
The HoPingKong Centre for Excellence in Education and Practice

Annual Report 2012

Bringing Care back to the Bedside

Toronto Western Hospital - University Health Network



The HoPingKong Centre
for Excellence in Education and Practice

CEEP

Table of Contents

- I. Introduction
- II. Strategic Directions
- III. The Art of Medicine
- IV. Clinical Reasoning
- V. Educational Innovations at The Bedside
- VI. Presentations and Workshops
- VII. Publications
- VIII. Awards and Recognition

INTRODUCTION

In this third edition of our annual report it is rewarding to see our Centre's mission reflected in a series of scholarly programs. These programs integrate research in medical education - furthering the understanding of how we learn and teach - with innovative educational practices.

A major focus of the HoPingKong Centre has been to facilitate the learning of clinical skills that are directly relevant to the practice of medicine. This last year saw the development of the 'Art of Medicine' stream, a groundbreaking initiative led by Dr. Lisa Richardson - Site Education Director for Internal Medicine at Toronto Western Hospital and former CEEP fellow. This Program enriches the Centre's activities by including a breadth of theoretical approaches and a focus on reflection and humanism.

This academic year also saw important developments in the use of Ultrasound for teaching physical examination skills at the bedside, led by Dr. David Frost - Director, Internal Medicine CTU at Toronto Western Hospital. The innovative 'gel rounds' integrate ultrasound in teaching the physical examination.

In addition, we continue to grow our previous programs. The clinical reasoning stream aims to help doctors make better decisions by understanding thought processes involved in making a diagnosis. Our blended simulation projects help enhance the combined development of communication and procedural skills - critical in ensuring that technical expertise is accompanied by learning how to communicate in stressful situations.

These diverse and complementary initiatives all aim at improving the delivery of excellent education that helps improve patient care - with the view that the best education and the best care both happen at the bedside.

Rodrigo Cavalcanti -Director of Scholarship

STRATEGIC DIRECTIONS

The HoPingKong Centre for Excellence in Education and Practice continues to focus on its twin missions of developing innovative educational programs and training leaders in academic Internal Medicine.

From inception, the Centre's foundation has been outstanding clinical expertise and ongoing development of human resources in clinical education, with a particular focus on generalists. Our programmatic directions include broad mandate to develop initiatives that enhance the teaching of bedside clinical skills, serving as an "incubator" for innovative educational programs in physical diagnosis, diagnostic reasoning, empathy and communication skills.

Future directions will include increased collaboration with other centres in medical education, both in Toronto, nationally and internationally. By establishing key partnerships we aim to achieve synergies in promoting educational innovations and understanding what makes excellent teaching.

The coming years will also see increasing integration between the sharp edge of education - the delivery of workplace based-teaching to trainees at Toronto Western Hospital/UHN - and scholarly endeavours. Our goal is to leverage the unique capabilities of a teaching hospital in helping further the science of teaching and the art of caring for patients.

THE ART OF MEDICINE

The Art of Medicine initiative is an emerging thematic program within the HoPingKong Centre for Excellence in Education and Practice for 2012. In upcoming years, *the Art of Medicine* will anchor a portion of the Centre's scholarly and educational work. Rooted in this work is CEEP's overarching goal to hone the bedside skills of physicians and medical trainees, and ultimately to improve patient care. While much of CEEP's current scholarly work draws on theories from bioscience - in particular, cognitive psychology and its application to clinical decision-making - *the Art of Medicine* program invokes perspectives from the social sciences and humanities. In doing so, it aims to foster and support the creativity, compassion, empathy, imagination, innovation, lateral and critical thinking of health care providers in complex clinical environments. *The Art of Medicine* program arises from diverse sociocultural theories such as the critical discourse analysis of Michel Foucault, sensory anthropology's theories of sound and listening, and equity theories' transformative explorations of systemic barriers in healthcare. But while they emerge from numerous non-bioscientific perspectives, the various components of the program are grounded in the practices and experiences of health care providers. CEEP's *Art of Medicine* program is not a parallel medical humanities curriculum; it is embedded in the "complex messiness of real-world health care"¹. It aims to straddle disciplinary boundaries to create fresh perspectives for the practices of medical education and health care.

One of the current components of the *Art of Medicine* Program is a lecture series for health care providers. This lecture series consists of a monthly, one hour educational session offered to medical students, residents, staff physicians, and other health care providers during their lunchtime break from the GIM wards or clinics. The immanence of the providers' clinical work creates opportunities for timely reflection on their practices and also for rapid, "real world" integration of new perspectives learned during the lecture. The lecture formats vary and include: medical narratives, film/video segments with subsequent commentary by the audience members and a discussant, interviews with a topic "expert", description of a project. Other components of the *Art of Medicine* Program will include student and resident research projects, invited lectures, and peer-reviewed grants.

¹ Hodges B, Kuper A. Theory and Practice in the Design and Conduct of Graduate Medical Education. *Acad Med.* 2012; 87: 25-33

CLINICAL REASONING

Doctor, what do you suggest? The HoPingKong Centre for Excellence in Education and Practice continues to put the spotlight on how doctors make decisions. Making diagnostic and management decisions is a critical part of the job, and often a challenging one.

Within the domain of clinical reasoning, CEEP's goals are to shed light on how doctors make decisions and how to help trainees learn sound decision making. Early successes have come from applying theory from different domains including cognitive psychology, education sciences, and decision sciences. CEEP continues to be a leader in this area with significant achievements in the last year, including presentations at international education meetings and publications in leading journals, see highlights below.

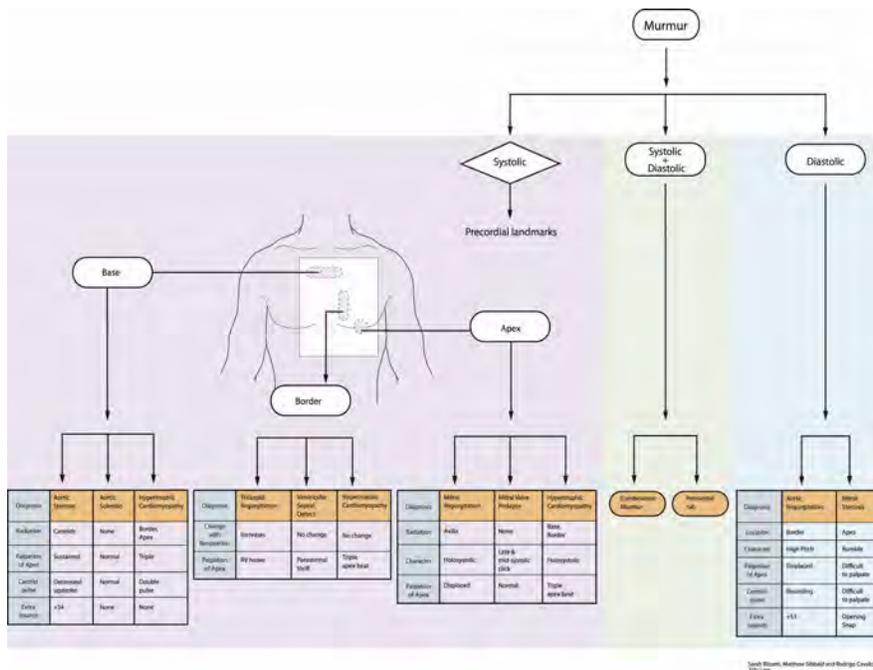
Matt Sibbald and Rodrigo Cavalcanti led a multi-centre study in collaboration with cardiologist Eric Yu to better understand how reasoning instructions impact learning. Trainees from different levels were challenged to make difficult diagnostic decisions using a high fidelity simulator. The findings were surprising; challenging the existing literature that reasoning instruction is beneficial. The work was funded by a Royal College grant, presented at an international meeting and published in *Advances in Health Sciences Education*.

Rodrigo Cavalcanti and Lynfa Stroud continue to explore how physicians' decision making can be assessed to help trainees improve. They developed a completely novel way of simulating real-life decisions by blending simulation and standardized patients. This new approach allowed physicians to practice multi-tasking their decision making skills – a vital and unstudied part of real practice. The work was presented at multiple international meetings, and was recently published in the *Journal of General Internal Medicine*.



Should we teach using schemas? Evidence from a Randomized Trial

In the past year, one of our researchers, Sarah Blissett (third year resident in Internal Medicine), led a research study to examine how lessons from cognitive psychology could help medical students learn clinical skills. Sarah investigated the best way to teach early medical students to learn the art of examining the heart. Using the Harvey simulator as a platform to understand the best teaching strategy, she compared the traditional teaching format of presenting



A "schema" for diagnosing heart murmurs

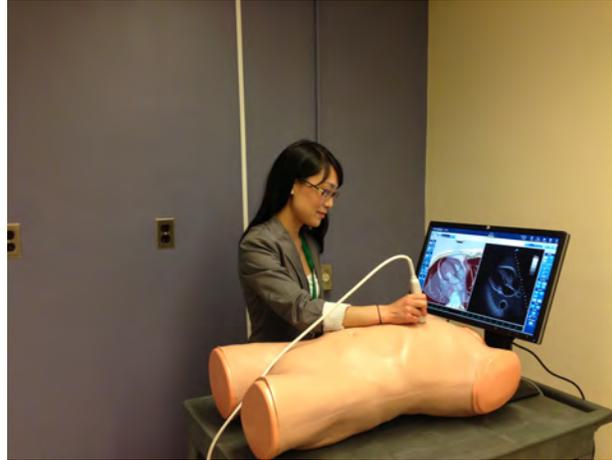
students with a list of findings for each disease with a "schema". A schema is an algorithm that allows students to follow a logical sequence of steps in deciding how to arrive at each of the ten different diagnoses.

Dr. Blissett found a large benefit in organizing information in schemas, with an impressive 50% improvement in diagnostic decisions. The study was presented at an international meeting and published in *Medical Education*, a leading international journal in the field.

Cardiac Ultrasound: What Every Internist Needs to Know

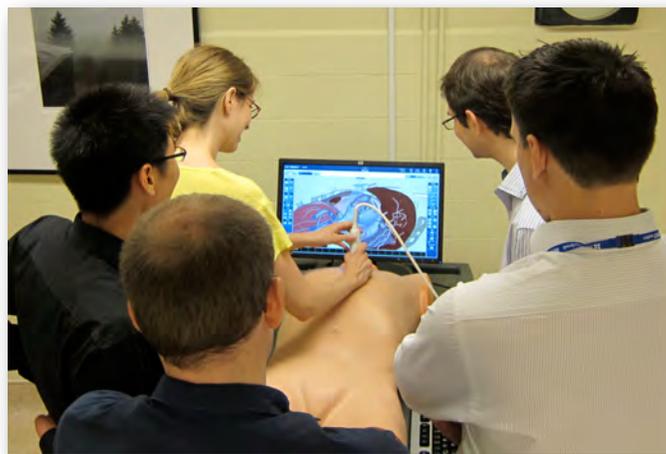
In 2012 CEEP was the first medical education centre in Toronto to acquire a VIMEDIX™ Ultrasonography Simulator from Canadian based company CAE Healthcare.

Incorporating this into the University of Toronto's General Internal Medicine curriculum, Rodrigo Cavalcanti and Matthew Sibbald developed a 16 week course on how to use cardiac ultrasound at the bedside to improve patient care.



While the ultrasound technology is quickly becoming available in all hospitals province wide, trainees feel unprepared to use it. The course addresses these concerns, allowing trainees to develop technical skills and decision making skills to take advantage of this technology. Now in its second iteration, fourteen graduating internists had the opportunity to practice their skills on these three dimensional simulators and work through common management scenarios.

The course was rated so highly that plans are underway to offer it to other universities in Canada and abroad.



Dr. Matthew Sibbald teaching with the ultrasound simulator

EDUCATIONAL INNOVATIONS AT THE BEDSIDE

The HoPingKong Centre for Excellence in Education and Practice has played an active role in the development and delivery of education around the use of point-of-care ultrasound in internal medicine for complementing clinical evaluation and for procedural guidance.



Bedside teaching is a vital component of medical education as we know well developed physical examination skills improve clinical decision-making.

Drs. Maral Nadjafi and David Frost (pictured above teaching a resident) have developed a novel education session entitled "Gel Rounds" which complements traditional physical examination teaching with point-of-care ultrasound. The structure of these teaching sessions requires trainees to interact with patients, with relevant pathologies such as splenomegaly, ascites, or pleural effusion, in a clinical setting, as well as standardized patients in a more didactic setting. This experience allows trainees to enhance their evidence-based examination skills, technical ultrasonography skills, as well as bedside communication skills.

These rounds were very well received by trainees, who report that they consider procedures to be safer having been trained in the use of this technology.

ASCITIES	PLEURAL EFFUSION
Does this patient have Ascites? JAMA, 1992.	Does This Patient Have a Pleural Effusion? JAMA, 2009.
	

PRESENTATIONS AND WORKSHOPS 2011 - 2012

Presented at the International Association for Medical Education Conference (AMEE) Aug 27-31, 2011 - Vienna, Austria

- "Oops!": Using hybrid simulation to assess communication and procedural skills in central venous catheter insertion Rodrigo B. Cavalcanti, Lynfa Stroud
- Incorporation of a high-fidelity cardiac simulator into an undergraduate medical education curriculum: A targeted needs assessment Chessex C, Dounaevskaia V, Slomovic A, Tomlinson GA, Chow CM, Lee Y, Page A, James J, Fidler L, Panisko D

Presented at the Royal College of Physicians and Surgeons of Canada International Conference on Residency Education (ICRE) Sept 19-23, 2011 – Quebec City, QU

- "Oops!": Using hybrid simulation to assess communication and procedural skills in central venous catheter insertion Rodrigo B. Cavalcanti, Lynfa Stroud
- Frontiers in Assessment - Clinician Educators Dinner: Rodrigo Cavalcanti and Linda Snell

Presented at the Canadian Conference on Medical Education (CCME) May 7-11, 2011 - Toronto, ON

- The role of dual reasoning strategies in learning advanced cardiac examination skills. Sibbald M, Cavalcanti R, Yu E, Eva K, Hatala R
- What do Internal Medicine Attendings Write on Residents' In-training Evaluation Reports (ITERS)? A Qualitative Analysis of ITER Comments. Ginsburg S, Gold W, Cavalcanti RB, Kurabi B, MacDonald-Blumer H.
- Direct observation using tablet computers. Cavalcanti RB, Stroud L, Sibbald M (Workshop)

Presented at the Ontario Simulation Exhibition, December 2011 - Toronto, ON

- "Oops!": Using hybrid simulation to assess communication and procedural skills in central venous catheter insertion. Rodrigo B. Cavalcanti, Lynfa Stroud
- Incorporation of a high-fidelity cardiac simulator into an undergraduate medical education curriculum: A targeted needs assessment Chessex C, Dounaevskaia V, Slomovic A, Tomlinson GA, Chow CM, Lee Y, Page A, James J, Fidler L, Panisko D

**Presented at the International Association for Medical Education Conference (AMEE)
Aug 25-29, 2012 – Lyon, France**

- Should we teach using schemas? Evidence from a Randomized Trial. Blissett S, Cavalcanti RB, Sibbald M
- Incorporating Ultrasound Use for Teaching Physical Examination Skills. Nadjafi M, Cavalcanti RB, Frost D
- Numerical transparency of component anchor values to examiners inflates clinical oral examination marks in an Internal Medicine clinical clerkship. Devine L, Gupta R, Stroud L, Lorens E, Robertson S, Panisko D

Presented at the Royal College of Physicians and Surgeons of Canada International Conference on Residency Education (ICRE) Oct 18-20, 2012 – Ottawa, ON

- Incorporating Ultrasound Use for Teaching Physical Examination Skills. Nadjafi M, Cavalcanti RB, Frost D
- Physical Examination Teaching for the 21st Century: How to incorporate bedside ultrasound into clinical teaching rounds. Frost D, Cavalcanti RB, Nadjafi M, Chenkin J (Workshop)

Presented at the Canadian Society of Internal Medicine Annual Meeting Oct 17-19, 2012 – Quebec City, QU

- Enhancing Clinical Clerks' Participation and Learning at Internal Medicine Morning Report: Results of an Online Survey. Zhu T, Liu J, Frost D
- Palpation and Auscultation to Diagnose Large Vessel Giant Cell Arteritis. Tsao P, Abdullah N

Presented at the Society for Simulation in Healthcare Annual International Meeting, Jan 28-Feb 1, 2012 – San Diego, California

- Developing Simulation-based Stations for OSCEs (Objective Structured Clinical Examinations). Rivera H, Cheung HS, Motola I, Scalese R, Devine L, Brotons A (Workshop)
- Is it Time to Stop the Code? A Multidisciplinary Team-Based Scenario Utilizing High-fidelity Simulation and Standardized Participants. Devine L, Hawryluck L

Publications 2012

Sibbald M, deBruin A. Feasibility of self-reflection as a tool to balance clinical reasoning strategies. Adv Health Sci Educ 2012 Aug; 17(3): 419-429

Bogoch II, Frost D, Bridge S, Lee TC, Gold W, **Panisko D, Cavalcanti RB**. Morning Report Blog: A Web-based Tool to Enhance Cased-based learning. Teaching and Learning in Medicine 2012 July; 24(3): 238-241

Bogoch II, Cavalcanti RB, Weinberg R, Davis B. Web-based blog supplement to evidence-based physical examination teaching. Medical Education 2012 May; 46(5): 508

Rodrigues H, **Devine L**. Proton Pump Inhibitors: Prevalence, appropriateness of use, and long-term safety. Pharmacy Practice 2012 February; 33, 38-43

Blissett S, Cavalcanti RB, Sibbald M. Should we teach using schemas? Evidence from a randomised trial. Medical Education 2012 Aug; 46(8): 815-22

Sibbald M, McKinney J, **Cavalcanti RB**, Yu E, Wood DA, Nair P, Eva KW, Hatala R. Cardiac examination and the effect of dual-processing instruction in a cardiopulmonary simulator Adv Health Sci Educ Theory Pract 2012 June [Epub ahead of print]

Bogoch II, Andrews JR, Zachary KC, Hochmann EL. Diagnosis of influenza from lower respiratory tract sampling after negative upper respiratory tract sampling. Virulence 2012 Nov 7; 4(1). [Epub ahead of print]

Sibbald M, Džavík V. Severe hemolysis associated with use of the impella LP 2.5 mechanical assist device. Catheter Cardiovasc Interv 2012 Nov 1; 80(5): 840-4

Sibbald M, deBruin A, van Merriënboer J. Checklists improve experts' diagnostic decisions. Medical Education. In Press

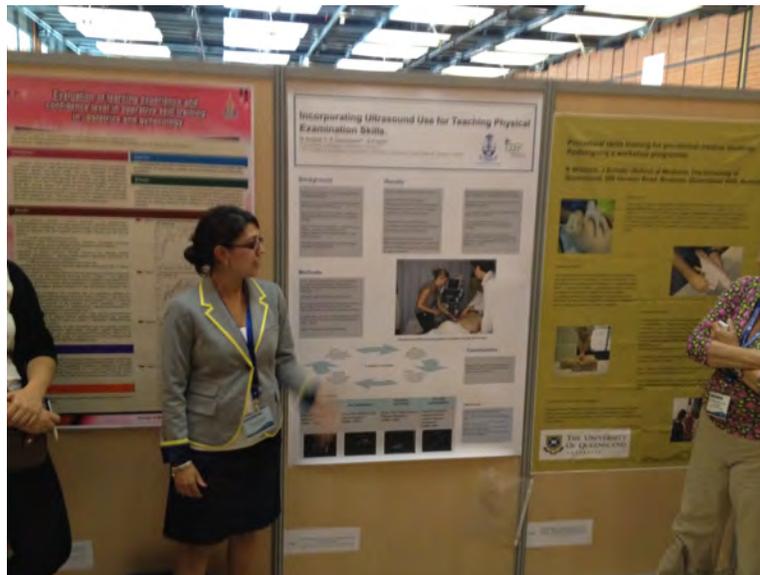
Bogoch II, Andrews JR, Dadzie Ephraim RK, Utzinger J. Simple questionnaire and urine reagent strips compared to microscopy for the diagnosis of *Schistosoma haematobium* in a community in northern Ghana. Tropical Medicine and International Health 2012 Aug [Epub ahead of print]

Bogoch II, Andrews J, Nagami E, Rivera A, Gandhi R, Stone D. Clinical predictors for the aetiology of peripheral lymphadenopathy in HIV-infected adults. *HIV Medicine*. 2012 Jul 17 [Epub ahead of print]

Bogoch II, Davis BT, Hooper DC. Severe babesiosis in a patient treated with a tumor necrosis factor α antagonist. *Clinical Infectious Diseases* 2012 Apr; 54 (8): 1215-6

Drucker AS, Walsh S, Wong BMF, **Cavakanti RB**. Teaching dermatology to internal medicine residents: needs assessment survey and possible directions. *Journal of Cutaneous Medicine & Surgery* In Press

Ho JM, Gruneir A, Fischer HD, Fu L, Lipscombe LL, Bell CM, **Cavakanti RB**, Anderson GM, Rochon PA. Serious events in older Ontario residents receiving bowel preparations for outpatient colonoscopy with various comorbidity profiles: a descriptive, population-based study. *Canadian Journal of Gastroenterology* 2012 Jul; 26(7):436-40.



Dr. Maral Nadjafi presenting her work at the AMEE Conference in Lyon, France

AWARDS AND RECOGNITION 2011 - 2012

Dr. Matthew Sibbald:

2011 Masters in Health Professions Education, University of Maastricht

Dr. Lisa Richardson:

2011 Excellence in Teaching Award for New Faculty - Postgraduate
UHN/MSH Department of Medicine

2011 Masters in Science and Education Studies, York University

Dr. David Frost:

2011 Excellence in Teaching Award for New Faculty - Postgraduate
UHN/MSH Department of Medicine

Dr. Caroline Chessex:

2011 Dr. E. Mary Hollington Award, for Excellence in Clinical
Teaching University of Toronto Faculty of Medicine

2011 Wightman-Berris Academy Teaching Award- Nominated
University of Toronto

Dr. Daniel M. Panisko:

2011 Canadian Society of Internal Medicine Osler Award

Dr. Rodrigo B. Cavalcanti:

2011 Scott-Vellend Award for Sustained Excellence in Teaching Postgraduate UHN/MSH Dept. of Medicine

2012 Choice Critics Award, Medical Education Journal (Peer Reviewer Award)

2012 Excellence in Postgraduate Medical Education Award - Development/Innovation
U. of Toronto Faculty of Medicine

In addition to our core members, many of our collaborators and fellow GIM division members continue to be recognized for their outstanding educational achievements at the local and national levels.