ca).

Carlo's publications are substantive with more than 60 peer reviewed articles in the medical literature. One of the most recent was an article examining the ability of community pharmacists to screen for knee osteoarthritis (OA):

Marra, CA, J Cibere, RT Tsuyuki, JA Soon, JM Esdaile, L Gastonguay, B Oteng, P Embley, L Colley and G Enenajor. "Improving Osteoarthritis Detection in the Community: The Pharmacist Identification of New, Diagnostically Confirmed Osteoarthritis (PhIND-OA)". *Arthritis Care and Research*. (accepted March-April 2007).

The majority of Carlo's research studies examining the role of pharmacists in primary care to date have involved OA. Future studies will examine the ability of a pharmacist intervention to address care gaps in OA (the Pharmacist Initiated Intervention Trial in OA (PhIT-OA)), the ability of pharmacists to improve disease modifying anti-rheumatic drug therapy in RA, and an empirical assessment of pharmacists' compensation demanded for assuming a greater clinical role. In addition, several studies evaluating the cost effectiveness of various treatment and diagnostic strategies and pharmacoepidemiological evaluations using administrative databases are either underway or being planned.

PHIND-OA represents the initial collaborative project between CORE and COMPRIS. PHIND-OA was supported by a joint CIHR/Canadian Arthritis Network New Emerging Team (NET) Grant entitled “Tooling Up For Early Osteoarthritis: Measuring What Matters”), Merck Frosst, and the Arthritis Society. PhIT-OA is a randomized study that will build on the results of the PhIND-OA study to examine the benefits of a pharmacist medication review and the availability of an exercise therapy program on the quality of care and health outcomes in knee OA. The Michael Smith Foundation and the Canadian Arthritis Network fund this study. Carlo’s research is described in some detail within this annual report.

Carlo is married to Dr. Fawziah Marra, who is an Associate Professor at the Faculty of Pharmaceutical Sciences at UBC, an Associate Member of the Division of Infectious Diseases and the Clinical Lead for Pharmacy and Vaccine Services at the British Columbia Center for Disease Control. They have 2 children, Yasmin who is 9 years old and 7 year old Noah.

2006/07 INITIATIVES/ACTIVITIES

A) ONGOING PROJECTS

1. Health Policy Change

This agenda continues to include knowledge dissemination to influence health policy and to facilitate pharmacy practice change. At last years' Research Advisory Committee meeting, a decision was made to create a policy sub-committee of RAC to oversee and guide the implementation of change in pharmacy practice. In subsequent discussions with several RAC members, it was decided to keep the policy subcommittee small, represented by key stakeholders within COMPRIS. Simultaneously, an opportunity to propose a program to the Alberta Government to effect practice change and reimbursement methods became available in August 2006.

Health policy activities in 2006 were guided by the direction and advice received at last years' annual meeting of the Research Advisory Committee. A key highlight of activities was the response by the Deputy Minister of Alberta Health and Wellness, Paddy Meade, to a high level proposal for engaging pharmacists in chronic disease management. The proposal was presented by Franco Pasutto, Greg Eberhart, and Ross Tsuyuki at a meeting in August, 2006. The proposal was aligned with key policy statements and directions for reshaping the health system, as reflected in Alberta's Health Policy Framework (February, 2006), and included putting patients at the centre, promoting flexibility in scope of practice of health professionals, and implementing new compensation models. Deputy Minister Meade directed her staff to work with COMPRIS to prepare a business case for submission to government in fall, 2006.

Development of the business case in the ensuing months was conducted under the guidance of a steering committee composed of Franco Pasutto, Greg Eberhart, Ross Tsuyuki, Chuck Wilgosh, and David Bougher. In the interest of expediency, this small group represented the COMPRIS Research Advisory Committee (RAC) and took on the task of the "Coalition of Stakeholders" which was recommended to be formed at the RAC meeting in January 2006, for the purpose of advancing the health policy agenda.

COMPRIS' initial proposal to government reflected Alberta's enabling environment and capacity for leading change, and focused on addressing the needs of patients with diabetes, providing education support to ensure preparation of the pharmacist for becoming actively engaged in managing patients with diabetes, and development of a sustainable and viable alternative funding model. These priorities have served as the basis for proceeding with development of a business case, as requested by Alberta Health and Wellness.

As work on the business case neared completion at the end of 2006, it was recognized that considerable developmental work remained, and that engaging key stakeholders needed to be a priority for 2007. Further guidance and advice will be required from the RAC as COMPRIS proceeds with the next steps in working with government and key stakeholders.

Other activities undertaken in 2006 included meetings with stakeholders and partners, including government, the Pharmacists' Association of Alberta, and the Research-Based Pharmaceutical Industry. COMPRIS was well represented in making a series of presentations, comprising an entire half-day session, at the annual Association of Faculties of Pharmacy of Canada /Canadian Pharmacists Association Joint Pharmacy Practice Research Symposium in 2006, which focused on preparing pharmacists for the future, and key COMPRIS initiatives. A systematic review of reimbursement policies was completed by pharmacy student Philip Chan to help inform work on development of an alternative reimbursement model as part of the business case for Alberta Health and Wellness (this paper is under review by the Canadian Pharmacists Journal). Media activities included collaborating with the Public Affairs Office of the University of Alberta for the release of messages to rural Alberta media on rural projects.

2. Impact of opinion leader endorsed evidence summaries on quality of prescribing for patients with cardiovascular disease

This community-based randomized controlled trial with blinded ascertainment of outcomes was completed in 2005. The protocol was published in *BMC Cardiovascular Disorders*, 2005, 5:17 and the results in the *American Heart Journal* in January 2007. The investigators are **Dr. Sumit Majumdar, Dr. Finlay McAlister, and Dr. Ross Tsuyuki.**

Opinion leaders are physicians who their peers view as educationally influential and who therefore exert influence over others because they are well known, respected, and trusted. This study was designed to determine if an intervention consisting of patient-specific one-page evidence summaries, generated and endorsed by local opinion leaders, would improve prescribing of angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) in heart failure (HF) and that of statins in ischemic heart disease (IHD).

171 patients with HF (not receiving ACE inhibitors or ARBs) and with IHD (not receiving statins) were recruited from 40 pharmacies (COMPRIS partner **SaveOn-Foods** contributed a number of study sites and patients). 84 patients were randomized to usual care with their primary physician and 87 to the opinion leader intervention.

The primary outcome measure was "improvement" in prescribing of efficacious therapies in patients with cardiovascular disease within 6 months of study entry.

Results:

21 (24%) of intervention patients started receiving an efficacious medication within 6 months, as compared with 15 (18%) of control subjects (relative risk of improvement 1.32, 95% CI 0.73-2.40, $P = .31$). In the Heart Failure subgroup, 38% of the intervention patients started receiving an ACE inhibitor or ARB therapy, as compared with 20% of control subjects (relative risk of improvement 1.90, 95% CI 0.76-4.72, $P = .15$). In the IHD subgroup, 17% of the intervention patients and 17% of the control subjects started receiving statin therapy ($P = .97$).

Conclusions:

- It was concluded that the influence of local opinion leaders may be useful for improving the quality of cardiovascular prescribing in the community, but the benefits are likely modest and may be disease specific. Further studies on this method are warranted.

This study was supported by grants from the Alberta Heritage Foundation for Medical Research (AHFMR) and the Institute of Health Economics.

3. Anticoagulation Management Service (AMS) – Dr. Tammy Bungard

Originally funded by the Health Innovation Fund, AMS successfully completed its 3-stage project in 2004. Phase 1 involved development of a pharmacist-run anticoagulation management service in a clinic at the University of Alberta Hospital. In the second and third phases the core clinic was used as a training facility and resource centre to bring satellite AMS's to community pharmacies and community hospitals in Alberta. The AMS core-clinic continues to operate as a Capital Health funded program at the University of Alberta Hospital.

Results from the AMS research project from 2001-2004, were recently published in abstract form. Results included:

- Improved anticoagulation care: Patients were within appropriate INR range (the narrow range of blood “thinness”) 66% of the time vs. 48% pre-AMS
- Far fewer blood clotting events during AMS care (2.7 events/100 person years vs. 35.8 events pre-AMS care)
- Fewer bleeding events during AMS care (10.8 events/100 person years vs. 18.8 events pre-AMS care)
- Fewer hospitalizations during AMS care (4.5 events /100 person years vs. 6.3 events pre-AMS care)
- Patients preferred pharmacist-led AMS care to usual physician care

Finally, the economic analysis suggested cost savings in addition to improved patient outcomes.

In the second and third phases of the research project, the core AMS clinic was used as a training facility and resource centre to bring satellite AMS clinics to community pharmacies and community hospitals in Alberta. Unfortunately, due to lack of ongoing funding, most satellite AMS clinics closed following completion of the research project. The Athabasca satellite AMS clinic, which like Capital Health received ongoing funding from the health region, remains operational.

The AMS model has been very successful, receiving a Commonwealth of Learning Award in October 2006. A four phase learning program was utilized. Phase I was PHARMALearn – Anticoagulation: a comprehensive, web-based module focused on patient-centered management. Phase II involved self-directed study modules combined with one-on-one expert guidance and clinical teaching sessions, Phase III was experiential: a 6 week, hands-on training whereby learners worked in the established “core” anticoagulation clinic, and Phase IV was implementation: learners were supported in the implementation of their own anticoagulation

clinic in their usual work setting. These are set up as “satellite” clinics to the main clinic – having a connection with the core clinic. This may represent the ‘ultimate’ outcome of learning – application in the learner’s own practice environment. The program has been evaluated for learner satisfaction, clinical parameters (quality of blood thinning), patient outcomes (blood clots and bleeding complications), health economic evaluation, and patient satisfaction. All aspects evaluated have consistently shown beneficial outcomes of the program.

The AMS received a Capital Health REACH Award for excellence in May 2007, and **Dr. Tammy Bungard** also received the Canadian Pharmacists Journal paper of the year award on June 3, 2007 for the paper: Bungard TJ, Archer SL, Hamilton P, Ritchie B, Tymchak W, Tsuyuki RT. Bringing the benefits of anticoagulation management services to the community. *Can Pharm J* 2006; 139(2); 58-64.

Preparations for a follow-up project to AMS are underway. In this new project, 100 stabilized patients will be randomly assigned to either continue to receive care from the AMS, or will be sent back to their family physician for ongoing management.

4. Congestive Heart Failure Outreach Program of Education (COPE)

Funded by the Heart and Stroke Foundation of Canada, COPE will determine the impact of a simple and practical educational program for patients with heart failure (HF) on clinical outcomes, economic measures, and patient knowledge of self-care activities related to HF. Patients in hospital or the emergency department with symptomatic HF, or patients seen in an outpatient clinic with a hospitalization for HF within the previous 6 months, are identified by pharmacists or nurses for possible participation in the study. Patients are randomized to usual care versus a structured educational program consisting of a specially created video (focusing on self-care and medication adherence), accompanying booklet, and bimonthly newsletters.

Total sample size is to be 500. Enrolment from 13 centres began in October 2004 and as of year-end 2006, 799 patients have been screened and 250 enrolled in the study.

5. Direct Health Care Costs in Diabetes – Dr. Jeff Johnson

This project was completed in 2006. A full technical report was prepared and issued through the Institute of Health Economics (IHE Working Paper 06-04). The results were presented at the Annual Meeting of the Canadian Diabetes Association meeting in Toronto (October 2006). A manuscript has been prepared and is currently in peer-review with *Clinical Therapeutics*.

Using administrative data from Saskatchewan Health, we found that people with diabetes living in rural areas had different patterns of health care utilization than their counterparts in urban areas. We observed that per capita costs of most individual categories were highest in large urban areas over the follow-up period, with the exception of hospitalizations, which were highest among rural residents (\$1444 vs. \$1283). Despite differences in the individual cost categories, overall healthcare costs according to place of residence were similar. Overall, the age-adjusted mortality rates increased significantly from 12 (1993) to 18 (2001) deaths per 1000 population,

although rates were similar across geographic locations. The results suggest to us that rural populations with diabetes may not be as disadvantaged as commonly believed.

Peer-reviewed publication

Pohar SL, Majumdar SR, Johnson JA. Healthcare Costs and Mortality For Urban and Rural Patients With Diabetes: Population-Based Trends From 1993 – 2001. *Clinical Therapeutics* (submitted January 2007).

Technical Report

Pohar SL, Majumdar SR, Jacobs P, Johnson JA. Healthcare utilization and direct healthcare costs of diabetes in urban and rural Saskatchewan, 1991 – 2001. Institute of Health Economics Working Paper, 2006. WP 06-04.

Abstract

Pohar SL, Majumdar SR, Jacobs P, Johnson JA. Healthcare Utilization and Direct Healthcare Costs of Diabetes in Urban and Rural Saskatchewan, 1991-2001. Can Diabetes Assoc Annual Meeting October 18-21, 2006, Toronto, ON. *Canadian Journal of Diabetes* 2006:(Suppl)39;147.

Objective: To compare trends in health care costs and mortality for individuals with diabetes according to their residential location in Saskatchewan.

Methods: The Canadian National Diabetes Surveillance System (NDSS) criteria were applied to the linked administrative databases of Saskatchewan Health to identify those with diabetes between 1991 and 2001. Annual healthcare costs across five categories of health care services (physician visits, prescription medications, hospitalizations, day surgeries and dialysis) were identified over a 9-year period (1993-2001). Costs (in 2001 CDN\$) and mortality rates were directly age-adjusted and comparisons were made across individuals residing in large urban, small urban and rural areas at diabetes index date.

Results: We identified 57,774 individuals as having diabetes, about one-half (n=26,656) of whom resided in rural areas. In 2001, per total per capita costs were \$3289 for large urban, \$3427 for small urban and \$3454 for rural dwellers. Per capita costs of most individual categories were highest in large urban areas over the follow-up period, with the exception of hospitalizations, which were highest among rural residents (\$1444 vs. \$1283). Despite differences in the individual cost categories, overall healthcare costs according to place of residence were similar. Overall, the age-adjusted mortality rates increased significantly from 12 (1993) to 18 (2001) deaths per 1000 population, although rates were similar across geographic locations.

Conclusions: From 1993 to 2001, we observed systematic differences in costs of individual resource categories according to residential location – urban patients with diabetes incurred greater costs in most categories. Age-adjusted total costs and mortality rates were similar, however, suggesting that rural populations with diabetes may not be as disadvantaged as commonly believed.

6. **Improving Blood Pressure Management in Patients with Diabetes: SCRIP-HTN – Investigators: RT Tsuyuki, DL McLean, FA McAlister, KM King, JA Johnson, CA Jones**

SCRIP-HTN was designed to determine the efficacy of a community-based multidisciplinary screening and intervention program on blood pressure control in patients with diabetes. The study, completed in late 2006, was conducted by **14** teams of nurses and pharmacists working out of **Medicine Shoppe** Pharmacies in Edmonton, St. Albert, Fort Saskatchewan and Spruce Grove, Alberta.

Starting in January 2006, enrollment continued throughout 2006 and randomization was completed in September 2006 with a total of 227 patients. Recruitment of patients occurred through databases of the **Medicine Shoppe** Pharmacies, from the Diabetes Regional Take Charge Program, and through displays and patient screenings conducted by pharmacists and nurses in local shopping malls.

In November 2006 The Canadian Hypertension Education Program (CHEP) endorsed SCRIP-HTN. “The Canadian Hypertension Education Program (CHEP) believes that multidisciplinary community interventions such as the SCRIP-HTN program are important interventions to improve the detection, treatment and control of hypertension in Canada”.

In December 2006, pharmacists and nurses were invited to participate in the Nurses and Pharmacists Perceptions of Working Together Collaboratively Sub-Study for SCRIP-HTN. This is an ethnographical qualitative research study. Investigators are McLean DL, King K and Tsuyuki, R.

A manuscript was published on the design of the study: McLean DL, McAlister FA, Johnson JA, King DM, Jones CA, Tsuyuki RT. Improving Blood Pressure Management in Patients with Diabetes: The Design of the SCRIP-HTN Study. CPJ-RPC 2006; 139(4): 36-39.

Results: A preliminary summary of the key findings follows:

- Systolic **blood pressure was reduced by 5.4 mmHg** overall in the intervention group
- A **46% increase** in the proportion of patients reaching target blood pressure in the intervention group.

Interestingly, the clinical improvements were achieved with no increase in the use of prescribed medications. The potential clinical implications of these findings on health outcomes are impressive. If sustained, this would lead to a **30% reduction in stroke, a 23% reduction in coronary events, and a 13% reduction in mortality**. Almost certainly, adding pharmacist’s ability to prescribe and modify medications in patients already diagnosed with hypertension would result in an even greater impact.

Sponsors: The study was funded by the Heart and Stroke Foundation, the Alberta Heritage Foundation for Medical Research, the Canadian Diabetes Association, and Merck Frosst Canada Ltd. Partners for the study include the include the Alberta Medical Association, the Alberta College of Pharmacists, the Pharmacists Association of Alberta, the Alberta Association of Registered Nurses, Medicine Shoppe Canada, the University of Alberta, Capital Health, and Alberta Health and Wellness.

7. **A Randomized Trial of a Community Pharmacist – Initiated Screening and Intervention Program for Osteoporosis – The OSTEOPHARM Study – Dr. Nese Yuksel**

The objective of this study is to determine the effect of a community pharmacist-initiated multifaceted intervention on the diagnosis and treatment of osteoporosis in patients at high risk of fracture. Qualifying patients, identified by pharmacist screening, are randomized to usual care or participation in an osteoporosis intervention group. Patients are screened by the pharmacist using the 2002 Clinical Practice Guidelines for the Management and Diagnosis of Osteoporosis in Canada for patients considered at high risk for osteoporosis. The intervention involves a one on one education session on osteoporosis with a pharmacist, evaluation of daily calcium and vitamin D intake, a heel ultrasound using the CUBA Clinical Bone Density Sonometer and recommendations to see a family physician for a DEXA. The intervention, which is held in the pharmacy, has allowed pharmacists to add another dimension to patient care. The primary outcome is the composite endpoint of the performance of a DEXA or a new prescription for any osteoporosis treatment. Secondary outcomes measured include the use of calcium and vitamin D supplements, the patient's personal knowledge of osteoporosis using the "Facts on Osteoporosis Quiz" (FoOQ), general health status (RAND-12) and osteoporosis specific quality of life (OPTQoL). Patient assessment and recruitment have occurred at 13 Edmonton community pharmacies (**Save-on-Foods**), and two Save-on-Foods Pharmacies in Red Deer. Recruitment has been completed and we expect to have final results by August 2007.

OSTEOPHARM, led by **Dr. Nese Yuksel** and Coordinated by **Ms. Cathy Biggs**, was funded by a grant from the Institute of Health Economics.

8. **PHARMALearn (www.pharmalearn.com) – Ms. Terri Schindel**

This web-based, pharmacist education program, created in partnership with the Office of Continuing Pharmacy Education, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta supports pharmacists as a continuing education medium.

PharmaLearn Anticoagulation, a comprehensive web-based module focused on patient-centered management, was the first phase of the award winning learning program utilized by the Anticoagulation Management Service (AMS).

PHARMALearn- Anticoagulation was developed by a team of pharmacy practice, education and technical experts to meet the needs of pharmacists in their current practice. The program was launched in September 2002. More than 1100 pharmacists have registered for the web-based course. Due to the overwhelming response to the program in the first year and numerous requests by pharmacists for printed materials, a print-media version was developed in 2003. The total number of registrants for both the web-based and print-based course exceeds 2100 pharmacists. The course features theoretical information, authentic patient-cases and practice tools so that pharmacists can apply what they have learned into their patient care activities in the pharmacy. The program is designed to serve as both an introductory course as well as a resource for

practice. Pharmacists, once registered for the course, have unlimited access to the website, course updates and practice tools such as warfarin dosing charts and drug interaction charts. The course is accredited by the Canadian Council for Continuing Education in Pharmacy, the national accrediting body, for 6 continuing education units. On average, it takes pharmacists 6 hours to complete the web-based course.

The hypertension PharmaLearn module was recently utilized as part of the training program for **Medicine Shoppe** pharmacists participating in *SCRIP-HTN*.

Diabetes and Dyslipidemia modules were updated in 2006.

Ongoing maintenance of PHARMALearn is uncertain at this time. See the report of the Office of Continuing Pharmacy Education Submission for COMPRIS (Appendix 2).

9. PHIND-OA (Pharmacist Identification of New, Diagnostically Confirmed Osteoarthritis) – Dr. Carlo Marra

This is a study was designed to determine the feasibility and accuracy of a pharmacist-screening program to identify people with undiagnosed knee osteoarthritis. PHIND-OA has been completed and in 2006 it was presented at the following two conferences: American College of Rheumatology 2006 Annual Conference, Washington, DC, November 10-15, 2006. (poster and presentation); European League Against Rheumatism, Annual Conference, Amsterdam, Netherlands, June 2006 (poster). In addition, it has been accepted for publication in 2007 as follows: Marra CA, Cibere J, Tsuyuki RT, Soon JA, Esdaile JM, Gastonguay L, Oteng B, Embley P, Colley L, Enenajor G. Improving Osteoarthritis Detection in the Community: The Pharmacist Identification of New, Diagnostically Confirmed Osteoarthritis (PhIND-OA). *Arthritis Care & Research* (in press January 2007).

The results of the study are as follows: Of the 411 subjects screened by the community pharmacists, 274 were deemed to be eligible to participate. Of these, 44 declined, 35 were ineligible (18 had a previous OA diagnosis, 16 had other inflammatory conditions, and one was excluded for other reasons), and one died. The remaining 194 were mostly female (62%), mean age of 62 years, and were mostly white (86%). The body mass index (BMI) was classified as normal (18.5 - 24.9) in 29%; overweight (25.0-29.9) in 45%; and obese (>30.0) in 26%. Of those examined, 190 out of 194 (98%) met ACR Clinical Criteria for knee OA. The radiographic results revealed that most participants likely had mild OA. In conclusion, a previously untapped clinical resource -- community pharmacists - by administering a simple screening questionnaire can identify >80% of those individuals with knee pain who have undiagnosed knee OA. Based on radiographs and BMI, much of this OA is early and may be amenable to intervention. This finding has important implications for possible intervention programs in the future.

The PHIND-OA study, lead by **Dr. Carlo Marra** of the University of British Columbia and funded by CIHR (new emerging teams grant) and Merck Frosst, was conducted in **Save-on-Foods** Pharmacies in Vancouver and Edmonton.

10. Vascular Intervention Program (VIP) – Dr. Scot Simpson

The Vascular Intervention Program (Principal Investigator: Dr. Scot Simpson) is running in three family medicine clinics affiliated with the Southside Edmonton Primary Care Network. Subject recruitment began on February 28th 2006. The study is designed to examine the impact on cardiovascular risk factor management in people with type 2 diabetes by adding a pharmacist to family medicine clinics. In addition, since June 2006, a CIHR-funded Post Doctoral Fellow, Dr. Carolyn Green, has been conducting an ethnographic study examining the organizational changes induced by adding a pharmacist to these clinics. **Ms. Denise Nitschke**, the study pharmacist, spoke of her experiences in the family medicine clinics at the Canadian Diabetes Association Annual General Meeting in October 2006. The VIP study is funded by grants from the Canadian Diabetes Association and from the Institute of Health Economics, and CIHR.

11. COLLABORATE – Dr. Mark Makowsky

The COLLABORATE (Capturing Outcomes of Clinical Activities Performed by a Rounding Pharmacist Practicing in a Team Environment) study, is a controlled trial initiative designed to assess the impact of a hospital team based clinical pharmacist on process and patient centered outcomes in patients admitted to general and family medicine teams. This study began active recruitment on January 30, 2006.

Four medical teams are participating: University of Alberta Hospital (Internal Medicine CTU-A), Royal Alexandra Hospital (Family Practice Hospital Care Team #1) Grey Nuns Community Hospital (Internal Medicine CTU-A), and Grey Nuns Community Hospital (Primary Care Hospital Team Orange). As of August 31, 2006, 403 patient charts have been screened of which 246 were eligible for inclusion in the analysis of outcomes. The two study pharmacists will continue to provide services to inpatients until February 2, 2007. An interim analysis of results was presented at the Tripartite conference in May 2007, and final results should be available by September 2007..

12. ACHIEVA (A Cohort and Intervention Study Evaluating Antidepressant Epidemiology and Adherence) – Dr. Stephen Newman, Dr. David Gardner, Ms. Lauren Brown and Ms. Cathy Biggs

Although 1 in 14 Albertans between the ages of 18 to 65 years have taken an antidepressant, little is known about the practice patterns of family physicians in the prescribing of these medications

ACHIEVA started in June 2006 and involves two phases.

Phase I will determine and evaluate the practice patterns of antidepressant medication prescribing by family physicians in the community. Individuals who have not received an antidepressant for at least 6 months who present with a prescription for an antidepressant to a

participating pharmacy in the Edmonton region will be recruited for the study. Participants will then complete psychiatric questionnaires to determine the reasons for prescription of the antidepressant medication. Pharmacists and study personnel will be recruiting 631 patients for Phase I.

Phase II involves the evaluation of a pharmacist-administered patient counseling tool called the Health PACT and its impact on patient adherence to antidepressant therapy. Many studies have demonstrated poor short- and long-term adherence to antidepressants. This is very problematic because adherence to antidepressant medications is important to prevent relapse of depression. The Health PACT is designed to be used by pharmacists when counseling patients with depression who are newly started on an antidepressant.

Individuals who are identified as having depression in Phase I of the study are eligible for Phase II, and 106 participants will be recruited for Phase II. Of the 106 participants, 53 will be randomly assigned to usual care by their pharmacist, and 53 will be assigned to the Health PACT, administered by their pharmacist at least 3 times over the 6-month study period. As of December 31, 2006, ACHIEVA has enrolled 15 patients in Phase I and 4 patients in Phase II. We currently have 23 sites participating in the ACHIEVA study in Edmonton and the surrounding area. We are expanding the study to rural sites and to the city of Calgary, and will begin to recruit patients through the added sites in June 2007. The manuscript detailing the design of the study has been published in the Canadian Pharmacists Journal (CPJ).

The primary investigators for the ACHIEVA study are Dr. Stephen Newman, Department of Psychiatry, University of Alberta (Phase I), and Dr. David Gardner, Department of Psychiatry, D'Amico University (Phase II). Co-investigators include Dr. Ross Tsuyuki, Department of Medicine, University of Alberta, and Dr. Scott Patten, Department of Psychiatry, University of Calgary.

The ACHIEVA study is being run with the cooperation of the Capital Health Region Pharmacist's Association (CHPA). ACHIEVA is funded by Alberta Health and Wellness and funding is managed through the Institute of Health Economics.

As of June 1, 2007 ACHIEVA has enrolled 22 patients in Phase I and 4 patients in Phase II. We currently have 27 sites participating in the ACHIEVA study in Edmonton and the surrounding area. We are expanding the study to rural sites and to the city of Calgary, and will begin to recruit patients through the added sites in June 2007. The manuscript detailing the design of the study has been published in the Canadian Pharmacists Journal (CPJ).

13. HEARTT (Heart failure Evaluation -Acute Referral Team Trial)

This study, coordinated by **Dr. Sheri Koshman**, is a multidisciplinary referral service for patients discharged from emergency with the diagnosis of heart failure. The team consists of a dietician, a nurse, a pharmacist and a physician. All patients referred will be evaluated in the clinic and those with an ejection fraction of 40% or less will be eligible for the randomized controlled trial which will compare usual care to a 6 month intervention consisting of medication

initiation and titration and education. The team is expected to improve care to this population and decrease hospitalizations. We have had recruitment difficulties (no referrals from the Emergency Department) and the team will be meeting in July to relaunch the study.

14. CIHR New Emerging Team Grant: Tapping An Underutilized Resource: Exploring the Role of the Community Pharmacist in Rural and Northern Health

The original grant applicants were: Ross Tsuyuki, Jeff Johnson, Finlay McAlister, Martha MacLeod (Associate Professor Nursing Program, University of Northern British Columbia), Jeff Taylor, Kirsten Woodend (Assistant Professor, Faculty of Health Sciences, University of Ottawa), and Donna McLean. The following were named new investigators under this CIHR grant in 2006: Scot Simpson, Lyne Lalonde, Nese Yuksel, Carlo Marra, Lisa Dolovich, and Terri Schindel.

This 5-year grant encompasses a number of projects. The status of each follows:

a. Pharmacist Views on Schedule II OTC Medicines for the Management of Chronic Illness - A National Survey (Dr. J. Taylor):

This project will survey attitudes towards Schedule II (over the counter) medications and pharmacists' attitudes and beliefs towards this class of medications. 900 pharmacists will be surveyed from across Canada. The data-collecting document (survey) was pre-tested in 2006. The distribution of the survey began in early 2007.

b. Analysis of administrative databases from Saskatchewan Health – Dr. Jeff Johnson

Geographic Location, Healthcare Utilization and Direct Healthcare Costs in Diabetes (Dr. J. Johnson): This study is complete. (See Item 5 above: Direct Health Care Costs in Diabetes).

c. Rural Hypertension Project

A number of centres in rural and northern areas have expressed strong interest in participating in this study. Due to the positive results of *SCRIP-HTN*, this study will utilize a before-after design, enrolling patients with poorly controlled hypertension. We hope to start enrolling patients in the fall of 2007 (See Planned Projects).

d. Chronic Disease Management Proposal

The New Emerging Team Grant has provided some financial support for the use of COMPRIS resources required to prepare this proposal for submission to Alberta Health and Wellness. Government approval of the Chronic Disease Management Proposal is pending.

e) Vascular Intervention Program (VIP)

See item #10 above.

f) SCRIP-HTN

See Item #6 above.

15. Systematic Review of Remuneration Policies

2006 COMPRIS summer student **Phil Chan** conducted a broad systematic literature review on reimbursement policies for clinical pharmacy services. The purpose of this project was to establish a database of references for the purpose of developing a suitable pharmacist reimbursement model for practical application in the Chronic Disease Management program proposal, which was submitted to government.

The review focused on key topics including payer, services reimbursed, remuneration schedule and amount, evaluation of the program, and sustainability/uptake of the program by pharmacists. The results were collated in table format entitled "Summary of Characteristics of Systems for Pharmacist-Reimbursement" which lists a) Pharmacists' Reimbursement Program/Year First Implemented, b) Participants Location/Setting/Patients/Payer, c) Summary (Service & Fee/Additional training required), and d) relevant explanatory comments.

Following compilation of the results, a brainstorming session was held to review the information, highlight key findings, and identify the essential strategic elements to consider in the development of an Alberta reimbursement model. Participants in the brainstorming session included Greg Eberhart, Franco Pasutto, Ross Tsuyuki, David Bougher, and Chuck Wilgosh, with assistance from Phil Chan and a PharmD student Kelly Grindrod. Key elements noted were: a) reimbursement amounts must be adequate to ensure uptake by pharmacists and sustainability of the model, b) options include a single model (professional services only) or a mixed model (e.g. high-end professional, lower-end professional services, and dispensing services), c) common definition is required for dispensing versus professional services to be reimbursed, d) third party payers must be involved in the development of the model.

A manuscript "A Systematic Review of Remuneration Systems for Pharmacy Clinical Care Services" is currently under review at the Canadian Pharmacists Journal.

16. Students Driving Pharmacy Practice Change

This project was initiated during the summer of 2006 by COMPRIS summer student **Dean Baayens**. The purpose of the project was to prepare a tool to assist graduating pharmacy students in securing a pharmacist position that is consistent with their expectations in terms of practice environment. This environment would be one that supports the pharmacist functioning at the highest level of professional practice while engaging in patient-centered pharmacy care, using their expert drug and health system knowledge to ensure that patients achieve their health goals. The reality is that most employers do not provide the time for their pharmacists to practice patient-centred care at present.

We realized that young graduating pharmacists are ill prepared to negotiate workplace expectations with prospective employers. Yet it is these young pharmacists who may be best positioned to influence the positive evolution of pharmacy practice by demanding a practice environment conducive with patient centered care, prior to accepting a position with a prospective employer.

An Interview Handbook has been prepared which contains information on preparation for an interview, including important questions to ask of the prospective employer. The interview tool was developed by asking leading community pharmacists what key supports they would ask for to ensure a level of patient-centred care, if they were currently applying for a job. Considerations include the work environment, the time and incentives provided for patient centered care, opportunities to provide clinics, workshops, or home visits, resources provided to support continuing education, etc.

We are planning to submit the Interview Handbook for publication in the Canadian Pharmacists Journal in a few weeks. We have partnered with the CAPSI president and president elect and they are currently reviewing the draft.

17. Perceived benefits and risks of statin therapy in current and recent users

Investigators:

Sheri L. Koshman, BScPharm, PharmD, ACPR

Hernando Leon, MD, PhD

Glen J. Pearson, BSc, BScPhm, PharmD, FCSHP

Albert Yeung, BSc, MSc, MB, ChB, MD (Glasg), FRCP(C), FACP, FRCP (Glasg), FRCP (Lond)

Ross T. Tsuyuki, BSc(Pharm), PharmD, MSc, FCSHP, FACC

Background:

Cardiovascular (CV) disease is the leading cause of death in Canada. Dyslipidemia is a well-established modifiable risk factor for the development of CV disease. Low density lipoprotein cholesterol (LDL-C), high density lipoprotein cholesterol (HDL-C), and the ratio of total cholesterol to HDL-C have all been shown to be independently associated with cardiovascular disease, however the majority of this data has been derived from epidemiological studies. The bulk of clinical evidence supporting modification of lipid parameters to reduce CV morbidity and mortality is from pharmacological lowering of LDL-C. HMG-CoA reductase inhibitors or “statins” have been most widely studied and are most effective at reducing LDL-C.

With over 15 years of clinical experience, statins have proven to be well tolerated and safe. The most common adverse effects reported in patients receiving statins as monotherapy are gastrointestinal problems (such as constipation, flatulence, dyspepsia and abdominal pain) as well as headaches and rash whose incidence is comparable to placebo. However, the most serious adverse effects of statins are rare and include liver problems, myopathies, rhabdomyolysis and neuropathies (including cognitive problems).

Recent media coverage regarding adverse effects of statins has resulted in an imbalanced view of the general public in the risk and benefits of statins as cholesterol-lowering drugs. These media reports regarding statin safety may influence patients' decisions on whether to begin or continue with statin therapy.

Methods:

Primary objective: To determine the perceived benefits and risks of statin therapy in current and recent users of statins

Secondary objective: Secondary objectives include the following:

- To describe the adherence rates of current users of statin therapy
- To describe the persistence of statin therapy use in a selected population

Design: The study will utilize two designs. A cross-sectional survey of recent and current users of statins will be used to assess perceptions of statin use and a retrospective pharmacy record review will be employed to evaluate statin adherence and persistence. Data will be correlated between the two portions of the study to determine if there is an association between patient perspectives and adherence.

Inclusion criteria: Patient using a statin (current or past) within the preceding two years will be eligible to participate in the survey.

Exclusion criteria: Patients will be excluded if they meet the following criteria:

- under 18 years of age
- patients residing in a nursing home as identified by the pharmacist
- patients with cognitive impairment as identified by the pharmacist
- patients unable to communicate using the English language as identified by the pharmacist

Patient recruitment: Patients will be identified via pharmacists in community pharmacies using prescription records. An invitation to participate in the study will be sent to the patient including an information sheet, consent form and survey

Outcome measures:

Primary endpoint: The primary outcome will be a descriptive summary of the number of patients that perceive the risks (scoring 1 or 2 on the scale) outweigh the benefits (scoring 4 or 5 on the scale) of statin therapy as assessed subjectively by the 5 point Likert scale.

- *Study status*

Approximately 600 surveys have been mailed (from 2 pharmacies), and reminder letters have recently been sent. A third pharmacy will begin recruitment in July.

B) NEW PROJECTS

1. COLLABORATE Sub-study

We have received HREB approval for a *sub-study* evaluating the new model for delivery of clinical pharmacist services from the perspective of the study pharmacists, physicians, and nurse practitioners involved in the project and have assembled a team of qualitative researchers including:

- Dr. Helen Madill (Centre for Health Promotion Studies, University of Alberta)
- Dr. Katy Campbell (Faculty of Extension, University of Alberta)
- Ms. Terri Schindel (Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta)
- Dr. Lisa Dolovich, (Centre for Evaluation of Medicines, McMaster University)

The main objectives of this sub-study are to:

- Determine the nature and extent of collaborative relationships forged between study pharmacists, attending physicians, and medical residents.
- Understand challenges, perceived barriers, and facilitators for implementation of clinical pharmacy services on internal and family medicine services
- To identify continuous professional learning needs required by pharmacists, physicians, and nurse practitioners emerging from the establishment of collaborative interdisciplinary care teams

We will use mixed methods to achieve these objectives, including an online survey, one on one interviews, and analysis of reflective journals. The first phase of data collection will begin in early December 2006. We are actively seeking a Graduate Research Assistant to conduct the one on one interviews in the New Year

Analysis of the complete data set should be completed by the end of August 2007, after which the final manuscript will be prepared.

2. PhIT-OA (Pharmacist-initiated Intervention Trial in Osteoarthritis)

This study will be a follow-up to PHIND-OA by **Dr. Carlo Marra**. From June to December 2006, planning occurred for the PhIT-OA study that is underway in 2007. The primary objective of the RANDOMIZED PHIT-OA study is to measure the effect of an education, assessment and a referral intervention program, initiated by community pharmacists working with patients, their family physicians, and physiotherapists (as compared to usual care), to improve the quality of management in knee Osteoarthritis (OA). The intervention will be an exercise therapy program.

This study is funded by the Michael Smith Foundation for Health Research, the Canadian Arthritis Network and through a New Emerging Team (Net) grant from CIHR.

C) PLANNED PROJECTS

1. Systematic Reviews of Pharmacist Care in Chronic Disease Management

Introduction

The role of pharmacists in chronic disease management is expanding. A systematic review of pharmacist care in chronic disease that focuses on patient outcomes would clarify the evidence in this area.

Objective

To determine the efficacy of pharmacist care of chronic diseases; namely anticoagulation, asthma, chronic obstructive pulmonary disease (COPD), diabetes mellitus, dyslipidemia, heart failure, hypertension, and osteoporosis on patient outcomes.

Methods

A series of related, but separate, systematic reviews on each disease state will be performed. MEDLINE®, EMBASE, CINAHL, International Pharmaceutical Abstracts and other databases will be searched from inception until May 2007. The searches will use consistent pharmacist-related terms while being disease-specific. All controlled studies will be included if the pharmacist's actions are defined. No restrictions will be placed on publication status, language, sample size, or length of follow-up.

The primary outcome will differ for each review: anticoagulation (time in therapeutic range); asthma (emergency room/hospital admissions); COPD (emergency room/hospital admissions); diabetes (change in glycosylated haemoglobin); dyslipidemia (low-density lipoprotein reduction); heart failure (hospitalizations); hypertension (change in blood pressure); or osteoporosis (referral for dual energy X-ray).

Quality of studies, publication bias, sensitivity analysis and heterogeneity will be assessed using *a priori* defined criteria and data analyzed using a random effects model. Two reviewers will be responsible for study selection, data extraction and quality assessments.

Conclusion

Evidence generated from these reports may guide the development of clinical practice guidelines on the role of the pharmacist in chronic disease management, assist pharmacist reimbursement programs and highlight gaps in the evidence-base for future research.

2. Rural Hypertension Project

This project would be a follow-up to the SCRIP-HTN project, using rural centres. Due to the positive results of SCRIP-HTN, this study will utilize a before-after design, enrolling patients with poorly controlled hypertension. We hope to start enrolling patients in the fall of 2007.

A number of centres in rural and northern areas have expressed strong interest in participating in this study, including Northern Manitoba, Territories, rural Nova Scotia, Alberta, and Prince Edward Island.

3. Chronic Disease Management Proposal

Government approval of the Chronic Disease Management Proposal is pending.

4. Student Interview Handbook

An initiative will be required to distribute the Student Interview Handbook, to serve as a tool to assist graduating pharmacy students in securing a pharmacist position consistent with their expectations in terms of practice environment. Potentially 6000 copies are required and may be distributed through CAPSI and at national, provincial and local meetings.

5. Recruitment of individual pharmacy members

Many individual pharmacies have expressed an interest in joining COMPRIS. Subject to approval of an amendment to the COMPRIS membership structure, an initiative may be required to recruit and incorporate of individual pharmacy members.

GRANTS

Dr. Ross Tsuyuki received a grant of \$75,000 from HSFC for “Heart Failure Evaluation – Acute Referral Team Trial (HEARTT)”, 07/2006 to 06/2007.

Dr. Ross Tsuyuki received a grant of \$100,000 from the Canadian Foundation for Pharmacy for “Compensation for Pharmacists’ Clinical Care Services – Development of a Sustainable, Scalable and Economically Viable Solution”, 07/2007 to 06/2008

Dr. Ross Tsuyuki received a grant of \$78,780 from AstraZeneca for “Patients Attitudes and Beliefs Towards Statins”, 01/2006 to 12/2007.

Dr. Ross Tsuyuki received a grant of \$25,000 from the University Hospital Foundation for “Patients with Heart Failure and Type-2 Diabetes Treated with Placebo or Metformin (PHANTOM Study)”, 01/2006 to 12/2006.

Dr. Ross Tsuyuki received a grant of \$22,496 from the University Hospital Foundation for “Proposal for a Multidisciplinary Triage of Patients with Sub-Acute HF: A Pilot Study”, 01/2006 to 12/2006

AWARDS/ACCOMPLISHMENTS

Congratulations to the following COMPRIS Faculty members for their significant achievements:

Dr. Tammy Bungard received the Canadian Pharmacists Journal paper of the year award in June 2007, for the paper: Bungard TJ, Archer SL, Hamilton P, Ritchie B, Tymchak W, Tsuyuki

RT. Bringing the benefits of anticoagulation management services to the community. Can Pharm J 2006; 139(2); 58-64.

Dr. Carlo Marra received the Canadian Pharmacists Association Patient Care Achievement Award for Innovation, sponsored by Apotex Inc., in June 2007. This award recognizes outstanding innovation in pharmacy practice aimed at improving patient outcomes.

Dr. Ross Tsuyuki was named Canadian Pharmacists Association Centennial Pharmacist, in May 2007.

Dr. Ross Tsuyuki received a Spotlight of Achievement Award from the Faculty of Medicine and Dentistry, University of Alberta, in May 2007.

Dr. Tammy Bungard and staff of the Anticoagulation Management Service received a Capital Health REACH Award for excellence, in May 2007

Ms. Terri Schindel, Dr. Tammy Bungard and Dr. Ross Tsuyuki received the 2006 Commonwealth of Learning (COL) Excellence in Distance Education Award, presented at the Fourth Pan-Commonwealth Forum on Open Learning in Ocho Rios, Jamaica, and 30 October – 3 November 2006.

Dr. Ross Tsuyuki and Dr. Finlay McAlister received an Honorary Mention acknowledgment in Community Care Best Physician/Pharmacist Team, Pharmacy Practice, November 2006.

STUDENT/TRAINEE AWARDS

Alexander Anzarut, MD	George R Graham Postgraduate Memorial Bursary in Surgery, May, 2006
Naheed Rajabali	Queen Elizabeth II Graduate Scholarship – Master’s Level, University of Alberta, May, 2006
Dean Baayens	CIHR Health Professional Student Research Award, Faculty of Pharmacy and Pharmaceutical Sciences for 2006-07.
Philip Chan	CIHR Health Professional Student Research Award, Faculty of Pharmacy and Pharmaceutical Sciences for 2006-07
Hernando León	AHFMR Fellowship Award, December, 2006.

APPOINTMENTS

Lauren Brown joined COMPRIS in early 2006 as the Project Coordinator for the Community Antidepressant Study (ACHIEVA). Lauren has a Bachelor's degree in Pharmacy, a hospital pharmacy residency certificate, and a Master's Degree in Clinical Epidemiology. She is currently a PhD student in Public Health Sciences at the University of Alberta, and has interest and expertise in mental health.

Philip Chan joined COMPRIS as a summer student in 2006. Philip worked on numerous projects including a systematic review of reimbursement policies to help inform work on development of an alternative reimbursement model as part of the business case for Alberta Health and Wellness. A paper based on Philip's review has been submitted for publication.

Dean Baayens joined COMPRIS as a summer student in 2006. Dean's project was preparation of an Interview Handbook to serve as a tool to assist graduating pharmacy students in securing a pharmacist position consistent with their expectations in terms of practice environment. The handbook contains information on preparation for an interview, including important questions to ask of the prospective employer in terms of existing supports that are provided to employees to assist the pharmacist to ensure practice is at a high level of patient-centred care. The Interview Tool has been submitted for publication.

Respectfully Submitted by:

Ross T. Tsuyuki, BSc(Pharm), PharmD, MSc, FCSHP, FACC
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EPICORE Centre/COMPRIS
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PUBLICATIONS/PRESENTATIONS

Publications, Peer Reviewed:

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3. The HOPE-2 Investigators (Steering Committee Member). Rationale, design and baseline characteristics of a large, simple randomized trial of combined folic acid and vitamins B₆ and B₁₂ in high-risk patients: The Heart Outcomes Prevention Evaluation (HOPE)-2 trial. *Can J Cardiol* 2006;22(1):47-53.
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APPENDIX 1



centre for COMMunity
Pharmacy Research &
Interdisciplinary
Strategies (c/COMPRIS)

RESEARCH ADVISORY COMMITTEE (RAC) TERMS OF REFERENCE

I. PURPOSE

- To serve in an advisory capacity to COMPRIS.
- To collaborate with COMPRIS and stakeholders in developing strategies to assist with the achievement of goals and objectives.

II. RESPONSIBILITIES

The RAC shall:

- Provide input and advice on formulation of the COMPRIS Mission Statement and Goals and Objectives
- Provide high level guidance on policy and the strategic plan development
- Identify research opportunities for consideration by COMPRIS
- Make recommendations on prioritizing research initiatives
- Facilitate communication between COMPRIS sponsors, researchers and stakeholders
- Assist in the development of action plans for common initiatives

- Provide a forum for discussion and identification of areas of common interest for COMPRIS's sponsors and collaborators
- Promote and publicize pharmacy practice research and the incorporation of research results into health policy

III. MEMBERSHIP

Dr. Franco Pasutto	Dean	Faculty of Pharmacy and Pharmaceutical Sciences 3118 Dentistry/Pharmacy Centre University of Alberta Edmonton, AB T6G 2N8
Dr. Tom Marrie	Dean	Faculty of Medicine and Dentistry 2J2.02 WMC University of Alberta Edmonton, AB T6G 2R7
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Mr. Ralph Lai	Director, Pharmacies	Overwaitea Food Group 19855 - 92A Avenue Langley, BC V1M 3B6
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Mr. David Bougher	Consultant – Health Policy	EPICORE Centre University of Alberta 220 College Plaza Edmonton, AB T6G 2C8

The membership may be amended from time to time, by the addition of new corporate sponsors and key institutional stakeholders.

IV. MEETINGS

The Committee will meet annually and at the call of the chair.

Revised June 6, 2007

APPENDIX 2

The Office of Continuing Pharmacy Education Submission for COMPRIS March 26, 2007

Over the last year, COMPRIS faculty members have explored potential initiatives to foster application of research to practice and support practice change. On April 1, 2007 Alberta pharmacists will enter a new era of practice that provides new opportunities and responsibilities in the delivery of healthcare services. The focus of 2006 for the Faculty of Pharmacy and Pharmaceutical Sciences, Office of Continuing Pharmacy Education, was to explore the nature of the University's engagement with the pharmacy community in 'outreach education'. The overall goal is to support pharmacy practice and professional development for the future. Meetings with practicing pharmacists, thought leaders in the profession, and the Alberta College of Pharmacists were held throughout the year to explore potential needs, roles, and responsibilities of the Faculty in the area of professional development so that the programming we develop and offer 'makes a difference'.

Continuing Professional Development for the Future: Professional education to support practice change

A key meeting occurred in August 2006, when local thought leaders comprised of COMPRIS Faculty and staff, Faculty members, and the Alberta College of Pharmacists president gathered to discuss professional education. The following individuals, Ms. Cathy Biggs, Dr. Christine Hughes, Ms. Cindy Nelson, Ms. Terri Schindel, Dr. Scot Simpson, Dr. Ross Tsuyuki, Mr. Jim Wan, Mr. Jeff Whissell and Dr. Nesé Yuksel, discussed ways to support pharmacists' growth in professional practice and identified key elements that promote practice change. There was consensus that success in practice is not determined by *what a pharmacist knows*, but the combination of knowledge, resources, experience, skills, values/beliefs and their application in practice. To 'make a difference' programming must be designed to support the acquisition of experience, skills, values/beliefs and their application. Five major areas for professional development programs, built around a core of professionalism, were proposed: knowledge, continuing professional development, practice skills and practice management, experience and application of knowledge and skills, and practice environment and collaboration.

The outcome of these meetings led to changes in new program development undertaken by the Office of Continuing Pharmacy Education. By the Fall 2006, a learning program built around the five major areas for professional development programs and our experience with a successful, well-established program, was under development. This new program, *Anticoagulation: On the Road to Practice Change*, is a collaboration of the Faculty of Pharmacy and Pharmaceutical Sciences, Alberta College of Pharmacists, Anticoagulation Management Services in Edmonton (University of Alberta Hospital) and the Anticoagulation Management Services in Calgary (Calgary Health Region Sites), led by Ms. Terri Schindel, Dr. Tammy Bungard, and Dr. Cynthia Brocklebank. Development of this program drew on expertise and experiences with program development, patient care, and professional training. All phases of the original University of Alberta-based Anticoagulation Management Service program are incorporated, including PHARMALearn – Anticoagulation, in the new program. In addition, an educational program evaluation has been proposed for approval by the Health Research Ethics Board – Panel B. The new program will be launched in April 2007.

Future Plans: Education that makes a difference

In 2007, planning will continue as the Office of Continuing Pharmacy Education implements a strategy to reduce emphasis on traditional continuing pharmacy education courses and launch new programs that address major areas of professional development. Dean Franco Pasutto and Registrar Greg Eberhart will deliver communication of the new direction for Continuing Pharmacy Education to pharmacists/ACP members in a joint letter in spring 2007. We look forward to the challenges and opportunities ahead for pharmacists and to the discovery of new ways to support pharmacists through professional education.

Recognition: Excellence in distance education

We received a *Commonwealth of Learning Excellence in Distance Education Award* that recognizes excellence in education produced by publicly funded or not-for-profit institutions in Commonwealth countries. The Faculty of Pharmacy and Pharmaceutical Sciences, honored for *PHARMALearn – Anticoagulation*, was one of three Commonwealth institutions selected by an Adjudication Panel of experts. The Adjudication Panel noted “The materials are learner-centred and interactive. The use of technology for incorporating movement and animation enhances the attractiveness of the materials. The programme is easy to use and the learner is able to access the materials at whatever point is appropriate for him/her. The programme is linked to the wider societal concerns. The objectives of the programme, having been successfully achieved, have gone on to inspire other programmes.” Ms. Terri Schindel accepted the Award on behalf of the Faculty at the Fourth Pan-Commonwealth Forum on Open Learning held in Jamaica on 30 Oct – 03 Nov 2006. For information about the award and the Commonwealth of Learning, see <http://www.col.org/colweb/site/pid/2951>.

alberta college of
pharmacists



Continuing Pharmacy Education is a cooperative activity of the Alberta College of Pharmacists and the Faculty of Pharmacy and Pharmaceutical Sciences at the University of Alberta.

