

R&D Presentation Abstract
2007 Medical Education Conference
Victoria

R&D-01	<p>Family Medicine as a Career Option: Student's Changing Attitudes During Medical School <i>Cheri Bethune, Memorial University of Newfoundland</i></p>
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Introduction: There has been a precipitous downward trend in Canadian medical students choosing Family medicine as a career since 1994. This has serious implications for the future of health care in Canada. Many Canadians already have major access problems to a family doctor yet family physicians form the backbone of the Canadian health care system. Objective: Concerns about the declining interest prompted the researchers to explore the extent of the problem in our own medical school and to develop greater understanding of the process of career choice as medical student's progress through their undergraduate training. Design: Quantitative surveys with qualitative descriptors were conducted at five points throughout the undergraduate experience at Memorial University over several years. Classes of 2003 and 2006 also participated in focus groups following their final CaRMs match. Results: Many students considered Family Medicine as a career choice early in their undergraduate experience. This significantly dropped by the end of their second year. This trend was consistent across all classes surveyed. Interest in Family Medicine rebounded somewhat later in the curriculum. Focus groups highlighted a number of important factors that influenced students' decisions such as lifestyle perceived nature of the specialty and role models. Some of the negative factors were directly related to the formal curriculum and many were related to the "hidden curriculum". Conclusions: Many medical students at Memorial University have considered Family Medicine as a career choice. Experiences in medical school negatively and positively influence that decision. Understanding the impact of these experiences on students' ultimate career choice is vital to curricular planning and nurturing interest in Family Medicine.

R&D-02	<p>Assessment of Clinical Preceptor Performance – UBC 25 <i>Glenn Robertson, Joan Fraser, David Fairholm, Linda Peterson, George Pachev, University of British Columbia</i></p>
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Assessment of clinical preceptor performance becomes increasingly more important and simultaneously more challenging with medical education distribution. Many reliable instruments exist to assess clinical teaching offering quality assurance measures and providing data to all administrative levels of faculty. Currently at the University of British Columbia (UBC) assessment of teaching either does not exist within departments or is performed with a variety of department-specific tools that lack comparability. In order to collect reliable and comparable data we have designed an instrument entitled "Assessment of Clinical Preceptor Performance – UBC 25" adapted from published validated instruments. This instrument consists of 25 behavioral items based on a five-point rating scale and one global performance rating. This instrument includes monitoring of patient encounters (ED-2) and is modified to reflect issues specific to Canadian preceptors. Over the next three months we will survey key stakeholders including students residents faculty program directors and administrators to ensure all key items are included in the instrument. The instrument will then be piloted within the undergraduate and postgraduate training programs of Pediatrics Pediatric General Surgery Thoracic Surgery and Urology across the UBC distributed program. The aim is to collect information which will inform targeted faculty development address issues of quality assurance and provide the required information for medical school accreditation (ED-2). Individual faculty members' scores will also guide strategies for personalized growth and development and provide data to support application for promotion and tenure. This presentation will discuss the development of the UBC -25 and our preliminary data.

R&D-03	<p>Online Clerkship Exams in the UBC Distributed Program <i>Linda Peterson,Heinrick Butow, George Spurr, Dennis Chow, Jennifer MacMillan, Twylla Hamelin, Winnie Yung, Janet Chung, Oliver Applegarth, Liz Denton, Keith Stothers, Jill McEwen, Susan Mair, Riea Elder, Christopher Pryde, George Pachev, University of British Columbia</i></p>
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Students in the UBC distributed program have just entered clerkship in the Vancouver Fraser Medical

Program (VFMP 156 students) the Northern Medical Program (NMP 24) or the Island Medical Program (IMP 24). Prior to expansion the orthopedics (2 wk) anesthesia (2 wk) and emergency medicine (4 wk) rotations assessed cognitive knowledge in written examinations at the end of each rotation. Frequent testing of small groups of students creates faculty and administrative demands (more assessment items; producing invigilating and processing exams) that can be reduced by testing larger numbers of students less frequently. Using computer based testing (CBT) all of the administrative challenges can be addressed and more importantly faculty can incorporate images and use more complex question strategies that assess problem solving and clinical reasoning. For these reasons the faculty decided to move to CBT in these rotations. These examinations are now delivered simultaneously every 4 weeks from a central server to the computer laboratories at the three sites. The computers have been configured to allow access only to the assessment server. Invigilators are in communication using a software which is monitored by the faculty and the IT team that can respond to any local or network problems. Each exam is internally timed and has electronic reminders. After submitting the exam students can obtain their score review responses and provide feedback (comment field) for each item. We will describe the IT requirements (human and physical) the examination software and the faculty and administrative team that have enabled CBT at UBC.

R&D-04	<p>Integration of Core Competencies During Clinical Supervision: Findings from a Participatory Research <i>Danielle Saucier, Université Laval</i></p>
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Clinical supervision is central in competency-based programs but little explored. How are core competencies addressed during daily supervision by “naïve” supervisors and residents? We addressed this question in a participatory research combining a educational interventions and qualitative data collection methods. A group of family medicine residents and supervisors from Laval University’s Family Medicine Residency Program took part to three focus groups over nine months and collected personal data in between. Data analysis was inductive in search of emergent themes with triangulation of sources and of researchers and validation with participants. We developed progressively an understanding that participants addressed core competencies during clinical supervision on a daily basis but somewhat unconsciously and mostly implicitly while continuously adapting to changing contexts. The interaction between residents and supervisors was dynamic with common intentions but specific positions and sometimes clashing agendas. In order to teach or learn about core competencies they perceived supervision as complementary to clinical exposure and to role modeling; and tensions played between: autonomy and supervision passivity and activity and implicit versus explicit discourse. In conclusion participants discovered that they already addressed core competencies during supervision. The participatory research process brought a new awareness of previously existing but mostly hidden phenomena. These findings are based on participants’ self-perceptions and on their progressive understanding of their counterparts’ experience of supervision (residents versus supervisors). Such findings empowered participants and motivated them to improve their interactions in order to better work on core competencies during their most usual activity clinical supervision.

R&D-05	<p>Does the Gender of the Standardized Patient Influence Candidate Performance in an OSCE Examination? <i>Sue Humphrey-Murto, Claire Touchie, Timothy Wood, University of Ottawa; Sydney Smees, Medical Council of Canada; Richard Birtwhistle, Queen’s University</i></p>
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Background The Objective Structured Clinical Examination (OSCE) requires the use of standardized patients (SP). SP gender may be fixed for example in a gynecology case but stations considered gender-neutral may have either male or female SPs. The issue of SP gender has been explored in the past yet in most of studies the SP gender was confounded with case. The objective of this study was to assess whether there was a systematic difference in candidate scores resulting from a variation in SP gender for the same case. Methods At the University of Ottawa 140 third year medical students participated in a 10 station OSCE. Two physical examination stations were selected on the basis of being perceived as “gender-neutral”. One station involved the physical examination of the back and the other of the lymphatic system. In each of the pilot stations male and female SPs were randomly allocated. Results There was no difference in the mean score for the back examination station for students with female (6.96/10) vs male SPs (7.04/10) $p = .713$. However there was a significant difference favoring students with female SPs (8.3/10) vs male SPs (7.41) $p = .000$ in the lymphatic system examination station. Results

were not dependant on candidate gender. Conclusions The gender of the SP may significantly affect candidate performance in an undergraduate OSCE and appeared to be unrelated to candidate gender.

R&D-06	Learning Paediatric Clinical Skills in a “Parent-Tot” Program of Simulated Patients <i>Kim Blake, Renee Skelley, Bruce Holmes, Dalhousie University</i>
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Medical students are expected to demonstrate basic paediatric clinical skills before clerkship. Learning these skills with children in a tertiary care hospital is difficult due to the severity of illness. Our second year students participate in a standardized two-session “Parent-Tot” program that runs longitudinally and concurrently with an in-patient experience. In the first session groups of four students with a preceptor assess one SP pair presenting with a simulated growth and development concern. In the second the individual student has a video-taped session with a SP Parent-Tot pair presenting with a simulated history of diarrhea and vomiting. The preceptor gives feedback which is also taped. The tapes are exchanged among students for critique and peer feedback. The program is a component of a year-long Patient-Doctor course and is coordinated by a Simulated Patient Educator. This program complements hospital inpatient teaching and provides an increased opportunity for students to practise their paediatric clinical skills be observed and receive feedback from peers parents and preceptors. The presentation will describe the results from this program over several years. Benefits reported by students preceptors parents and their children will be discussed. Data will be presented to show the differences between the in-patient experience and the SP experience and how they can complement each other.

R&D-07	Compared to Task-specific Knowledge Structure, Task-independent Knowledge Structure Is Associated with an Increased Rate of Diagnostic Error in Final Year Medical Students <i>Sylvain Coderre, Kevin Mclaughlin, Deirdre Jenkins, University of Calgary</i>
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Background: Clinical problem solving occurs on a background of idiosyncratic knowledge structures. The evolution from novice to expert physician goes through a number of stages during which cognitive processes mature towards increasingly advanced knowledge structuring strategies. The purpose of this study was to examine the relationship between knowledge structure and the frequency of diagnostic error. Methods: 91 final-year medical students rotating in their Internal Medicine clerkship at the University of Calgary participated. Knowledge structure was measured for four clinical presentations using the previously described computerized concept-sorting tool ConSort®. Based on an a priori ‘expert framework’ of interrelated key concepts for this clinical presentation participants’ knowledge structure was assessed as task-independent (generic) task-specific “chunking” or task-specific “hierarchical”. Diagnostic error was judged by performance on 16 problem-solving extended-matching questions. Results: The overall prevalence of task-independent knowledge structure task-specific chunking and task-specific hierarchal knowledge structure was 15.2% 58.8% and 26.0% respectively. The overall mean (\pm SD) diagnostic error rate was 33.4% (\pm 28.8). By one-way analysis of variance there was no difference in diagnostic error rate between task-specific chunking and task-specific hierarchal structure. Using multiple linear regression the diagnostic error rate was significantly higher for task-independent versus task-specific knowledge structures (44.7% vs. 31.5% $P = 0.004$ $d = 0.46$). The relative risk of diagnostic error associated with task-independent knowledge structure was 1.42. Conclusions: The findings of the study support the notion that task-specific knowledge structuring can be achieved in undergraduate medical education with potential reduction in future diagnostic error.

R&D-08	Identifying Barriers to and Opportunities for Effective Inter-professional Labour and Delivery Education of Third Year Medical Students <i>Filomena Meffe, Glen Bandiera, Ivy Oandasan, University of Toronto</i>
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Background: Nurses in Labour and Delivery (L&D) units are vital contributors to medical student education and can be important role models for inter-professional collaboration. Local Obstetrics and Gynecology clerkship course evaluations revealed that with respect to interactions with L&D nurses third year medical students (CC3s) felt undervalued and overpowered in a hierarchical system and had disturbing experiences with role confusion. Goals/Objectives: To identify and compare nurses’ and students’ perceived barriers to and opportunities for effective inter-professional L&D education of CC3s. Methods: L&D nurses and CC3s who completed their obstetrics and gynecology rotation at 4 separate teaching hospitals were invited by an independent research assistant to participate in 1 1/2 hour homogeneous

audio-taped focus groups about inter-professional education (IPE) in L&D. Using a grounded theory approach transcripts were reviewed by 2 independent reviewers to establish themes. Results: Eight focus groups involving 6 participants each generated 167 pages of text. Preliminary review of the transcripts demonstrated that both nurses and CC3s recognized barriers to and opportunities for effective IPE in the following domains: learner-teacher attitudes role identity learning and practice environment unfulfilled educational expectations and personal characteristics. The specific content of each domain however differed between groups in important ways. Conclusion: It was possible to get collective opinions on issues in L&D care from nurses and medical students. General themes between medical students and nurses were similar but specific issues were different.

R&D-09	Sources of Error in an Objective Structured Clinical Examination <i>Andrea Vallevand, Claudio Violato, Rod Crutcher, University of Calgary; Gisele Bourgeois-Law, University of Manitoba</i>
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Background Performance assessments using an Objective Structured Clinical Examination (OSCE) can be subject to a variety of potential measurement errors. Examples include improperly trained raters and inadequately trained standardized patients. Rater inconsistency may be the largest threat to reliability with additional error the result of inaccurate performances by standardized patients. Purpose The purpose of the current study was to employ generalizability theory analyses to identify the sources of error that could influence the reliability and validity of a high-stakes OSCE. Methods Thirty-nine International Medical Graduates participated. A fourteen-station OSCE was used to evaluate clinical competency. The major skills evaluated included history taking physical assessment and counseling. Each station was evaluated by a physician rater using a five-point global scale. Results The percentage of variance when SP was nested into cases equaled: participants = 11.6%; case = 2.4%; sp_nested_into_case = 19.0%; participants x case = 67.0%. The percentage of variance when rater was nested into cases equaled: participants = 12.5%; case = 2.1%; rater_nested_into_case = 8.3%; participants x case = 63.2%; case x rater_nested_into_case = 13.9%. Discussion Rater inconsistency and SP inaccuracy have been identified as sources of measurement error in performance assessments. The literature has stated that meticulous training for both raters and SPs is required especially for high-stakes examinations. A review of training protocols for SPs and raters will be required before the next high-stakes OSCE is administered.

R&D-10	The Power of One: What's the Key to Highly Effective Clinical Teaching? <i>Dan Pratt, University of British Columbia</i>
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Purpose and Procedure This study addressed two questions: (1) How do third year medical students and their clinical teachers explain the results of a study showing that highly effective clinical teachers can significantly and positively influence students' scores on the NMBE; and (2) do students and faculty differ in their characterization of effective clinical teaching? Twenty-two medical students and forty-one clinical faculty were asked to speculate on the results of Griffith et al (2000) wherein students who had a highly effective teacher scored significantly higher than those who did not on the NMBE. Findings Interviews yielded fourteen factors that students and faculty thought influenced the results of Griffith et al (2000). On closer analysis the fourteen factors were distilled into six propositions. Highly effective teachers: • Set clear expectations for learners (factor 1) • Explain complex topics at the student's level of understanding (factors 2 5 13) • Display enthusiasm for teaching and for their work (factors 11 12) • Provide a safe and challenging learning environment (factor 10) • Role model ethical behaviour and desired values and attitudes (factor 14) • Provide for meaningful and authentic engagement (factors 3 4 6 7 8 9) What is most striking is the number of times students alluded to forms of engagement as possible explanation for how a single teacher could have such an impact on student learning. Engagement may well be the most neglected and yet critical attribute of highly effective clinical teaching.

R&D-11	Assessing Cardiac Physical Examination Skills Using Simulation Technology and Real Patients: A Comparison Study <i>Rose Hatala, University of British Columbia; S. Barry Issenberg, University of Miami; Barry Kassen, University of British Columbia; Gary Cole, Royal College of Physicians and Surgeons of Canada; Maria Bacchus, University of Calgary; Ross Scalese, University of Miami</i>
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Purpose: To examine the relationship between internists' competence in cardiac physical examination as assessed using simulation technology compared to real patients. Methods: A 12 station OSCE was

created using 3 modalities of cardiac patients: 4 stations using real patients (RP) with cardiac abnormalities 4 stations using standardized patients (SP) combined with a computer-based audio-video simulation of auscultatory abnormalities and 4 stations using a cardiopulmonary patient simulator (CPS). Four cardiac diagnoses were tested with each modality: normal mitral regurgitation aortic stenosis and mitral stenosis. Participants were 28 internists within 3 years of passing the Royal College of Physicians and Surgeons of Canada's (RCPSC) Comprehensive Examination in Internal Medicine. At each station two RCPSC examiners independently rated a participant's physical examination technique and provided a global rating of clinical competence. The accuracy of a participant's cardiac diagnosis for each patient was scored separately by two investigators. Results: The inter-rater reliability between examiners for the global rating outcome was 0.76 for RP stations 0.78 for SP stations and 0.75 for CPS stations. The correlations between participants' global ratings on each modality were: RP vs. SP $r=0.19$; RP vs. CPS $r=0.22$; SP vs. CPS $r=0.57$ (p

R&D-12	Why Are Fewer Medical Students Choosing Family Medicine as a Career Choice? <i>Melissa Sullivan, Richard Audas, James Rourke, June Harris, Memorial University of Newfoundland</i>
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Through the study of graduating medical students from two different universities located in similar geographic regions but with a wide variance in the proportion of their students choosing family medicine the objectives of the study were: (1) to determine the factors that had the greatest predictive value in influencing medical students to choose family medicine as a career choice during the 2005 Match (2) to learn why students who had once considered a career in family medicine later chose a Royal College specialty as a residency (3) to establish if there were significant differences in the opinions of those who selected family medicine and those who selected a Royal College specialty as a first choice for residency and (4) to determine if institutional factors played a decisive role in the medical career decision-making process of the students. We designed and pre-tested a security-protected web-based questionnaire. The target population selected for this study consisted of all graduating medical students from the Class of 2005 at Memorial University of Newfoundland and Dalhousie University who had registered with CaRMS for the 2005 first match iteration. Of the 137 medical students who were eligible for participation in the study a total of 68 students completed the survey which resulted in a combined response rate of 49.64%. A variety of statistical tests were used to examine the factors associated with choosing (or not choosing) family medicine. Recommendations regarding the recruitment of students toward family medicine will be given and future research directions will be discussed.

R&D-13	Incorporating the Patient Perspective in Curricular Renewal <i>J. Donald Boudreau, Justin Jagosh, Roger Slee, Mary-Ellen MacDonald, Yvonne Steinert, McGill University</i>
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Curricular reform normally proceeds in a well coordinated fashion from needs assessment to program evaluation. The input of major stakeholders generally considered to be the learners and teachers is often solicited. The patient perspective however is usually neglected in the change process with one possible exception - program evaluation. Indeed many educational leaders have advocated for the integration of clinical outcomes in the monitoring of curricular impact. The degree to which the patient point of view is incorporated in other phases of curricular renewal projects is highly variable. This study focuses on patients' expectations of their physicians and their opinions on the theoretical framework for an intended curricular change at the Faculty of Medicine McGill University. Semi-structured interviews were conducted with a diverse sample of fifty-eight patients representing different illness categories and receiving care in ambulatory and in-patient facilities of the McGill University Health Centre. In analyzing the interview transcripts salient themes that emerged included the primary importance to patients of physicians' listening skills and the negative impact of interactions that risk depersonalizing the patient in particular treating individuals as a number. The patients' understanding of the conceptual pillars of the curriculum professionalism and healing contrasted with the Faculty's perception. The impact on these findings on program design and delivery and implications for program evaluation are discussed. This study illustrates that a robust understanding of the patient perspective can be valuable at all levels of curricular change.

R&D-14	The Effect of Computer-assisted Surgery on the Learning of Surgical Skills <i>Wade Gofton, University of Ottawa; David Backstein, Farshid Tabloie, Adam Dubrowski, University of Toronto</i>
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Advances in computer-assisted surgery (CAS) have led to increasing integration of this technology into the surgical training environment. While real-time feedback can improve performance it may be detrimental to learning. The primary purpose of this study is to determine if the form of feedback provided by CAS (concurrent augmented feedback) compromises the learning of surgical skills in the trainee. Forty-five residents and senior medical students were randomized to one of three training groups. The "Conventional Training" (CT) group self-determined total hip arthroplasty acetabular cup position and were then corrected with traditional hand-over-hand repositioning. The "Computer Navigation" (CN) group used CAS to self-determine cup position. The "Knowledge of Results" (KR) group self-determined cup position and when satisfied used CAS for optimal repositioning. Outcomes were assessed in a pre-test 10-minute and 6-week retention/transfer tests without CAS. All groups demonstrated an improvement in accuracy and precision of acetabular cup placement during training ($p < 0.001$). The CN group demonstrated significantly better accuracy and precision in early training ($p < 0.05$) and better precision throughout training ($p < 0.05$). No significant degradation in performance was observed between immediate and delayed testing for any group suggesting no negative effects of the tested training modalities on learning. In this study the concurrent augmented feedback provided by CAS resulted in improved early performance without a compromise in learning. Further investigation is required to ensure CAS does not compromise trainee skills learning. Until this issue is clarified educators need to be aware of this potential effect.

R&D-15	Extending Irby's Model of Clinical Tutoring to Internal Medicine Practice with Complex Patients <i>Jeffrey Wiseman, Susanne Lajoie, McGill University</i>
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Background According to Irby tutors diagnose both patient and student during case presentations. When apprentices present cases in clinical settings tutors must integrate learner supervision and care responsibilities for patients with multiple problems. The goal of this study is to extend Irby's model of tutoring around case presentations in internal medicine practice contexts. **Methods** We videotaped 2 groups during case presentations in an internal medicine ward setting: a tutor with 3 students preparing for clerkship and a resident with a clinical clerk. We used themes that emerged by grounded theory analysis to create a model accommodating patients with multiple problems apprentice supervision and practice responsibilities. To corroborate themes and validate the model an independent observer re-analyzed the data we interviewed participants and we surveyed additional residents. **Results** Tutors used cognitive apprenticeship coaching strategies to elicit and facilitate clinical thinking thus integrating supervision with patient care. All subjects used patient problem lists to organize discussions of complex patients. **Conclusions** Internal medicine tutors diagnose and treat patient and student using patient problem lists and cognitive apprenticeship coaching strategies during case presentations in practice. Tutors on the front lines need to learn how to how to synchronize all of these activities.

R&D-16	ITER - Can We Rate How Well Supervisors Are Filling Out Those Evaluation Forms? <i>Nancy Dudek, Meridith Marks, University of Ottawa; Curtis Lee, Royal College of Physicians and Surgeons of Canada; Timothy Wood, Medical Council of Canada</i>
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Purpose: Clinical supervisors are required to provide evidence on In-training Evaluation Reports (ITERS) to substantiate their judgment that a resident passed or failed a rotation. No specific information is provided in university policies to detail the features of a high quality completed ITER. In the first phase of this project we identified these features. In this portion we developed a rating form based on the features to evaluate the quality of completed ITERS. **Method:** The initial form contained 17-items presented as either a yes/no question or as a 5-point Likert scale. It was pilot tested with 10 independent raters each rating 18 completed ITERS of varying quality. Following an analysis for reliability and validity the form was revised to include 14 items. Field testing of this form was completed by independent raters familiar with ITERS. Participants were identified through key-informants at each Canadian English medical school. **Results:** Seventy-two participants rated the 18 ITERS resulting in 1296 completed forms. The rating form validation process and field testing results will be presented with a focus on the reliability and validity of the rating form as an assessment tool. **Conclusion:** This study further clarifies the features of a high quality completed ITER that should be considered by clinical supervisors when they document trainee clinical performance. The use of this rating form for evaluating the ITER completion performance by clinical

supervisors and assessing the effectiveness of interventions aimed at improving the quality of completed ITERs will be discussed.

R&D-17	A Problem Becomes an Opportunity - The Emergency Department Consult Service for Students in Internal Medicine <i>Peter McLeod, McGill University</i>
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Principal presenter: Peter McLeod Montreal General Hospital and McGill Centre for Medical Education
 Other authors: P. Zanelli¹ C. Chalk¹ J. Wiseman² A. McLeod¹ 1. The Montreal General Hospital 2. The McGill Centre for Medical Education Contact Person: P.J. McLeod M.D. Department of Medicine Montreal General Hospital 1650 Cedar Avenue Montreal Quebec H3G 1A4 Telephone: [514] 934-1934 ext: 43046 Email: peter.mcleod@mcgill.ca Submission Title: A Problem becomes an Opportunity – the Emergency Department Consult Service for Students in Internal Medicine Setting: The Internal Medicine (IM) clinical teaching units (CTUs) and the Emergency Department (ED) of the Montreal General Hospital (MGH) Background: The 8-week IM clerkship is spent on the CTUs of McGill teaching hospitals. Steadily increasing student numbers present a challenge to providing good learning experiences for all students on the CTUs. Intervention: During the past 18-months we have encouraged clerks to volunteer to spend half of the clerkship on the ED IM consult service. By lottery we select 2 students from each 8-week cohort. Intervention assessment: At the end of each rotation the students who had the ED IM experience underwent semi-structured interviews to elicit perceptions of their experience. Interview transcripts were content-analyzed. Each student also completed a 23-item questionnaire related to the experiences on the CTU and in the ED. Results: The 24 students included in this 18-month study highly rated the experiences in both sites but generally preferred the ED. Among the positive aspects of the ED experience were: “freshness of clinical cases”; “exposure to common important problems”; “acquisition of new knowledge and skills”. Positive elements of the CTU experience include: “continuity of care”; “working as a member of a team”; “learning patient management skills”. Conclusion: Experience on the ED IM consult service provides learning opportunities not generally available on CTUs; this experience is a valuable complement to learning with hospitalized patients on a CTU. Word count: 235 Keywords: undergraduate clinical Internal Medicine

R&D-18	Resuscitation of Academic Day: Does Case-based Learning Improve Resident Study Behaviours and Enjoyment of Their Academic Sessions? <i>Sarah Finlayson, Leslie Sadownik, University of British Columbia</i>
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Hypothesis: Changing the academic curriculum from a didactic lecture teacher-centered format to a case-based discussion student-centered format increases the quantity of time spent engaged in study behaviors and increases the quality of the learning for postgraduate residents. Methods: A survey instrument of study behaviours was developed. For 1 month prior to the intervention Obstetrics and Gynecology residents at UBC were surveyed regarding their study behaviors in the week before and immediately after each academic session. They were also surveyed regarding their perception of the quality of their learning. The residents were then exposed to 4 weeks of case-based sessions in Gynecologic Oncology. Each session consisted of small group case-based discussions facilitated by a tutor. The residents were surveyed using the same instruments prior to and after each session. The results prior to and after the intervention were analyzed using one-way analysis of variance with follow-up pair wise comparisons. Results: Compared to the didactic sessions there was a statistically significant increase in the time spent in study behaviours. Improvements were seen in time spent reviewing objectives reading relevant textbooks and journal articles consulting online resources and working in study groups. Also there was a statistically significant increase in the quality of the educational experience. Residents noted improvements in their session preparation confidence level of interest and motivation. Conclusion: In comparison to didactic sessions a case-based teaching format increases the quantity of time spent engaged in study behaviors and increases the quality of the learning experience for UBC Obstetrics and Gynecology residents.

R&D-19	The Multiple Mini Interview: An Assessment of Validity and Reliability <i>Jocelyn Lockyer, Jean-Francois Lemay, Keith Brownell, University of Calgary; Terri Collin, University of Pittsburgh</i>
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Context: Contemporary studies have shown that traditional medical school admissions interviews have strong face validity but provide evidence for low reliability and validity. As a result they do not offer a

standardized defensible and fair process . Methods: In 2006 applicants to the University of Calgary Medical School (UofC) were interviewed using the MMI. This process consisted of 9 8-minute stations where applicants were presented with scenarios focusing on non-cognitive traits which they were asked to discuss and a single 8-minute station where the applicant discussed why they should be admitted to UofC. Socio-demographic and station assessment data provided for each applicant were analyzed to determine whether the MMI 1) was a valid and reliable assessment of the non-cognitive attributes 2) distinguished between the non-cognitive attributes and 3) discriminated between those accepted vs. those waitlisted. We also assessed whether applicant socio-demographic characteristics were associated with acceptance or waitlist status. Results: Cronbach's alpha for each station ranged from .97 - .98. For the 9 stations that focused on non-cognitive traits the range for inter rater reliability was .68 - .81. Low correlations between stations and the factor analysis suggest each station assessed different attributes. Significant differences in scores between those accepted vs. waitlist were observed but there were no socio-demographic differences. Discussion: The MMI is able to assess different non-cognitive attributes and our study provides additional evidence for its reliability and validity. The MMI offers a fairer and more defensible assessment of applicants to medical school than the traditional interview.

R&D-20	<p>Does an Emotional Intelligence Test Predict Admission to Medical School and Success During Medical Training? <i>John Leddy, Geneviève Moineau, Susan Humphrey-Murto, Derek Puddester, Timothy Wood, Richard Hébert, University of Ottawa</i></p>
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Background/Rationale: A recent trend has been for admission procedures to consider non-cognitive measures as part of their admissions process. One possible non-cognitive measure that can be examined is Emotional Intelligence (EI). Studies have suggested that EI correlates positively with the ability to deal with stress and negatively with deviant behaviour. Purpose: To determine if the measurement of Emotional Intelligence is predictive of medical school admission success during medical school and in medical practice. Methods: Applicants who qualified for the admissions' oral interview were invited to complete the Mayer-Salovy-Caruso Emotional Intelligence Test (MSCEIT v2.0). The MSCEIT is an online 141-item ability-based EI assessment tool. Participants' responses were tabulated to calculate Total EI and branch scores. Analysis to obtain descriptive statistics and correlations between EI scores and other admissions criteria were performed. Successful applicants were asked to repeat the MSCEIT during their first week of medical school to assess the reliability of the instrument. Results/Discussion: For the 2006 interview cohort (n=333 70% participation rate) the mean Total EI score was 97 (range 56-120 SD=11). Total EI scores appear to measure something unique about the applicants as they do not correlate with weighted GPA autobiographical sketch or interview scores (correlations: -.04 -.06 and .09 respectively). Re-test reliability will also be presented. Future studies will seek to correlate EI scores with clinical performance measurements as well as indicators of disruptive behaviours/difficulties during medical school.

R&D-21	<p>Enhancing the Recruitment and Retention of Aboriginal Medical Students <i>Richard MacLachlan, Dalhousie University; Stanley Vollant, University of Ottawa</i></p>
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It is estimated there are fewer than 200 Aboriginal physicians in Canada; with the Aboriginal population 4% nationally there should be 2400 to be representative. Unfortunately 75% of Aboriginal students do not graduate from high school. In June 2006 the AFMC/IPAC (Indigenous Physicians Association of Canada) Working Group on Aboriginal Health created a Sub-Committee on this important matter. The Sub-Committee has been working to build on the work of the AFMC Working Group (endorsed by all 17 Deans of Medicine in May 2005) the subsequent national Workshop on Curriculum and Admissions for Aboriginal students in June 2005 and a follow-up national Workshop on this topic in March 2006. The priorities established by this Sub-Committee include: • Developing a multi-year medical school recruitment of Aboriginal peoples strategy for all 17 medical schools that is facilitative not proscriptive • Facilitating the sharing of best practices among the 17 medical schools for pre-admission admission curricula and student support for Aboriginal students and residents including mature students • Developing an assessment "tool kit" for medical schools to assess the application-readiness of Aboriginal students • Developing strategies to engage and seek support from accreditation bodies both undergraduate and postgraduate to work collectively with medical schools to recruit more Aboriginal students into medicine • Working with the medical schools to and universities to encourage Aboriginal students to pursue science courses in preparation for health professions The two Co-Chairs of the AFMC/IPAC Sub-Committee will present the results of the work to date.

R&D-22	Interprofessional Education for Health Professions Students: The Seamless Care Model <i>Kim Blake, Karen Mann, Blye Frank, Dalhousie University</i>
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Given the evolving complexity of the health care system students in the health professions need to develop the knowledge skills and attitudes to work effectively in interprofessional teams. "Seamless Care" is one of recent national research and development grants awarded by Health Canada to inform policymakers of the effectiveness of interprofessional education to promote collaborative patient-centred practice among health professionals. The project is now in its second year. The "Seamless Care" model of interprofessional education was designed with input from the 3 health Faculties at Dalhousie University (Medicine Dentistry and Health Professions) and is rooted in the tradition of active learning problem-based learning and role modeling. In the "Seamless Care" model teams of senior students from 5 disciplines work together in a clinical setting to assist patients with a chronic illness to play a central role in managing that illness through development of self-management and decision-making skills. The project builds on classroom based interprofessional learning which students participate in across 3 years of study. The primary goal of the "Seamless Care" model is the development of students' interprofessional collaborative skills. This presentation describes the development and implementation of a model of facilitating clinical-based interprofessional education for pre-licensure students. A key element is awareness and skill development in interprofessional teamwork across all participants: faculty preceptors students and researchers.

R&D-23	Collaboration in First Nations' Health Through Interprofessional Training and Community Engagement <i>Robert Woollard, Kendall Ho, Yolanda Liman, Elizabeth Stacy, Helen Novak Lauscher, Sandra Jarvis-Selinger, Evan Adams, Peter Granger, University of British Columbia</i>
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A survey of the health curriculum landscape at UBC indicates a real need to improve the quality of health providers' education around Aboriginal health. Interprofessional education (IPE) has increasingly been recognized as an essential aspect of sustainable health care reform. It has been suggested that IPE approaches to health education and community practice can lead to improvements in patient access to care recruitment and retention of health professionals in underserved communities as well as patient and health professional satisfaction. However while the benefits of IPE have been identified at the theoretical level there are few practical examples of how interprofessional learning and care can be applied in an Aboriginal setting. This project began to address these issues by creating a permanent interprofessional practice-based course on Aboriginal health. The project began in November 2004 within the UBC Faculty of Medicine as an individual school project that received seed funding from the national CPDiQ: Issues of Quality and Continuing Professional Development: Maintenance of Competence project. This session will present findings from the evaluation of this innovative new course run as a pilot during the summer of 2006 within two BC Aboriginal communities. We will provide recommendations on best practices for integrating an Aboriginal perspective within health curricula along with highlights of developing a more socially accountable model for health professional education within the university system. Specifically we will share successes and challenges related to generating administrative and curricular support among the various health disciplines interprofessional scheduling and fostering cross-discipline understanding and communication.

R&D-24	Adopting the "Key Features" Approach to the OSCE <i>Bruce Holmes, Dalhousie University; Robert Maudsley, College of Physicians and Surgeons of Nova Scotia; Simon Field, Dalhousie University</i>
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To improve the assessment of clinical decision making skills during an OSCE assessing the readiness of IMGs for family practice the "key features" approach was adapted by the Clinical Assessment for Practice Program. Page & Bordage proposed that in any clinical case there are a few unique essential elements in decision making which are critical to the resolution of the problem. Typically the "key features" approach is applied to written examinations; however the OSCE is also well suited to this approach. Care must be taken to maintain a structured objective approach to OSCE examiner questioning and scoring. Examiner feedback from previous OSCEs indicated that clinical decision making was an area requiring more emphasis. The 2006 exam blueprint was developed with 7 of 14 stations containing an assessment of clinical decision making. Each station was 12 minutes long with the last 4 minutes devoted to structured

questions posed by the examiner. Examiners were briefed on the concept and practiced scoring on a case in an orientation session. Examiners found it useful to probe and comment upon candidates' clinical decision making. As a result of this initial experience 10 of 14 stations in the June 2007 OSCE will contain examiner questions probing clinical decision making. During this presentation examples of the examiner questions and scoring templates will be presented. The initial results from the OSCE will be discussed including how the results were utilized in the overall assessment of candidate performance.

R&D-25	Foundations of Medicine: Evaluating the Successful Delivery of Learning Objectives <i>Caroline Murphy, University of British Columbia; Catherine Gaul, University of Victoria; Hanh Huynh, University of Northern British Columbia; Sylvia Parusel, Niamh Kelly, University of British Columbia</i>
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Foundations of Medicine (FMED) UBC's basic science curriculum employs a hybrid approach to teaching and learning that integrates problem-based learning lectures laboratories and self-directed learning experiences into an objectives-based curriculum. Evaluation studies are designed to monitor quality and comparability of program implementation across the three geographically separate sites and provide information regarding curriculum content and delivery effectiveness to decision makers. In addition to examining potential differences across sites decision makers were interested in student perceptions of how learning objectives were covered across the four curriculum blocks of Year 1 FMED. The aim of this evaluation was to determine if students perceived learning objectives were covered and in which teaching and learning session. A sample of students was surveyed at the end of each week and at the end of each block during the 2005/2006 academic year. Weekly students were asked to indicate if and how learning objectives were covered in the various learning environments (e.g. lectures labs cases). At the end of each five week block students were asked to rate the achievement of learning objectives for the block as a whole. Findings suggest specific weekly checklist style questions relating to the coverage of learning objectives yield useful information for curriculum planning. In contrast the generic question asked at the end of the five week block does not. This presentation details evaluation findings implications for curriculum delivery evaluating program effectiveness and achieving accreditation standards.

R&D-26	Learning from Patients: Student, Faculty and Patient Perspectives <i>Cathy Kline, Angela Towle, William Godolphin, Carol Beitel, Benetta Chin, Christine Sorial, University of British Columbia</i>
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Trends in health care policy emphasize involvement of the community in many aspects of care. But to what degree has the active involvement of patients in the education of health professionals kept pace with these trends? Patients as teachers have a long tradition in medical education but usually in passive roles (as 'clinical material' or 'audiovisual aids'). We aim to examine and develop the role of patients as partners in education across health disciplines. Phase 1: Innovative models were gleaned and examined from work presented at the first International Conference on "Where's the Patient's Voice in Health Professions Education?" Phase 2: Through semi-structured interviews with patients faculty and students we explored the educational roles patients play in all health professions programs at UBC. A range of models for patient involvement emerged. The degree to which the patient's voice was active or passive varied both within the models and across disciplines. Analysis identified benefits challenges and some helpful techniques for involving patients in student learning. While there are important benefits (e.g. enhanced learning) there are significant challenges (e.g. managing patient care/safety while providing students with learning opportunities). Phase 3: Work with an interdisciplinary group of students educators and patients resulted in: a) guidelines for engaging patients as educators in both clinical and classroom settings; and b) models to support patients as partners in educational roles at UBC to be tested and evaluated in selected programs. (Funded by the UBC Teaching and Learning Enhancement Fund)

R&D-27	Whether or Wither Some Specialities <i>Ian Scott, University of British Columbia; Bruce Wright, University of Calgary; Fraser Breenneis, University of Alberta; Margot Gowans, University of British Columbia</i>
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Background Further reductions in the per capita ratio of physicians are expected in North America a setting where the number and specialty of physicians is determined by numerous factors including undergraduate and postgraduate training opportunities. To assess the potential role of student interest in the resulting physician mix we considered the career plans of medical students early in their medical school education. Methods Over a 4 year period students at 8 medical schools were asked to identify their

top career choice at medical school entry. Results An overall response rate of 89.8% (n=2896) was observed with 2739 students giving valid top career responses. Choices ranged from 29% of students naming Internal Medicine as their preferred career to 3% naming Psychiatry at medical school entry. Interpretation Comparing medical student career choice at medical school entry with the current mix of active physicians demonstrates a mismatch between medical student interest and the current physician workforce. Urban Family Medicine and Psychiatry are the two careers where there is less interest among medical students at school entry compared to the proportion of physicians practicing in these disciplines. There is more interest in the careers of Internal Medicine and related subspecialties Surgery and Pediatrics and a near match of student interest in Obstetrics and Gynecology and Rural Family Medicine compared to the proportion of physicians practicing in these disciplines. Since medical educators have a social responsibility to be accountable for the health care needs of the population they serve it may be time to selectively recruit students and to modify medical school curricula in such a way as to better meet the future needs of Canada's health care system.

R&D-28	Podcasting in Medical Education: Adapting to an MP3 Generation <i>Alireza Jalali, Jacqueline Carnegie, Rong Sun, Maxwell Hincke, John Leddy, University of Ottawa</i>
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Objective: To evaluate how uOttawa medical students use podcasting as an innovative supplement when studying anatomy. Rationale: Study of human anatomy is an ongoing and sometimes overwhelming process for medical students. In this study the lecturer attempted to facilitate the francophone students' learning process by providing podcasts as supplemental Auditory-Verbal learning resources. These podcasts consisted of reviews of oral lectures already presented to students and could be accessed at each student's convenience and as frequently as desired. Methods: A short (15-20 minutes) review of 5 French anatomy lectures were recorded as MP3s and posted as podcasts on www.anatomypodcast.ca. At year's end students were surveyed regarding their use and assessment of the podcasts. Results: A survey response rate of 92% was obtained and indicated that 73% of students used the anatomy podcasts regularly. Among those listeners 96% found the podcasts to be "very helpful for self-paced learning" and "an excellent supplement for anatomy studying". Furthermore 92% indicated that podcasts were useful for anatomy course review. Conclusions: A majority of medical students in the francophone stream found that podcasting was a useful educational tool for asynchronous presentation of lecture summaries. The short length of the podcast the clarity of the content and the help with self-paced learning were positive features of this tool. Common reasons cited by the 27% of students who chose not to listen to the podcasts were: lack of time use of classical study habits and a perceived lack of need due to the clarity of the initial lectures.

R&D-29	Evaluation of New Implementation Strategies, Program Effectiveness and Dissemination of New Pedagogical Knowledge: Centre for Faculty Development's Stepping Stones Teaching Certificate Program <i>Denyse Richardson, Ivan Silver, Amy Dionne, University of Toronto</i>
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Context: A Faculty Development initiative The Stepping Stones (SS) Certificate program established by the Centre for Faculty Development in 2002 is unique to most Faculty Development programs. This initiative was designed to stimulate inter-professionalism partially through the multi-disciplinary nature of session leaders and faculty participants. Objective: Evaluation of the integrated program including its instructional development (workshops) and theory review (journal club) components will inform further SS program development. Additionally results of this project will add to the limited amount of scholarly work in the area of faculty development program evaluation. Methodology: Faculty development literature in the area of organized program assessment reveals use of either quantitative OR qualitative methods. In this project a novel method combining both techniques is being used to explore program impact. Participants will complete 2 questionnaires to identify skill-set knowledge gaps in teaching effectiveness. These quantitative gaps will be generated pre- and post- program. The qualitative component consists of focus groups. In pre-program groups voluntary participants were probed for: a) their motives for enrollment b) expectations of the program and c) the type of teaching preparation they have had to date. Post-program groups will attempt to elicit the impact of the program on a) perceived gaps b) teaching behaviour change and c) influence on their career in education. Outcomes: We believed the program's interprofessional environment would foster development of a learning community having impact on faculty knowledge skills and attitudes related to teaching and potentially elicit behavioural change in teaching practices. Results

from a 2004-2005 cohort of participants have identified a variety of benefits for faculty and their teaching practice. Results from a second separate cohort 2005-2006 participants validated the initial findings.

R&D-30	<p>Establishing a New Centre for Faculty Development to Support Faculty in a Distributed Environment: Key Lessons <i>Eileen Egan-Lee, Scott Reeves, Amy Dionne, Joanne Goldman, Susan Lieff, Brenda Mori, Denyse Richardson, Jackie McCaffrey, Karen Leslie, Ivan Silver, University of Toronto</i></p>
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This presentation describes a new and innovative Centre for Faculty Development that we believe is the only such Centre in the world to be jointly funded by a teaching hospital (St. Michael's Hospital) and a Faculty of Medicine (University of Toronto). The CFD uses a mix of centrally organized programs outreach and strategic partnerships with the goal of supporting almost 5 000 faculty members in a distributed environment. Currently the Centre draws upon a pool of 120 volunteer faculty educators from several different health professions to lead or co-lead program offerings. The overall purpose of this presentation is to provide a descriptive case study focused on the establishment and operation of a faculty development unit to provide a model which other faculty developers may find useful in supporting their work. Specifically it will describe and discuss: (1) the development of the Centre (2) the developmental 'pyramid' model for proving increasing complex and diverse learning activities for faculty (4) the innovative teaching and learning methods used for faculty development activities and (3) some of the research currently being undertaken.

R&D-31	<p>Evaluation of a Practice-based Method of Providing Faculty Development on Feedback Skills <i>Allyn Walsh, McMaster University; Heather Armson, University of Calgary; Wendy Leadbetter, Foundation of Medical Practice Education; Jacqueline Wakefield, McMaster University; Tom Elmslie, Karl Stobbe, University of Ottawa; Mary Messieh, McMaster University</i></p>
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The Practice-Based Small Group Learning Program is a program for continuing medical education in which physicians self-select into small groups with a trained peer facilitator. Groups are provided with printed educational modules on clinical topics by the Foundation for Medical Practice Education a non-profit organization affiliated with McMaster University. These modules include cases and commentaries evidence-based information points and paper tools and other resources. Building on the success of the clinical modules it was thought that this approach might also be an effective means of delivering faculty development particularly for teachers remote from academic centres where such activities are most frequently held. A module on the topic of delivering effective feedback to learners was developed and piloted at six faculty development sessions offered through McMaster University Ottawa University and the University of Calgary. A total of 65 participants were surveyed using questionnaires which were completed prior to the session immediately following it and then three months later. Results showed that virtually all of the participants indicated an area of change in their teaching behaviours immediately following the workshop. More importantly respondents on the 3-month post session questionnaire all indicated that they had made at least some of the planned changes in their teaching behaviours. While most of these were those they had planned at the conclusion of the workshop some indicated unanticipated changes. This method of delivering faculty development requires minimal technology is readily accessible to teachers and is effective in promoting self-reported change in teaching behaviours.

R&D-32	<p>Faculty Development Needs of Ontario Community Preceptors <i>Danielle Blouin, Elaine VanMelle, Gene Dagnone, Lewis Tomalty, Queen's University</i></p>
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BACKGROUND: Government efforts to improve health care access have forced Ontario medical schools to substantially increase their enrollment and to embark on a distributed mode of medical education. Training is now partly provided in smaller communities and rural preceptors have been recruited to assist. Designing faculty development activities that specifically address the concerns of community-based faculty is essential. However the development needs of these preceptors are currently unknown. OBJECTIVES: This study aims at assessing Ontario rural preceptors' 1. level of interest for several listed development topics; 2. preferred sites formats and timing for development activities. METHODS: A survey was mailed to the 1170 currently active community preceptors. The initial survey included a small incentive and was followed by two reminders. RESULTS: Topics of most interest to community preceptors comprise (from

highest to lowest level of interest): 'Evidence-based medicine' 'Teaching procedural skills' 'Evaluating learners' performance' 'Teaching portfolio' 'Effective use of audiovisual aids' 'Review of learners' objectives' 'Principles of small-group teaching' 'Characteristics of effective teachers' 'Time-efficient precepting' 'Providing effective feedback'. Onsite sessions were preferred by 64% of preceptors followed by webcast (15%) and videoconference (10%). Preceptors also favored sessions combined with Continuing Medical Education. Ideally sessions would be held on a weekday. CONCLUSION: Ontario rural preceptors prefer to have their faculty development activities delivered locally in their area on a weekday and combined with Continuing Medical Education events. This study also highlights the faculty development topics of most interest to rural preceptors.

R&D-33	Providing Effective Feedback: A Web-based Training for Medical Teachers <i>Luc Côté, Norma Bélanger, Université Laval</i>
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En 2004 le Centre de développement pédagogique de la Faculté de médecine de l'Université Laval a développé une formation pédagogique par internet destinée à des cliniciens enseignants impliqués dans l'encadrement clinique d'externes. Celle-ci vise à les aider à transmettre des rétroactions constructives à divers moments du stage tout en développant des habiletés d'analyse critique quant à la manière de le faire. La formation comporte 6 modules conçus selon les principes d'apprentissage reconnus. Ces modules incluent : ? des exercices individuels présentés sous la forme de mises en situation représentatives de la pratique de médecins superviseurs; ? des capsules d'information ? quelques lectures complémentaires ? des occasions de s'auto-évaluer. Par ailleurs les participants reçoivent le support et l'encadrement individualisé d'un tuteur pendant la formation. En 2004 et en 2005 nous avons mis à l'essai cette formation auprès de deux groupes de cliniciens enseignants (n=21). Suite à ces expériences la version originale fut modifiée dans son contenu et dans sa forme ce qui a donné lieu à un nouveau produit présentement en ligne. La présentation vise deux objectifs : ? décrire succinctement le contenu et les modalités d'apprentissage de cette formation; ? discuter les avantages et les exigences de ce type de formation. Pendant la présentation divers exemples de tâches seront présentés.

R&D-34	Students' Evaluation at the Université de Montréal Medical School According to the CanMEDS Competencies - A Continuum from the First Year to the End of the Residency <i>Marie-Josée Bédard, Marcel Julien, Michel Girard, Guy Lalonde, Christian Bourdy, Andrée Boucher, Raymond Lalonde, Université de Montréal</i>
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Since 1996 the CRMCC has innovated with the CanMEDS project which elaborates the essential competencies for a competent physician. Recently revised CanMEDS 2005 is principally dedicated to the post graduate programs. In 2005 the Faculty of Medicine of the "Université de Montréal" fully adopted this project by formally creating competencies committees. The goals of these committees are 1) Definition of the competencies 2) Description of the expectations for each competency according to the level of training 3) Creation of a crosswise curriculum. The unique aspect of this method is that it includes the entire medical curriculum from the premed year to the end of the residency. During this process we standardized the evaluation forms from preclinical years to the residency. The students are now evaluated according to the seven roles of the CanMEDS 2005 competencies with an emphasis on the criteria judged inadequate for physicians with professional difficulties. Among these advantages are: 1) the early detection of students with difficulties at the medical school 2) the focus on others abilities than medical expertise 3) the determination of a level of acceptable performance for the students in each level of undergraduate and postgraduate programs. We believe that the standardized evaluation will help the progressive integration of competencies in a global approach for the whole curriculum. We will present the pros and cons of this transformation

R&D-35	Multi Source Feedback: A Retrospective Analysis of The College of Physicians and Surgeons of Alberta — Physician Achievement Review Instruments <i>Jocelyn Lockyer, Claudio Violato, Herta Fidler, University of Calgary</i>
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Background: The College of Physicians and Surgeons of Alberta Physician Achievement Review program provides feedback to physicians from patients co-workers and colleagues about communication collegiality office management psychosocial management and clinical skills. Instruments exist for family medicine internal medicine pediatrics psychiatry the surgical specialties anesthesiology and emergency medicine. A

retrospective examination of instrument psychometrics has not been undertaken. Objectives: To assess the instrument reliability and validity. Methods: Published and unpublished data for each of the instruments were examined for evidence of validity and reliability. Results: Patient instruments had 11-44 items with a mean response rate per physician of 17.71–24.6/25 and mean scores from 4.5–4.7. The factor analysis identified 2-7 factors accounting 63-80% of the variance. Cronbach's alphas ranged from .93-.99 and the generalizability co-efficient (Ep2) ranged from .64-.78. Co-worker instruments had 17–22 items with a mean response rate per physician of 7.2–7.8/8 (except family medicine 5.2/6). The mean scores on all surveys were 4.5. The factor analysis identified a 2-3 factor solution accounting for 56–70% of the variance. Cronbach's alphas ranged from .90-.97 and the Ep2 range was .56-.87. Medical colleague instruments had 26-38 items with a mean response rate per physician of 6.9–7.8/8 (family medicine was 4.9/6) and mean scores were 4.3-4.5. The factor analyses revealed a 3-4 factor solution accounting for 60–75% of the variance. Cronbach's alpha ranged from .95-.98 and the Ep2 ranged from .64-84. Conclusion: There is evidence of validity and reliability although item modification might improve psychometric quality.

R&D-36	<p>Learning While Having Fun: The Use of Edutainment to Teach Geriatric Home Visits to Health Professionals <i>Gustavo Duque, Nancy Posel, David Fleiszer, Shek Fung, McGill University; Louise Mallet, Université de Montréal</i></p>
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BACKGROUND: Home visits are an important part of the geriatric care. Although most health professionals perform home visits there is not a structured method to perform them. In addition in-training health professionals' exposure to home visits is limited due to logistical reasons. Here we propose a new method for health professionals to learn how to perform an effective home visit using “edutainment” or “learning while having fun” combining 3D virtual reality with video-gaming. AIMS:1- To learn the principles of a home visit using 3D virtual reality. 2- To determine the usefulness of video gaming (edutainment) in health care education. METHODOLOGY: A virtual environment was created simulating a patient's house that the students will be able to explore. Students are expected to click on those elements that they consider as risk factors for falls. Students are awarded with a point for every correct click whereas penalized with one less point if clicking on the wrong factor. Students have to play against time and distracters. At the end of the game the students receive feedback on the chosen elements which were right or wrong. Finally evaluation of knowledge is performed using pre and post-tests. SUMMARY: With an increasing number of students in health care professions technology may become an important tool to offer them a standard and efficient learning method. Additionally since our students are increasingly technology friendly we expect that providing them with a fun and structured experience will have an effect not only in their learning but also in the care of our elderly population.

R&D-37	<p>An Evaluation of Interprofessional Continuing Professional Development to Enhance Primary Health Care Collaboration <i>Vernon Curran, Ann Hollett, Memorial University of Newfoundland; Joan Sargeant, Dalhousie University</i></p>
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The Building a Better Tomorrow Initiative was a multi-jurisdictional project funded by the Health Canada Primary Health Care Transition Fund and involved the Departments of Health of each Atlantic Canadian province as well as the continuing medical education offices of Dalhousie and Memorial Universities. A goal of the BBTI was to develop and deliver a comprehensive series of accredited interprofessional continuing professional development modules to foster primary health care collaboration. The target audience for the BBTI program included primary health care providers across Atlantic Canada. An evaluation research study of the BBTI was undertaken to determine the effectiveness of the program in enhancing collaborative competencies amongst primary health care participants and its impact on fostering primary health care collaboration. A modified version of Kirkpatrick's (1967) model of evaluation was used in designing the evaluation framework. The results of the evaluation indicate positive participant satisfaction significant pre to post increase in confidence significant pre to post improvement in collaborative competencies and enhancements in primary health care collaboration. The findings from the evaluation research also have important implications for engaging specific health professional groups in primary health care renewal initiatives.

R&D-38	Computer Assisted Long Distance System for Inter-professional Education: Solving the Translational Research Gap <i>Gustavo Duque, Janet Henderson, David Goltzman, McGill University</i>
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BACKGROUND: Translational research is becoming an important element of research efforts in Canada. It involves the development of collaboration between professionals from very diverse disciplines such as basic biologists and epidemiologists. Therefore new methodologies that integrate students in these various disciplines are required. The Canadian Institutes Health of Research training program in Musculoskeletal Health includes students from different backgrounds pursuing their studies at Universities across Canada. Using webCT as a platform we developed a 10 week course that includes: long distance education inter-professional approach self evaluation and constant feedback. AIMS: 1- To test the effectiveness of technology in a new model of inter-professional education. 2- To test if using a virtual system facilitates interactions between students from very different disciplines. METHODOLOGY: Ten interactive modules all related with musculoskeletal disease were developed. Each module included a mandatory reading (review paper) a pre-test an interactive lecture and a post-test. Additionally students had access to a bulletin board and permanent tutors' assistance. At the end of the course we compared students' results in their pre and post-tests. Students' interactions in the bulleting board were quantified. Finally we surveyed students' perceptions about this method with emphasis in the development of communication between disciplines. RESULTS: Our system showed to be effective as a learning tool as per the comparison between pre and post tests. Additionally all students show significant learning improvement independently of their area of expertise. Finally students showed and recognized a significant improvement in their interaction and communication with students in other disciplines. In summary this method showed to be a useful innovation for inter-professional education with emphasis on the enhancement of translational research

R&D-39	Understanding "Buy-in" of Physicians Involved in a New Medical School <i>Dan Hunt, Tim Zmjowskyj, Chris Decker, Northern Ontario School of Medicine</i>
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The Northern Ontario School of Medicine (NOSM) is Canada's first new medical school in over 30 years and located in a region the size of France with hundreds of independently practicing physicians. While many of these physicians have experience teaching residents and fourth year medical students from Southern Ontario none have been a part of a medical school's full four year curriculum located in their midst. The design of the NOSM curriculum is driven by a social accountability mandate to train physicians for the rural remote and underserved populations of Northern Canada. The curriculum draws extensively on a distributed medical education model that is community based and has students spending three one month blocks of time in Aboriginal communities and towns up to 5000 people during year one and two. In year 3 students spend 7 ½ months in 10 communities up to the size of 20 000 people that are outside of Thunder Bay and Sudbury. This design requires extensive "buy-in of the hundreds of community based physicians to carry out this curriculum. In order to understand the fears expectations and hopes of these physicians a questionnaire was sent in 2005 prior to the first class starting to approximately 450 physicians across the north that had taken students or residents in the past. Questions asked for the current impact on their practice of the elective students and their anticipated expectations of impact of NOSM students. Variables of impact were on office flow patient care professional goals and relationships with colleagues patient referrals productivity income and workload. With two follow-ups 312 usable questionnaires were obtained for a 73% response rate. Comparisons between the current impact and the anticipated impact showed similar negative impacts in areas of workload income and productivity. There were no changes in the anticipated patient referrals and there were similar positive impact on relationships with colleagues professional goals and office flow. Comparisons to similar data collected from rural physicians involved in an established community based curriculum in the Northwestern USA will be presented.

R&D-40	Evaluating the Clinician for Assessment Practice Program's Mentoring Program <i>Patricia Saunders, Dalhousie University; Sandra Taylor, University of South Australia, Queensland; Robert Maudsley, Gwen MacPherson, Amanda Mombourquette, College of Physicians and Surgeons of Nova Scotia</i>
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We will report on research in progress undertaken to examine and evaluate the effectiveness of the Clinician Assessment for Practice Program(CAPP) mentorship program in meeting the needs of

participants and to identify means of enhancing the program's goals. The mentorship component of the CAPP program is crucial to its success and combines the role of assessor with the traditional facilitative or teaching role of mentor. As such this evaluation research will contribute to the growing literature on IMG assessment and support and on intercultural mentoring in medical education and professional development. Specifically we will report the findings from an exploratory mixed-method survey of program participants (mentors and IMG physicians) about strengths and weaknesses and areas for improvement of the mentoring component of CAPP. The study focuses on the relationship of mentoring to the following five outcomes of the mentoring program: 1) Success of the physicians in practice and the community during the mentoring phase. 2) Success of the physicians in practice one year after completing the CAPP program. 3) Quality of mentoring relationship. 4) Increased skill and confidence of mentors. 5) Educational outcomes for both mentors and mentored physicians.

R&D-41	Professionalism and Medicine's Social Contract with Society: Implications for Teaching Professionalism <i>Richard Cruess, McGill University</i>
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Professionalism and Medicine's Social Contract with Society: Implications for Teaching Professionalism
 The literature in the social sciences and medicine clearly indicates that medicine's social contract with society is based upon professionalism. Consequently it should be part of the cognitive base on professionalism which is transmitted to students trainees and practitioners. Unfortunately very little literature exists on the nature of the social contract. Most observers treat it as if it was a relatively simple arrangement between two parties – medicine and society with involvement of individual physicians and patients. Recent commentary in the United Kingdom has suggested that the relationship is more complex. Building on this we have postulated that our contract is tripartite a concept which is in agreement with the theory of “countervailing forces” which suggests that health care systems function as a result of a balance of power and influence between the profession government and the corporate sector. We believe that there are three concurrent contracts: one between medicine and patients/the public; another between patients/ the public and government; and a third between medicine and government. Within this framework we have traced the history of which contract was dominant in the development of health care policy throughout the past century and developed an outline of the expectations and obligations of the various parties. The often conflicting obligations are one source of the tensions felt by individual physicians in practice. The implications for those teaching professionalism are significant as the nuances in the series of relationships will determine how physicians should conduct their affairs and it therefore should form an integral part of what is taught.

R&D-42	Knowing When to Look It Up: A New Conception of Self-assessment <i>Kevin Eva, McMaster University; Glenn Regehr, University of Toronto</i>
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Context Self-assessment is widely considered to be a vital skill for members of a self-regulating profession primarily as part of the mechanism for maintaining competence. However this is at best only one function of self-assessment. The current study examines the role of self-assessment in the daily activities of practice (i.e. as a mechanism for knowing when a particular task or problem is beyond current capabilities). Methods Using a computer-delivered multiple choice test we generated three measures intended to capture self-assessments “in practice” (i.e. self-awareness): the ability to select questions from content areas in which respondents are more likely to be accurate the ability to avoid responding to questions for which the respondent is less likely to be correct and the tendency to slow down when “in trouble” with a question. In addition the traditional measures of self-assessment (e.g. predictions of how many questions one would answer correctly) were administered. Outcomes Despite their explicit self-assessments being poorly correlated with actual performance ($r=0.36$) participants showed behavioural indications of self-awareness. They selected content-based domains in an order consistent with their ultimate accuracy in those domains they avoided answering questions on which they were likely to be incorrect and took longer to respond when their eventual answer was incorrect relative to when it was correct. Discussion These results provide evidence in favour of a new conceptual framework that should impact upon the way the health professions incorporate notions of self-assessment into their models of self-regulation.

R&D-43	Recognition of Educational Scholarship - Opinions of Promotion Committee Members <i>Leslie Sadownik, University of British Columbia</i>
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Background: The "Scholarship of teaching" has been defined and acknowledged within the literature as a legitimate academic route for promotion within a university setting. Objective: We were interested in the knowledge attitudes and beliefs of members of UBC promotions committees regarding the "value" of teaching and educational contribution in regard to promotion. We were also interested in what type of educational contribution would be strong "evidence" of scholarship. Methods: We designed a standardized structured interview protocol through a Delphi process. Interviews were held with members of the Senior Promotions Committee of the Faculty of Medicine and of our respective Departmental Promotions Committees (Surgery and Obstetrics). A total of 20 faculty members were interviewed. The interviews were transcribed and analyzed both manually and using Atlas-ti (software to facilitate qualitative analysis). Results: Preliminary analysis reveals that most faculty are most comfortable with valuing educational "research funding and publications" as evidence for scholarship rather than originality and/or innovation. Teaching contribution and educational administration while valued is not viewed as strong evidence for scholarship.

R&D-44	The Effects of Rural and Regional Medical Training Through ROMP on Future Practice Location: When, How Long and Key Impacting Factors <i>Ashley Colter, Michelle Hunter, Peter Wells, Rural Ontario Medical Program</i>
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The Rural Ontario Medical Program (ROMP) provides opportunities for students and residents from Ontario's medical schools to participate in community-based rotations throughout South Central Ontario. Founded in 1988 by Dr. Peter Wells the program provides both core and elective training in family medicine and other specialties. The objective of this study was to conduct a detailed analysis of the medical trainees who have participated in ROMP rotations during the first 15 years of the program and to track where they are currently practicing. Using the ROMP trainee database the effects of gender level of training total ROMP training months and availability of rotation funding on future practice location will be investigated. Services of the Canadian Post-MD Education Registry will be utilized to determine the 2006 practice location of over 650 trainees who have participated in the program and rotation evaluations will be used to determine factors that have the greatest impact on practice decisions. This analysis will report on the practice location of trainees who accessed ROMP postgraduate training during the years 2001-2005 and will also update practice locations for all trainees included in a 10-year retrospective analysis from 2001. The effects of trainee level and length of rural medical training throughout South Central Ontario and the success rates for practice establishment in rural and/or under-served communities will be discussed. It is expected that trainees with earlier and lengthier exposures to community-based training are more likely to be practice in rural and/or under-served communities. Furthermore physician recruitment rates of trainees to communities throughout the ROMP region will be identified.

R&D-45	CHAP: A Community-centred Approach to Medical Education <i>Samuel Vaillancourt, Gabriel Rebick, Mei-ling Wiedmeyer, Sonia ter Kuile, Rasa Iznadnegahdar, Anne Kitler, Lisa Graves, McGill University</i>
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Significant groups in the community face specific barriers to health which are generally overlooked in conventional medical curricula. Community-Health Alliance Program (CHAP) a pilot project founded at McGill University in 2005 aims at sensitizing first-year medical students to the specific needs of these groups the social determinants of health and the role of the health professional as a health advocate. The faculty has partnered with eight health-related community-based organizations (working with homeless youth intravenous drug users sex workers people living with HIV socially-isolated elderly urban Aboriginal populations economically-disadvantaged pregnant women asylum seekers and refugee claimants) to set up the program. The students are required to participate to a one-day retreat in the fall to introduce them to the program and the socio-sanitary landscape of Montréal. From January to May the participants spend a minimum of 3 hours per week as interns in their chosen community-organisation. Members of the faculty with expertise in the field of social medicine facilitate monthly seminars attended by the participants. At the end of the program students are encouraged to undertake a summer research project relevant to their organisation. Participants in the program submit a workplan a paper and present their involvement at an event in the fall to the following cohort of students. Goals of the program include (1) Promoting the importance of primary care and its multiple dimensions in the community setting (2) Emphasizing the

importance of interprofessional teams in addressing community health issues (3) Exposing medical students at the onset of their career to the importance to health of social environmental and historical factors and (4) Creating a relationship of collaboration and trust between the Faculty of Medicine and the community in which it resides. This program was initiated by medical students with strong support from the faculty

R&D-46	Considerations of Teaching and Learning Anatomy in a Distributed PBL Curriculum <i>Bruce Holmes, Bill Baldrige, Patty Weld Viscount, Laura Harris, Kim Blake, Dalhousie University</i>
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At Dalhousie Anatomy has been traditionally learned in labs lectures and tutorials since the inception of its PBL curriculum. The emergence of distributed learning and the opportunity to expand our curriculum to New Brunswick has contributed to a review of what and how anatomy is learned in the pre-clinical curriculum. Students evaluate their courses electronically. Reports including both statistical and narrative data are produced for each course. While these reports are invaluable at the end of a course they had never been systematically analyzed for more than a single year. Program evaluation data from students about their Med 1 Human Body course for the last four years focus group interviews from a recent cohort of tutors and a sample of students were all analyzed using qualitative data analysis.. Additionally the course director has changed and new ideas are being considered about “re-energizing” our PBL format and preparing for distributed learning. From all of this themes emerged confirming the course strengths and directions for course design and scheduling case development and tutor preparation. Our presentation will describe the results of this research the iterative process we used and identify how our approach can be applied to other curriculum development initiatives.

R&D-47	Exploring Lost Learning Opportunities to Acquire Technical Skills in a Paediatric Emergency Department <i>Susan Bannister, University of Western Ontario; Lorelei Lingard, University of Toronto; David Keegan, University of Western Ontario</i>
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Purpose- While the effective acquisition of technical skills is essential for excellent paediatric care little is known about how residents and fellows learn these skills in the paediatric emergency department setting. This study sought to describe and theorize the variables influencing technical skills acquisition in a tertiary care paediatric emergency department (PED). Methodology – Using non-participant field methodology residents and fellows and their teachers (nurses respiratory therapists emergency staff and fellows) were observed during intermittent periods over 3 months. Nineteen interviews and 4 focus groups with these teachers and learners were conducted and used to triangulate observational findings. Using a constant comparative process field notes and transcripts from interviews and focus group were analyzed by 2 researchers for emergent themes in the grounded theory tradition. Results – Data from over 400 hours of observation and 293 observed technical procedures 19 interviews and 4 focus groups are presented thematically. Dominant themes include: the nature and timing of feedback opportunities to learn technical skills competition from other learners “nursing” skills supervision and staff physicians’ competing priorities. These themes interact to influence the learning environment by all contributing to lost learning opportunities to acquire technical skills. Conclusions – The PED is a complex educational environment where technical skill learning opportunities are unfortunately frequently lost. Understanding the factors that influence opportunities to learn technical skills in this setting is a first step in developing improvements to technical skill learning in this domain.

R&D-48	Bridging the Gap: Clerks Learning How to Give Clinical Case Presentations Through Distance Learning <i>Kim Blake, Bruce Holmes, Mohsin Rashid, Jill Curley, Stephen Morley, Ada Poranek, Kate MacCulloch, Dalhousie University</i>
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Objectives: 1) To learn a structured format for case presentations . 2) To distribute by an inexpensive synchronous technology (Bridgit™ conferencing software). 3) To store and retrieve case presentations from the intranet. Methods: Guidelines were supplied regarding use of PowerPoint. The students worked in pairs and identify a patient that conformed to the third-year Paediatric curriculum objectives. The presentations were required to be case-based 10 minutes in length interactive visual and include a basic science slide and a multiple-choice question relevant to the case. Students gave presentations at the end of a six week Paediatrics rotation. There were at least three sites involved in this process: all sites used

Bridgit™ to synchronously present the learning cases while a faculty member evaluated the presentations. Results: 328 students have participated. From pilot questionnaire (2004/5 and 2005/06) 87% of clerks found creating and presenting a case presentation a useful learning experience. Also 85% of students thought cases available on the university's intranet would be a useful learning tool and 83% of clerks found watching other groups present useful (Likert (Max 5) Mean score 4.2 +/- 0.6). The clerks identified three main strengths of the case presentation learning process; learning about specific cases practicing presentations and patient contact. Students found writing a multiple choice question the most challenging aspect of the presentation (Mean Likert score 3.9 +/- 0.8). Obstetrics and Gynaecology have started a similar format. There is discussion about involving an International Medical School and the cases will be implemented as a distributed education component of a new medical school.