

IMPACT News



Volume 1, Issue 3

January 2005

Project Goal:

- To improve patient outcomes by optimizing drug therapy through a community practice model that integrates pharmacists into family practices.

Inside this Issue:

Seamless Care: The Pharmacist's Role in Maintaining Continuity of Patient Care	1
Enhancements to Optimize Use of Medications in Family Practice	1
Family Practice Tips: Erectile Dysfunction: Comparing Viagra® Cialis® and Levitra®	2
Mentoring the IM-PACT Pharmacists	2
About the Investigators	3
Awards, Publications, Presentations...	4
International News	4
About Our Advisory Committee...	4

Seamless Care: The Pharmacists' Role in Maintaining Continuity of Patient Care

Substantial communication barriers exist between hospital and community-based primary health care providers. Hospital physicians dictate a discharge communication to family physicians which can take a month or two to arrive. Community pharmacists receive prescriptions but no diagnosis or indication for medications. These communication gaps can lead to treatment discrepancies and medication-related problems.

Seamless pharmaceutical care involves the practice of pharmaceutical care in a continuous manner delivered to a patient across the spectrum of caregivers and environments. Family physician practices are central to ensuring seamless care. Studies have demonstrated that seamless pharmaceutical care for hospitalized general

medical patients reduces the number of drug discrepancies and improves patient recall of medication regimen. One study compared usual care to an intervention: pharmacist counseling, completion of a discharge summary which the patient shared with both his/her family practitioner and community pharmacist, and pharmaceutical counseling at follow-up and three months. Patients in the intervention group demonstrated better medication knowledge, better compliance, and had fewer

physician visits and hospital readmissions ¹.

Seamless care can include the timely transfer of information between hospital and community, improved communication between hospital and community pharmacists, and discharge summaries which are given to the patients. These collaborative interventions can improve patient care, patient outcomes, and reduce health care costs. Seamless care is one role for pharmacists working in primary care office practices.

A. Kirsten Woodend, RN, MSc, PhD, University of Ottawa

(1) Al-Rashed SA, Wright DJ, Roebuck N, Sunter W, Chrystyn H. Inpatient pharmaceutical inputs to facilitate seamless care. The Pharmaceutical Journal 2000; 265 (7114):R60.



Rockcliffe Park, Ottawa

Enhancements to optimize use of medications in Family Practice

Examples of Medication Focused Innovations developed by our IMPACT pharmacists and being implemented in IMPACT practices include:

A Patient Contract for Chronic Non Malignant Pain to improve chronic non malignant pain management. The use of the contract was facilitated by putting it on the electronic medical record (EMR) as a stamp.

A Diabetes Management Template to increase the efficiency of diabetic patient management, and to improve health outcomes for diabetics

Prescription Renewal Process Standardization among several community pharmacies to facilitate renewal requests from the family practice

Addition of the Adverse Drug Reaction and Section

8 Forms to the EMR as stamps to facilitate their completion

Pocket Card Summarizing IMPACT initiative to provide information to residents and family physicians on the IM-PACT pharmacist's role.

Drug Sampling Policy and Procedure to improve and track the use of drug samples in family practice offices.

Family Practice Tips: Erectile dysfunction: Comparing Viagra® Cialis® and Levitra®



There are currently three phosphodiesterase-5 (PDE-5) inhibitors on the Canadian market for the treatment of erectile dysfunction. **Viagra®** (sildenafil citrate) was the first agent available in March 1999. **Cialis®** (tadalafil), the second agent was introduced in November 2003 and the third agent, **Levitra®** (vardenafil hydrochloride) March 2004. See Table 1 for a general comparison of the agents.

Structure, Potency and Kinetics: Whereas sildenafil and vardenafil have similar molecular structures, tadalafil's is distinctly different. The newer agents, tadalafil and vardenafil have greater potency for PDE-5 than sildenafil. The duration of action is similar for sildenafil and vardenafil, however, tadalafil has the advantage of an extended

duration of action.

Adverse effects: Adverse effects related to vasodilation such as headache, flushing and rhinitis/nasal congestion as well as dyspepsia are commonly reported in patients treated with any of the three PDE-5 inhibitors. These effects are dose-related and may be more pronounced with sildenafil compared to the other agents at equivalent doses, due to its lower relative potency, but this has not been studied in published clinical trials to date. Visual disturbances are more commonly reported in sildenafil treated groups, reflecting the lower selectivity for PDE-5 over PDE-6 compared to the other agents.

Amy Ra, BScPharm, Natalie Kenne, PharmD

(References available at www.impactteam.info)

	Sildenafil Viagra®	Vardenafil Levitra™	Tadalafil Cialis®
Time to Peak (min)	60	40 – 60	120*
Half-life (h)	3 – 5	4 – 5	17.5**
Timing of Doses	Take dose 1h before anticipated sexual activity		Take dose 30 – 60 min prior
Food interactions	Rate of absorption delayed with high fat foods.		Absorption not affected by food
Initial dose	50 mg	10 mg	10 mg
Maximum dose	100 mg	20 mg	20 mg
Maximum frequency	Once/day		
Hepatic Insufficiency	Initiate at 25 mg	Moderate liver disease: initiate at 5mg	Mild/Moderate liver disease: max 10 mg
Renal Insufficiency	CrCl < 30 ml/min: initiate 25 mg	No adjustment	CrCl 31-50 ml/min: initiate 5 mg. CrCl < 30 ml/min: max 5 mg
= or > 65 y.o.	Initiate at 25 mg	Initiate at 5 mg	No adjustment
Concomitant CYP P450 3A4 Inhibitor	Initiate 25 mg	- Ritonavir: max 2.5 mg q72h - Indinavir/Azole 400mg/d: max 2.5 mg q24h - Azole 200mg/ Erythro: max 5mg q24h	Max 10 mg not less than q72h
Availability	25, 50, 100 mg	5, 10, 20 mg	10, 20 mg

* Some patients have improved sexual activity at 30 minutes when taking tadalafil (Cialis®)³

** Improved sexual activity may last up to 36 hours with tadalafil

Mentoring the IMPACT Pharmacists

Following the SMART Project recommendations, the IMPACT team sought experienced pharmacists to mentor the integrating site pharmacists. Seven mentors with advanced knowledge and skills as well as experience working in either primary care or related interdisciplinary environments were hired to work 10 hours a month. These mentors were matched with an IMPACT pharmacist at the April 2003 training workshop. The pairs

have and will continue to meet regularly in person and by telephone and e-mail throughout the project.

The mentors support and help the site pharmacists translate their existing knowledge, skills, and competencies to identify and resolve complex medication problems in patients within family group practices and to provide ongoing motivation for the pharmacists. The mentors meet regularly by teleconference to discuss issues of how they can best assist their mentees.



They also provide summaries of their interactions with the pharmacists to the project evaluation team. The summaries, teleconference minutes, and qualitative interviews will provide data for the evaluation of the mentor-

“...mentors support and help the site pharmacists translate their existing knowledge, skills, and competencies to identify and resolve complex medication problems...”

ing program.

The mentorship program is under the leadership of Zubin Austin and Barbara Farrell.

*B. Farrell BScPhm PharmD,
C. Sellors BScPhm*

Site Profile: Claire-Stewart Medical Centre



The Claire Stewart Clinic in Mount Forest was built in 2002. Five family physicians and one nurse practitioner share office space at the Clinic which is located across the street from the Louise Marshall Hospital. Along with community care, the

physicians are responsible for the daily care of their in-hospital patients as well as being available for assisting with surgery and other procedures. The physicians became a Family Health Network on Nov 1 2003 and currently provide primary care to approximately 21,000 patients. The clinic incorporates the services of a dietitian, physiotherapist, social worker, and nurse practitioner. As well as serving the community of Mount Forest,

they serve a large surrounding area, which includes a large Mennonite population, and provide critical services to summer tourists.



Hitching Post Parking Available

Building Collaborative Working Relationships...

About the Co-Investigators

Zubin Austin



**BScPhm
MBA MISC
PhD**

Zubin is the Ontario College of Pharmacy Professor in Pharmacy Practice at the Leslie Dan Faculty of Pharmacy, University of Toronto. He currently teaches in the undergraduate and graduate programs. His major research interests include bridging education for internationally educated professionals. He is an award-winning educator, having won the Bristol Myers Squibb Excellence in Pharmacy Education Award, the American Association of Colleges of Pharmacy Innovations in Teaching Award, and being named professor of the year on four separate occasions. He is particularly interested in the IMPACT project as a way of improving health care through collaborative practice, and looks forward to its success.

Natalie Kennie



**BScPhm R.Ph.
PharmD**

Natalie is a pharmacist with 10 years of experience working in primary care. In her current role as Primary Care Pharmacist at St. Michael's Hospital Department of Family and Community Medicine (DFCM), she provides pharmaceutical care by consultation to patients in two interdisciplinary family practice clinics. She holds appointments as co-professor for the Therapeutics in Primary Health Care Nurse Practitioner Program, Assistant Professor at the Faculties of Pharmacy and Community Medicine at the University of Toronto, and education coordinator for the Canadian College of Clinical Pharmacy. In 2002, Natalie received a Diploma in Adult Education from St. Francis Xavier University. Natalie is a mentor as well as co-investigator for the IMPACT project.

Connie Sellors



**BScPhm
R.Ph.**

Connie is a pharmacist with over 30 years experience working in community and hospital pharmacy. She is a member of the Department of Family Medicine and the Centre for the Evaluation of Medicines at McMaster University. She has taught pharmacy students at the University of Toronto, been an assessor for the Ontario College of Pharmacists' Quality Assurance Program and an Education Coordinator for the Ontario Pharmacists' Association. Connie has also served on Ontario Pharmacists' Association Council and chaired the OPA CE Planning Committee for several years. In 1996, Connie, as project coordinator, completed a pilot study of a Pharmacist Consultation Program for Family Practice and then, in 2003, she completed the

About the Sites....

The following are the **seven practice sites** chosen from across Ontario:

- Beamsville Medical Centre
- Bruyère Family Medicine Centre
- Caroline Medical Group
- Fairview FHN
- Claire-Stewart Medical Centre (Mt. Forest)
- Riverside Court Medical Centre
- Stratford FHN

The practice sites were chosen to represent a diverse range of group family practices:

- Inner-city, urban, suburban and rural
- Electronic medical records and traditional paper charts
- Academic teaching site, community teaching sites, non-teaching sites

SMART project- a large randomized controlled trial evaluating the consultation program. In 1995, Connie was awarded the Ontario Pharmacists Association Pharmacist of the Year Award and in 2002 the Innovative Practice Award from the Canadian Pharmacists Association.

Investigators & Supporting Institutions.....

Principal investigators:

Lisa Dolovich PharmD MSc
Kevin Pottie MD MCISc

Co-Principal Investigators

Barbara Farrell PharmD
Janusz Kaczorowski PhD

Co-Investigators

Zubin Austin BScPhm PhD
Kelly Babcock BScPharm
Robert Bernstein MD PhD
Ron Goeree MA
Elaine Lau PharmD
Bill Hogg MD MSc MCISC
Gary Hollingworth MD
Michelle Howard MSc
Natalie Kennie Pharm D
Lesley Lavack BScPhm
Jacques Lemelin MD
Connie Sellors BScPhm
John Sellors MD MSc FCFP
Gary Viner MD
Kris Wichman BScPhm
Kirsten Woodend PhD
Christel Woodward PhD

Supporting Institutions

McMaster University,
Dept. of Family Medicine
University of Ottawa,
Dept. of Family Medicine
University of Toronto, Faculty of Pharmacy
Centre for the Evaluation of Medicines, St. Joseph's Health Care, Hamilton
Elisabeth Bruyère Research Institute, a University of Ottawa and SCO Health Service Partnership, Ottawa

This project is funded by the Ontario Ministry of Health and Long-Term Care (OMHLTC) through the Primary Health Care Transition Fund.

The views expressed in this document are those of the IMPACT Project and do not necessarily reflect those of the OMHLTC.

Awards, Publications, Presentations...

Presentations:

November 2004: National Poster Presentation: Family Medicine Forum, Toronto "Integrating Pharmacists into Family Medicine." By K. Pottie & L. Dolovich for the IMPACT team.

December 2004: Provincial Workshop: Ontario Primary Health Care Reform, Toronto. L. Dolovich, K. Pottie

and J. Kaczorowski.

November, 2004: CME Workshop "Drug Management Systems for the Office" and Presentation "Working with Pharmacists" University of Ottawa Better Prescribing Conference. Barbara Farrell and Kevin Pottie.

Publications:

Farrell B, Pottie K, Hogg W.



Parliament, Ottawa

Case report: adverse drug reactions in unrecognized kidney failure. *Canadian Family Physician* 2004; 50:1385-1387.

International News: Australian experience

The Home Medicines Review (HMR) program was introduced into the Australian Medicare Benefits Schedule in 2001 to increase the appropriate use of medicines and reduce the incidence of adverse events. The HMR is a simple and effective way of improving a patient's appropriate use of medicines. It involves the general practitioner, community pharmacist and an ac-



Uluru (Ayers Rock), Australia

credited pharmacist working together to assess and educate the patient on safe and effective medication use. The process can be effectively streamlined to provide

maximum efficiency utilising computerisation. The bottom line is improved patient outcomes through teamwork and improved communication. (Emblen G, Miller E. Home Medicine Review: The How and Why for GPs. *Australian Family Physician* 2004 Jan-Feb;33(1-2):49-51).

For more information, visit <http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/health-epc-answers.htm>

About our Intersectoral Advisory Committee...

Stuart M. MacLeod, MD PhD FRCPC

Dr. MacLeod is a physician and Executive Director, BC Research Institute for Children's & Women's Health, Assistant Dean (Research), Faculty of Medicine, University of British Columbia, and Vice President Academic Development for the Provincial Health Services Authority. Dr. MacLeod's scientific interests are in improved understanding of the determinants of drug disposition and action, particularly in children and women. Before



moving to Vancouver, he was Professor, Clinical Epidemiology and Biostatistics, Pediatrics, Medicine and, Dean of the Faculty of Health Sciences at McMaster University. He was also Director of the Centre for Evaluation of Medicines at St. Joseph's Healthcare in Hamilton.

Deanna Williams, BScPhm R.Ph. CAE

Deanna Williams is currently the Registrar at the Ontario College of Pharmacists (OCP). After graduating as a pharma-

cist in 1976, she has acquired practical experience as a pharmacist working in many pharmacy settings including the hospital and community, Ministry of Health as Policy Coordinator with the Drug Programs Reform Secretariat, and as Deputy Registrar and Director of Programs at OCP. Deanna brings not only her experience as a pharmacist but her passionate interest in pharmacists' positive impact on the health of Ontarians.



Visit us online: www.impactteam.info/

Editors: Kevin Pottie and Connie Sellors
Design: Susan Haydt and Emilie Sartoretto