Supervising New PGY-1 Residents:
Faculty Expectations vs. Residents’ Perceptions
A Case Study

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THESIS
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This thesis is dedicated to my husband and daughter, Darren and Evelyn Poole without whom I would not have accomplish this much.
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<td>EPA</td>
<td>Entrustable professional activities</td>
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<td>PGY-1s</td>
<td>First-year residents</td>
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<td>SME</td>
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SUMMARY

BACKGROUND: Postgraduate year-1 residents (PGY-1s) begin clinical practice in a setting where attending staff and senior residents are available to supervise their work. There is an expectation that, while being supervised and as they become more experienced, the PGY-1s will gradually take on more responsibilities and function independently.

OBJECTIVE: To determine the degree of agreement between the level of supervision expected by clinical supervisors (CSs) and the level of supervision reported by PGY-1s.

METHODS: Using a nominal group technique, subject matter experts (SMEs) from multiple specialties defined “entrustable professional activities” (EPAs) for PGY-1s, that is, a set of activities to be performed independently by PGY-1s by the end of their first year of residency, regardless of specialty. We then surveyed and compared CSs and PGY-1s from one institution regarding levels of supervision expected and received during the daytime and nighttime for each EPA.

RESULTS: The SMEs defined 10 EPAs (e.g., completing admission orders, obtaining informed consent), ratified by a national panel, and 113 CSs and 48 PGY-1s completed the survey. CSs had the same expectations regardless of the time of day. For three EPAs (managing intravenous fluids, obtaining informed consent, and obtaining advanced directives) the level of supervision reported by PGY-1s was lower than what CSs expected (p<0.001) regardless of the time of day (i.e., day versus night). For four more EPAs (initiating the management of critically ill patients, handing over the care of patients to colleagues, writing discharge prescriptions, and coordinating a patient discharge) the differences only occurred during nighttime work (p≤0.001).

CONCLUSION: PGY-1s reported performing EPAs with less supervision than expected by CSs, especially during nighttime work. Using EPAs to guide the content of the undergraduate curriculum and during examinations could help better align CSs’ and PGY-1s’ expectations about early residency supervision.

Key words: Supervision, entrustable professional activities, first-year residents
I. BACKGROUND

During residency, trainees acquire knowledge, skills, and attitudes in a supervised setting with graded responsibilities that move them towards becoming an independent practitioner. Kennedy et al. (2009) showed that residents, especially new ones, feel pressured very quickly to progress prematurely towards independent practice. Identity issues, including taking on more responsibilities than is expected of them, and organizational factors, such as acting rapidly without asking for help, were identified as possible causes for premature independence (Kennedy et al., 2007).

To maximize resident learning in the workplace and ensure patient safety, accrediting agencies require that residency programs provide suitable levels of supervision for their residents. If supervisors are unwilling to entrust trainees with appropriate levels of responsibility for designated activities, then learning is negatively impacted and trainees’ development is slowed. Conversely, if supervisors place too much trust in trainees who are as yet unable to fulfill their expectations, both patient safety and educational efforts can be compromised (Cantillon and Macdermott, 2008; Kennedy et al., 2005).

Entrusting a particular trainee with specific activities requires sound judgment by the supervisor. Learning theories have long supported the development of expertise through experiential learning, especially in the workplace (Vygotsky, 1978; Lave and Wenger, 1991; Plsek and Greenhalgh, 2001; Fraser and Greenhalgh, 2001; Engeström, 2001; Ericsson, 2002; Carraccio et al., 2008; Bleakley, 2011; Burford, 2012; Yardley et al., 2012). Residents will learn best when they are performing at the limit of their competence (Teunissen et al., 2007). Activity theory describes learning as an interaction that occurs between people and contexts in a social milieu (Engeström, 2001). Thus activities performed within a particular context must be understood between parties, in this case, between clinical supervisors and residents, in order to ensure that appropriate opportunities for learning take place. To better explain when an activity can be entrusted, ten Cate and Scheele (2007) developed the notion of “entrustable professional activities” (EPAs), that is, “the activities that together constitute the mass of critical elements
that operationally define a profession.” There is evidence in the literature that residents and supervisors do not always agree on the level of supervision needed for certain EPAs. For example, Sterkenburg et al. (2010) assessed six EPAs in anesthesiology and found that residents and supervisors had different expectations regarding when entrustment of residents was appropriate, what residents can actually do, and what residents think they can do safely. Understanding and reconciling these differences is vital when one considers that first-year residents (PGY-1s) are expected to take on more responsibilities in the first few weeks of residency than they had as medical students. Defining possible gaps between supervisor and PGY-1 expectations and identifying what actually occurs in the workplace are important steps in making sure that residents assume the level of responsibility expected by their clinical supervisors to ensure that patients receive optimal and safe care.

The purpose of this study was to determine the degree of agreement between the level of supervision expected by clinical supervisors (CSs) regarding a set of EPAs and the level of supervision PGY-1s report receiving.
II. METHODS

A. **Defining EPAs**

Eight faculty members from the University of Ottawa, with broad experience interacting with PGY-1s early in their training, were purposefully recruited as subject matter experts (SMEs) to define inpatient-care EPAs expected of any PGY-1s, regardless of specialty. The SMEs were recruited from family medicine, internal medicine, pediatrics, obstetrics-gynecology, and surgery. Each SME was involved in direct patient care, worked with residents, including PGY-1s, and were experienced medical educators. To help with EPA development, SMEs were provided with information pertinent to PGY-1 training, including objectives of training appropriate for the selected specialties. The SMEs participated in a nominal group process to define the EPAs. Subsequently and for validation purposes, a national group of nine medical educators familiar with expected levels of training and entrustment, independently reviewed the EPAs using email communication with the principal investigator (CT). The EPAs where then reviewed and finalized by the SMEs.

B. **Surveys**

Two surveys were developed, one for the CSs and one for the PGY-1s, to determine the degree of agreement between the two groups regarding levels of supervision. The first survey asked the CSs what level of supervision they expected of PGY-1s the first time they performed the EPAs as a resident, during the daytime and at night (see an example in Box 1). The second survey asked PGY-1s what degree of supervision they recalled receiving the first time they performed the EPAs as a resident, during the daytime and at night. Based on Kilminster and Jolly’s literature review (2000), “supervision” was defined as the provision of guidance or feedback in the context of patient care. A supervisor was defined as any person who is capable of performing the activity without supervision and who is able to teach or oversee the activity performed by a junior trainee. A supervisor can be an attending staff, a fellow, or a more senior resident.
Box 1. Example of a survey item

**Clinical supervisor survey.**

What type of supervision would you expect a new PGY-1 to have to obtain an informed consent for the first time as a resident during the daytime? Choose only one option.

1. Should not perform the activity at all even with supervision.
2. Able to perform the activity with direct supervision.
3. Able to perform the activity with indirect supervision.
4. Able to perform the activity on their own without supervision.

**PGY-1 survey.**

The first time you obtained an informed consent as a PGY-1 resident during the daytime, what type of supervision did you have? Choose only one option.

1. Did not perform this activity as a resident during the daytime.
2. Performed the activity with direct supervision.
3. Performed the activity with indirect supervision.
4. Performed the activity on my own without supervision.

Ten Cate et al. (2010) used a 5-point scale to define the levels of entrustment, that is: (1) not allowed to perform the activity, (2) can perform it with full supervision, (3) can perform it with reactive supervision, (4) can perform it independently, and (5) are able to act as a supervisor. The fifth level was omitted because it was not relevant to the goals of the present study, resulting in a 4-point nominal scale of levels of supervision: (1) not allowed to perform the activity, that is, should not perform the activity at all even with supervision; (2) direct supervision, that is, when the supervisor is physically present and can directly intervene if necessary; (3) indirect supervision, that is, when the supervisor is aware that the resident is undertaking the activity but is not physically present, and; (4) without supervision, that is, when a supervisor does not need to be aware that the resident is doing the activity or directly observing the resident. During residency, “without supervision” always implies that post-hoc supervision occurs or is possible (Babbott, 2010).
Residents were also asked whether they would have preferred a different level of supervision at the time and whether they had previously performed the activity as a medical student. Lastly, demographic data was collected regarding gender, general area of training (medical or surgical specialty), and years in practice for clinical supervisors.

We invited, by email solicitation, all the attending physicians (approximately 250) who were CSs in the departments of Family Medicine, Medicine, Pediatrics, Obstetrics/Gynecology, and Surgery. The only inclusion criterion used was to have supervised PGY-1s on an inpatient ward rotation during the past year. All PGY-1s at the University of Ottawa at the end of their fourth month of PGY-1 residency (n=224) were invited to participate; by that time, they had likely encountered the EPAs. They were also solicited by email. Completion of at least one inpatient ward rotation was the sole resident inclusion criterion.

Both surveys were distributed through e-mail and available for a three-week period on a password-protected web-based platform (©FluidSurveys, Canada). Reminders were sent weekly. No incentives for participation were provided. By agreeing to complete the survey, participants consented to participate in the study. The study was approved by the University of Ottawa research ethics board and the University of Illinois at Chicago institutional review board, the latter as part of the Master’s of Health Professions Education (MHPE) thesis requirements for the principal investigator (CT).

C. Data Analysis

Response frequencies from CSs and PGY-1s regarding levels of supervision for each EPA were compared using Pearson chi-square statistics (IBM-SPSS, version 20.0.0). Comparison of responses was also done by gender and specialty groups. Daytime and nighttime responses within the CS and PGY-1 groups were compared using Bowker tests of symmetry (SAS, version 9.2). Significant type-I error rates were based on a Holm-Bonferroni correction, with values ranging from 0.003 (first comparison) to 0.05 (final comparison) (Holm, 1979).
III. RESULTS

A. Defining EPAs

The eight local SMEs at the University of Ottawa defined and agreed on 10 EPAs that were subsequently ratified by a national panel of nine medical educators. The EPAs are: (1) recognizing and initializing management of a critically-ill patient; (2) disclosing medical errors; (3) interpreting investigations (laboratory, ECG, radiographs) with proper communication of results to patients; (4) managing intravenous fluids; (5) handing over the care of patients to colleagues/other service; (6) writing a discharge prescription including medication reconciliation; (7) coordinating a patient discharge/transfer (including counseling of patient, organizing follow-up and completing discharge summary); (8) writing admission and/or post-operative orders; (9) obtaining informed consent and (10) obtaining advanced directives/goals of care (code status).

B. Surveys

One-hundred-and-thirteen (113) CSs completed the survey, a 45.2% (113/250) response rate; 70 (62%) were men and 43 (38%) were women. Ninety-four (83%) CSs were from medical specialties while 19 (17%) were from surgical specialties. A quarter of the CSs had less than 5 years of experience (25%); 17% had 5 to 10 years; 19% had 11 to 15 years; and 39% had more than 15 years. The lack of data regarding gender and specialty proportions prevented any comparison with the sampled population. Forty-eight (48) PGY-1s completed the survey, a 21.4% response rate; 31 (65%) were women and 17 (35%) were men. There were significantly more PGY-1 women in the sample than in the sampled population (65% in sample vs. 55% actual; $\chi^2 (1)=7.44$, $p=0.0064$). Forty (40) participants were from medical specialties while eight were from surgical specialties. These numbers are similar in proportion to those of the sampled population ($\chi^2 (1)=0.5433$, $p=0.46$).

There was a technical problem such that the web-based survey did not record accurately the PGY-1 responses to one of the EPAs, interpreting investigations; consequently this EPA was excluded.
from the analyses.

More than 80% of the residents encountered all of the EPAs, with the exception of disclosing medical errors (< 35%). Clinical supervisors preferred direct supervision for five of the EPAs (42-68% of all supervisors) compared to indirect supervision for the other four (46-65% of all supervisors); see Table 1. For each EPA, CSs reported similar levels of expectations regardless of the time of day (p=0.12-0.95).

For one EPA, writing admission/post-operative orders, PGY-1s reported receiving the same level of supervision as expected by the CSs, irrespective of time of day (daytime: \( \chi^2(3)=8.556, p=0.036 \); nighttime: \( \chi^2(3)=4.910, p=0.18 \)).

For three of the nine EPAs, PGY-1s reported performing the EPA with less supervision than was expected by the CSs, and some recalled performing the EPA without any supervision (31-54%), regardless of the time of day, namely: (1) managing intravenous fluids (daytime, \( \chi^2(3)=22.199, p<0.001 \); nighttime, \( \chi^2(3)=18.028, p<0.001 \)), (2) obtaining informed consent (daytime, \( \chi^2(3)=29.755, p<0.001 \); nighttime, \( \chi^2(3)=37.039, p<0.001 \)), and (3) obtaining advanced directives (daytime, \( \chi^2(3)=49.21, p<0.001 \); nighttime, \( \chi^2(3)=58.473, p<0.001 \)). The differences between CSs and PGY-1s for performing these EPAs without supervision are illustrated in Figure 1, with odds ratios of 2.9 for managing intravenous fluids, 5.6 for obtaining informed consent, and 14.2 for obtaining advanced directives.
Table 1. Frequencies of responses to EPAs by level of supervision (% in parentheses)

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<th>Levels of supervision</th>
<th>Clinical supervisor expectations</th>
<th>PGY-1 reported levels of supervision</th>
<th>Done during medical school</th>
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<td>Day</td>
<td>Night</td>
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<td>A. CS-PGY1 AGREEMENT:</td>
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<td>Writing admission and/or post-operative orders</td>
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<td>B. CS-PGY1 DAY &amp; NIGHTTIME DISAGREEMENTS</td>
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<td>Obtaining informed consent</td>
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<td>Obtaining advanced directives/goals of care</td>
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<td>C. CS-PGY1 DAY &amp; NIGHTTIME DISAGREEMENTS</td>
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<td>Managing intravenous fluids</td>
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<td>B. CS-PGY1 NIGHTTIME DISAGREEMENTS:</td>
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<td>Handing over the care of patients to colleagues/other services</td>
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<td>Writing a discharge prescription, Including medication reconciliation</td>
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<td>Coordinating a patient discharge/transfer</td>
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<td>D. INSUFFICIENT PGY1 DATA TO JUDGE</td>
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<td>Disclosing medical errors</td>
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1. The entrustable professional activity “interpretation of investigations” is not included because of insufficient PGY-1 responses due to a technical problem.
2. See Box 1 for description of the levels of supervision.
For four EPAs, PGY-1s reported levels of supervision that were consistent with CSs’ daytime expectations, namely: (1) recognizing and initiating management of critically-ill patients ($\chi^2 (3)=6.348$, $p=0.096$), (2) handing over the care of patients ($\chi^2 (3)=7.309$, $p=0.063$), (3) writing a discharge prescription ($\chi^2 (3)=3.969$, $p=0.265$), (4) coordinating patient discharges ($\chi^2 (3)=10.167$, $p=0.017$); see Table 1 for details. However, for nighttime, the PGY-1s’ reported less supervision than expected from the CSs for these EPAs ($p<0.001$ for each EPA). For example, for recognizing and initiating management of critically-ill patients, no one reported doing this activity without supervision during the day, while 21% ($p<0.001$) reported managing these patients without supervision at night (odds ratio of 14.6).
For the ninth EPA, *having disclosed medical errors*, too few PGY-1s reported having performed this activity to allow any meaningful statistical comparison. Clinical supervisors either did not wish them to perform this activity (26%) or expected them to do so under direct supervision (60%).

The PGY-1 responses did not vary significantly by gender or broad specialty (p-values >0.003, using a Holm-Bonferroni correction). Female CSs preferred direct supervision of PGY-1s for *writing admission/post-operative orders* compared to males (χ² (3)=18.868; p<0.001). Expectations did not vary according to specialty types, except that CSs in medical specialties favored direct supervision for *writing discharge prescription* and *coordination of patient discharges* compared to their surgical colleagues (χ² (3)=17.565; p=0.001).

More than 75% of the PGY-1s reported having performed six of the nine EPAs as a medical student (see Table 1, last column). PGY-1s did not report performing the EPAs with less supervision if they had previously performed it as a medical student (p>0.013 using a Holm-Bonferroni correction). Half of the PGY-1s (50%) reported not having *recognized and initially managed a critically-ill patient* (even with supervision) as medical students but one in five PGY-1s (20%) reported having done so without supervision during the night the first time they performed it as a resident. About half of the PGY-1s (52%) reported *obtaining advanced directives* without supervision the first time they did this as a resident. Finally, a third of the PGY-1s (33%) reported never having *obtained advanced directives* as a medical student, or having *obtaining informed consent* and *writing a discharge prescription*. The PGY-1s would have preferred more supervision for *managing critically ill patients* at night (38%), *obtaining informed consent* during the day (21%), and *obtaining advanced directives* during the daytime and at night (26% and 29% respectively).
IV. DISCUSSION AND CONCLUSIONS

Entrustment is a collective activity wherein CSs and residents must understand each other’s role and expectations in granting independence to trainees in assuming clinical responsibilities (Jones et al., 2011). In our study, CSs expected a higher level of supervision than PGY-1s reported receiving. This gap was most frequent when activities were performed at night, but unrelated to residents’ experience during medical school. In addition, up to a third of the PGY-1s reported wanting more supervision than they received for 3 EPAs, that is, recognizing and initiating the management of critically-ill patients, obtaining informed consent, and obtaining advanced directives.

The EPAs in this study provide a basis for determining and analyzing the gaps between CS expectations and PGY-1 reported clinical activities occurring during the initial transition from medical school to residency. Newly arrived residents are immediately immersed in a work-place based learning setting with a new set of expectations and responsibilities. In this environment, residents should be given responsibilities commensurate with their abilities and should receive appropriate levels of supervision. There is a tacit need for CSs to ‘watch closely but at a distance’ and for residents to have the supervision they require for learning (Babbott, 2010). A mismatch of expectations between residents and CSs regarding levels of supervision could lead to miscommunication related to patient care, that can result in a breech in patient care, and may also lead to a missed opportunity of supervisor input for appropriate learning (Phitayakorn, 2007).

The gaps identified in this study may have occurred because certain EPAs had different meanings for different groups. For instance, CSs may interpret managing intravenous fluid as encompassing complex fluid management of a patient with diabetic ketoacidosis whereas PGY-1s may interpret it as deciding the rate to start maintenance fluid. Other discrepancies may have occurred when dealing with a clinical situation happening at a time when supervision was not readily available, for example recognizing and initiating management of a critically ill patient may have required immediate attention without time to inform a supervisor of one’s action but may have resulted in a discussion after the fact.
The differences in expectations between CSs and residents for many of the EPAs in the present study, especially during nighttime, may also stem from the hidden curriculum. An important part of early residency training is socialization and identity formation. Kennedy et al. (2009) reported how residents are motivated to act independently as they take on the role and identity of a doctor. This motivation may implicitly drive them to perform activities with less supervision than expected. In addition, CSs may inadvertently promote residents’ precipitated efforts to act independently by telling “in my day” stories when expectations regarding independence were different.

Minimizing the differences in expectations regarding supervision in the first months of residency is important to minimize the risk of impeding residents’ learning and compromising patient safety. Curricular changes and assessment methods could be used to resolve these discrepancies. For example, Lypson et al. (2004) used an objective structured clinical examination to assess PGY-1s’ preparedness for residency. The examination addressed issues such as the ability to make differential diagnoses, cross-cultural communication, and ability to obtain informed consent. They identified a gap between the residents’ knowledge and skills and their ability to function at the level expected by program directors. Their study highlighted how residents are assumed to possess skills that they may not have acquired yet and thus identified critical learning needs. Other studies have examined pre-internship training as ways of preparing new PGY-1s for their upcoming role (Byrne et al., 2012; Fernandez et al., 2012; Cohen et al., 2013). Although these studies focused mostly on technical skills, not EPAs, they do illustrate how our results could be used to define program goals, develop assessment tools, and highlight individual learning needs for new PGY-1s. Similarly, the EPAs defined in our study could be used to build a blueprint for future curricular and assessment development.

The EPAs in this study were developed locally and then ratified nationally. Others have defined similar activities, such as patient handovers, admissions, and discharges, with comparable entrustment expectations (Boyce et al., 2011; ten Cate and Young, 2012). All the EPAs in our study, except for one, were performed by the majority of the PGY-1s, indicating that these EPAs were relevant for this study of incoming PGY-1s. The EPAs in our study are likely applicable to PGY-1s in other settings. However, a
selection bias may have occurred because of the moderate resident response rate and the higher rate responses by women residents. As we were unable to determine the baseline gender ratio for CSs, response bias may be present as well. Also, the EPAs in the survey were not described as goals and objectives to be attained as suggested by ten Cate (2013) but were simply named activities such as managing intravenous fluids. Because of the short-hand descriptions of the EPAs in our study, individual CSs and PGY-1s may have had varying personal interpretations of what each EPA meant.

In summary, it was possible to define inpatient-care EPAs that all new PGY-1 residents, regardless of specialty, are expected to perform. Based on the gaps identified between CSs expectations and PGY-1s reported experiences, EPAs may provide a more holistic and practical description of clinical tasks than traditional educational objectives and milestones expected of PGY-1s during early residency. The gaps identified also draw attention to the need for a better alignment between CSs’ expectations and PGY-1s’ understanding of their roles and responsibilities at the very beginning, and throughout, residency.
V. REFERENCES


VI. VITA

CLAIRE TOUCHIE
MDCM, FRCPC

**Offices**
The Ottawa Hospital, General Campus  
Department of Medicine  
Division of General Internal Medicine and Infectious Diseases  
CPCR 2125 – Box 209  
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Medial Council of Canada  
2283 St-Laurent Blvd.  
Suite 100  
OTTAWA ON  
K1G 5A2  
Tel: 613-521-6012 ext. 2543  
Email: ctouchie@mcc.ca

**Languages**
Fluent in English and French, spoken and written

**EDUCATION**

2009-present  
*Master’s in Health Professions Education* (in progress), University of Illinois at Chicago

1993-1996  
*Fellowship in Infectious Diseases and Medical Microbiology*, Dalhousie University

1990-1993  
*Resident in Internal Medicine*, Royal Victoria Hospital / McGill University

1986-1990  
*Doctorate of Medicine, MDCM*, McGill University

1983-1986  
*B. Sc. With Major in Anatomical Sciences*, McGill University

**CERTIFICATION**

1996  
*Infectious Diseases*, Royal College of Physicians and Surgeons of Canada

1996  
*Medical Microbiology*, Royal College of Physicians and Surgeons of Canada

1994  
*Internal Medicine*, Royal College of Physicians and Surgeons of Canada
**CLINICAL WORK EXPERIENCE**

2008-present  **Associate Professor**, Divisions of General Internal Medicine and Infectious Diseases, University of Ottawa, Ottawa, Ontario

2000-2008  **Assistant Professor**, Divisions of General Internal Medicine and Infectious Diseases, University of Ottawa, Ottawa, Ontario

1996-2000  **Hospital GFT/University VPT, Assistant Professor**, Divisions of General Medicine and Infectious Diseases, Dalhousie University, Halifax, Nova Scotia

1996-2000  **Consultant Staff**, Division of Microbiology, Dalhousie University, Halifax, Nova Scotia

1997-2000  **Consulting Medical Staff**, Department of Obstetrics and Gynecology, Adult Internal Medicine and Infectious Diseases, IWK-Grace Health Centre, Halifax, Nova Scotia

1994-1997  **Attending Physician**, Sexually Transmitted Disease Clinic, Victoria General Hospital, Halifax, Nova Scotia

**PROFESSIONAL ACTIVITIES**

Jan. 2013- present  **Medical Education Mentor**, Department of Medicine, University of Ottawa

Jan. 2012- present  **Chief Medical Education Advisor**, Medical Council of Canada

Dec. 2011- present  **Senior Research Associate**, Academy for Innovation in Medical Education (AIME), University of Ottawa

Feb. 2010-Dec. 2011  **Vice-Chair, Education**, Department of Medicine, University of Ottawa

Jan. 2003-Dec. 2011  **Vice-Chair of the Central Examination Committee**, Medical Council of Canada

Feb. 2007-Jan. 2010  **Program Director**, PGY4 General Internal Medicine, Department of Medicine, University of Ottawa

Jan. 2007-Sept. 2008  **Resident Objective Structured Clinical Examination (OSCE) Coordinator**, Department of Medicine, University of Ottawa

2006-2008  **Liaison Member for the Central Examination Committee**, Australia Medical Council/Medical Council of Canada Joint Evaluation Examination Development team, Medical Council of Canada

2003-2006  **Chair of the Evaluation Examination Composite Committee**, Medical Council of Canada
2002  **Chief Examiner**, Medical Council of Canada Qualifying Examination part II, University of Ottawa.

2002  **Consultant**, Royal College of Physicians and Surgeons of Canada

2001-2010  **Examination Board Member**, Internal Medicine Certification Examination, Royal College of Physicians and Surgeons of Canada


1998-2002  **Medicine Test Committee Member**, Medical Council of Canada

1998-1999  **Associate Program Director**, Core Internal Medicine Residency Training Program, Department of Medicine, Dalhousie University

1998  **Chief Examiner**, Medical Council of Canada Qualifying Examination part II, Dalhousie University

**COMMITTEES**

2013-present  Canadian Medical Association Committee on Education and Professional Development – observer

2013-present  2015 Canadian Conference on Medical Education Scientific Program Committee

2012-present  International Collaboration on Competency-Based Medical Education

2012-present  Medical Council of Canada Medical Education Assessment Advisory Committee

2011-present  2014 Ottawa Conference on the Assessment of Competence in Medicine/Canadian Conference on Medical Education Scientific Program Oversight Committee

2011-present  Medical Council of Canada Technical Advisory Committee

2011-present  Canadian Association for Medical Education Principles of Assessment across the Continuum of Clinical Competence course Working Group, Lead

2011  University of Ottawa Faculty of Medicine, Undergraduate Curriculum Committee, non-voting member

2010-present  Canadian Leadership Institute for Medical Education (CLIME) Course Organizing Committee, member

2010-2012  Department of Medicine Promotion Committee, member

2010-2011  University of Ottawa Faculty of Medicine, Faculty Council, member

2010-2011  Department of Medicine Executive Committee, member
2010-2011 Department of Medicine Education Executive Committee, chair
2010-2011 Department of Medicine Education Advisory Committee, chair
2009-2011 Medical Council of Canada Examination Review Task Force, member
2009-present University of Ottawa Annual AIME Research Day Committee, member
2008-present Canadian Association for Medical Education, Board of Directors, Member.
2008-2009 University of Ottawa 2nd Annual AIME Research Day Committee, Chair
2008-2010 Internal Medicine Specialty Committee, Royal College of Physicians and Surgeons of Canada, observer
2007-2010 GIM Program Directors Committee, Canadian Society of Internal Medicine, member
2005-2009 Better Prescribing Course Program Committee, member
2003-2004 Working Group on Women’s Health Education, member
2002-2006 Ontario HIV Post-Exposure Prophylaxis Advisory Committee, member
2001-2006 Co-chair, Division of General Internal Medicine series “Club Med”
2001-2003 The University of Ottawa Faculty Career Development Implementation Team, member
2001-2010 Division of General Medicine Finance Committee, Recording secretary
2001-2006 Community-Acquired Pneumonia Care Pathway Implementation Team, TOH
2000-2010 Ottawa Hospital Antimicrobial Subcommittee
2000-2002 Ottawa Hospital Pharmacy and Therapeutics Committee
1998 Dalhousie University, Department of Medicine Medical Grand Rounds Committee
1998-1999 Dalhousie University, Faculty of Medicine Postgraduate Medical Education Committee
1998-1999 Pneumonia Clinical Pathway, Queen Elizabeth II HSC, Team Leader
1997-1999 Dalhousie University, Core Internal Medicine Residency Training Committee
1997-1998 Department of Medicine Nephrology Survey Committee.
1997-1999 Department of Medicine Professional Appraisal Committee
1997-1998 Dalhousie University, Department of Medicine Undergraduate Medical Education Committee

1996-1999 Queen Elizabeth II HSC Pharmacy and Therapeutics Committee

1996-1999 Annual Dalhousie Refresher Course Committee

1996-1999 Dalhousie University, Infectious Diseases and Medical Microbiology Residency Training Committee

**GRANTS (PEER REVIEWED)**

2013 Medical Council of Canada, Research in Clinical Assessment Grant
Can a first impression change within the context of an OSCE station?
$31,578

2013 Department of Medicine Education Grants
The True Impact of Patients and Workplace Related Barriers on Bedside Teaching
C. Touchie, Melissa Rousseau, T.J. Wood
$13,640.00

2013 Department of Medicine Education Grants
Progress Testing – is there a role for the OSCE
D. Pugh, C. Touchie, S. Humphrey-Murto, T.J. Wood
$9,300.00

2012 Department of Medicine Education Grants
The Accuracy of First Impression Ratings in an OSCE station
$25,000.00

2012 Department of Medicine Education Grants
S. Humphrey-Murto, C. Touchie, D. Pugh, J. Chan, I. Desjardins, T.J. Wood
$24,908.00

2011 Department of Medicine Education Grants
Designing a new Objective Structured Clinical Examination (OSCE) station to assess the Health Advocate role.
Isabelle Desjardins, Claire Touchie, Debra Pugh, Sue Humphrey-Murto
$6,435.00.

2011 Department of Medicine Education Grants
Proof of Concept: Effect of feedback in the Objective Structured Clinical Examination (OSCE)
Marika Armstrong, Claire Touchie, Debra Pugh, Tim Wood, Sue Humphrey-Murto
$3,250.00.

2011
Department of Medicine Education Grants
Development of a Feedback Rating Scale.
Samantha Halman, Sue Humphrey-Murto, Tim Wood, Nancy Dudek, Deb Pugh, Claire Touchie
$9,495.00

2010
Department of Medicine Education Grant
A Feasibility Study Evaluating the Use of eLearning to Support Quality Improvement Initiatives
Alan Forster, Paul Hendry, Kathryn Suh, Claire Touchie, Stan Hamstra, Daniel Trottier, Catherine Code
$24,875.00
Involvement: study design, grant editing

2010
AIME Education Research Grant and Department of Medicine Medical Education Grant
Constructed-response versus selected-response formats-exploring cueing and effect on scores
Isabelle Desjardins, Susan Humphrey-Murto, Debra Pugh, Claire Touchie
$4,332.00

2010
AIME Education Research Grant and Department of Medicine Medical Education Grant
A Procedural Skills OSCE to Assess Multiple CanMEDS Roles, Debra Pugh, Claire Touchie, Sue Humphrey-Murto
$30,500

2009
Educational Initiatives in Residency Education, Postgraduate Medical Education, University of Ottawa
Competency-Based Training: A Procedural Skills OSCE for Internal Medicine Residents
Debra Pugh, Claire Touchie, Susan Humphrey-Murto
$12,000.00
Involvement: Proposal review, budget development

2008
Medical Education Research/Medical Innovation Project Grant, Department of Medicine, University of Ottawa
Teaching and Testing Procedural Skills – Survey of Canadian Internal Medicine Program Directors and Residents
Debra Pugh, Claire Touchie, Cathy Code, Susan Humphrey-Murto
$3,320.00
Involvement: Proposal review, budget development

2007
Educational Initiatives in Residency Education Fund, University of Ottawa
Ongoing Technical Skills Assessment in Internal Medicine.
Susan Humphrey-Murto, Claire Touchie, Debra Pugh
$11,295.00
Involvement: Background topic review, proposal review, budget development

2007
Centre for Patient Safety Implementation Grant, The Ottawa Hospital
Why are Physicians Hands Off about Hand Hygiene? Improving Physician Compliance with Hand Hygiene at The Ottawa Hospital.
Kathryn Suh, Virginia Roth, Jim Worthington, Greg Rose, Josée Shymanski, Natalie Bruce, Alan Karovitch, **Claire Touchie**
$10,355.00
Involvement: Critical review and suggestions

2006-2007
Medical Education Research Grant, Royal College of Physicians and Surgeons of Canada
Assessment of Technical Skills in Internal Medicine Trainees.
Marty Friedlich, **Claire Touchie**, Susan Humphrey-Murto, Tim Wood
$10,000.00
Involvement: Background topic review, protocol writing, method development and budget development

2005
TOHAMO Academic Enrichment Fund
Resident Evaluations: The use of encounter cards in ambulatory care.
Sue Humphrey-Murto, Erin Keely, Stephanie Hoar, **Claire Touchie**, Yolanta Karpinski, Heather Lochnan, Tim Wood.
$12,000.00
Involvement: Critical review and suggestions

2003-2005
Medical Education Research Grant, Royal College of Physicians and Surgeons of Canada
The Structured Oral Examination: A Comparison of Reliability of Rater Pairs. **Claire Touchie**, Sue Humphrey-Murto, and Tim Wood
$31,050.00
Involvement: Background topic review, protocol writing, method development and budget development

**GRANTS (NON-PEER REVIEWED)**

2007
Research and Curriculum Innovation, Department of Medicine, University of Ottawa
Assessment of Technical Skills in Internal Medicine Trainees. **Claire Touchie**, Marty Friedlich, Susan Humphrey-Murto, Tim Wood
$7,981.98

**RESEARCH ETHICS CERTIFICATIONS**

2013
Division 5 Food and Drugs Regulation, Health Canada (March 20, 2013)

2012
CITI Collaborative Institutional Training Initiative – Refresher Course (UIC, June 25, 2012)

2012
CITI Collaborative Institutional Training Initiative – Canada GCP Curriculum (OHRI, June 17, 2012)

2010 University of Illinois at Chicago (UIC) Independent Review Board Certification (July 2010)

2010 OHRI Good Clinical Practice Course

**AWARDS (PEER REVIEWED)**

2012 Nominated for the **TOHAMO Professionalism Award**
The Ottawa Hospital

2011 **Department of Medicine Vision Award**
University of Ottawa, Department of Medicine

2008-2012 **Medical Education Career Award**
University of Ottawa, Department of Medicine ($60,000.00 per annum)

2008 **W. Dale Dauphinee Fellowship**
Medical Council of Canada ($25,000.00)

2008 Nominated for the **2008 PAIRO Excellence in Clinical Teaching Awards**
Professional Association of Internes and Residents of Ontario (PAIRO).

2007 Nominated for the **Resident’s Choice Clinical Teaching Award**
University of Ottawa, Department of Medicine.

2005 Class of 2005 **Certificate of Appreciation**
University of Ottawa, Faculty of Medicine.

2004-2007 **Medical Education Career Award**
University of Ottawa, Department of Medicine ($40,000.00 per annum)

2003 **First Annual Women’s Health Teaching Award**
University of Ottawa

1998-1999 **Excellence in Undergraduate Teaching Award**
Dalhousie University, Department of Medicine (awarded yearly)

1997-1999 **Excellence in Postgraduate Teaching Award**
Dalhousie University, Department of Medicine (awarded yearly)

1996 **Basic Science Poster Presentation Award**
Dalhousie University, Department of Medicine Research Days

1994 **American Society of Microbiology Sustaining Member Travel Grant** – Awarded to residents demonstrating excellence in microbiology research.

PEER REVIEWED PUBLICATIONS

Submitted


Accepted


Published


INVITED ARTICLES


TEXTBOOK CHAPTERS


BOOKLET


REVIEW BOARDS

Grants

2010 - 2011 Academy for Innovation in Medical Education (AIME) grants University of Ottawa, Faculty of Medicine Internal Reviewer of medical education grants

2010 CHEO Research Institute Internal Funding Competition 2010 Children’s Hospital of Eastern Ontario External reviewer of submitted grants

2008 Department of Medicine Medical Education Research/Medical Innovation Project Grants, University of Ottawa Hospital Internal Reviewer of medical education grants

2007 Medical Council of Canada Research Fund External reviewer of submitted grants

Conference Abstracts

2012 2012 Simulation Summit External reviewer of submitted abstract

2008-2013 Canadian Conference on Medical Education External reviewer of submitted abstracts

Journals

2011 Advances in Health Sciences Education Review scientific merit of submitted articles on an occasional basis

2010-2013 Medical Education Review scientific merit of submitted articles on an occasional basis

2007 Canadian Journal of Infectious Diseases and Medical Microbiology Review scientific merit of submitted articles on an occasional basis
**MEDICAL EDUCATION MENTORSHIP/SUPERVISION**

Students, Residents and other learners:

**July-August 2011**  
Amanda Soto (MCC intern, Boston U.)  
**Literature Review:**  

**July 2011-June 2013**  
Jennifer Holyoke (resident, uOttawa)  
**Review of Literature:**  
Program Evaluation of a Medicine Clerkship: Academic versus Community Centres; Assessment of the Manager and Collaborator CanMEDS roles.  
**Project:**  
Program Evaluation of a Medicine Clerkship: Academic versus Community Centres

**July-December 2011**  
Katie Giles (resident, uOttawa)  
**Project:**  
Developing a model for restricted duty hours in the Internal Medicine Program

**2010-present**  
Marika Armstrong (resident, uOttawa)  
**Project:**  
 Proof of Concept: Effect of feedback in the Objective Structured Clinical Examination (OSCE)

**2010-June 2012**  
Samantha Halman (resident, uOttawa)  
**Project:**  
Development of a Feedback Rating Scale

**2009-2011**  
Isabelle Desjardins (resident and staff, uOttawa)  
**Project 1:**  
The Impact of Cueing Compared to Test Learning  
**Project 2:**  
Designing a new Objective Structured Clinical Examination (OSCE) station to assess the Health Advocate role.

**Mentorship of Medical Educators:**

2013  
Nadine Gauthier (cardiology)

2013  
Melissa Rousseau (GIM)

2012-2013  
Samantha Halman (GIM)

2011-2013  
Isabelle Desjardins (GIM)

2011-2013  
James Chan (GIM)

2008-2012  
Debra Pugh (GIM)
PUBLISHED ABSTRACTS


ABSTRACTS/ORAL PRESENTATIONS

C. Touchie, A. De Champlain, D. Pugh, S. Downing, G. Bordage. Supervising New PGY-1 Residents: Faculty Expectations vs. Resident Perceptions – A Case Study. Presented at the AIME Medical Education Day 2013, Ottawa, ON, April 2013

J. Holyoke, M. Forgie, J.J. Leddy, C. Touchie. Program Evaluation of a Community vs. Tertiary Care Internal Medicine Clerkship. Presented at the AIME Medical Education Day 2013, Ottawa, ON, April 2013


C. Touchie, E. Colson, H. McLauchlan, A. Pandya, B. Robin. How MHPE Students Create a Work/Life

S. Halman, D. Pugh, T. Wood, C. Touchie, Sue Humphrey-Murto. Are we really measuring communication skills in the OSCE? Oral presentation, Resident Research Day, Department of Medicine, University of Ottawa 2010


D. Pugh, C. Touchie, S. Humphrey-Murto. Constructed-Response vs. Selected-Response, Do students change their Answers Based on Format? Presented at Research in Medical Education (RIME/AAMC), Boston, Massachusetts, November 2009


C. Touchie and S. Humphrey-Murto, M. Ainslie, K. Myers and T.J. Wood. Two Models of Examiners in
a Structured Oral Examination: Does it Make a Difference? Presented at Research in Medical Education (RIME/AAMC), Seattle WA, October 2006


S. Humphrey-Murto, **C. Touchie**, S. Smee and T.J. Wood. Extended Match compared to Short Answer formats in the written portion of an OSCE. Presented at the Canadian Association for Medical Education Annual Meeting, Saskatoon, May 2005.


S. Humphrey-Murto, D.C. Smith, **C. Touchie** and T.J. Wood. Teaching the Musculoskeletal Examination: Are Patient Educators as Effective as Rheumatology Faculty. Presented at Research in Medical Education (RIME/AAMC), Washington DC, November 2003


**ABSTRACTS/POSTER PRESENTATIONS/NATIONAL AND INTERNATIONAL**


R.S. Lee, T. Bennett, A.-P. Boulais, C. Touchie. Professionalism Assessment with Multiple-Choice Questions (MCQs): Believe it or not? Conference for the Association of Medical Educators of Europe, Malaga, Spain, September 2009.


P. Leece, K. Pottie, C. Kendall, C. Touchie and P. Topp. Developing and Implementing a Preventive Care Checklist to Reduce Disparities in Preventive Care for HIV Positive Immigrant Women. XVI International AIDS Conference, Toronto, ON, August 2006

C. Touchie, A. Johnson, D.J.M. Haldane and K.R. Forward. Four-Day Incubation for Detection of Bacterial Blood Cultures Using Bactec® 9240. Presented at the Canadian Association for Clinical Microbiology and Infectious Diseases 65th conjoint meeting in Infectious Diseases, St. John’s, Newfoundland, October 1997.

C. Touchie, G.J. Tyrrell, D.J. Haldane and K.R. Forward. Comparison of ID32 Strep (ID32), API-20 Strep (API) and AMS-Vitek Gram Positive Identification Cards (GPI) for the Identification of Enterococcus Species. Presented at the Canadian Association for Clinical Microbiology and Infectious Diseases 65th conjoint meeting in Infectious Diseases, St. John’s, Newfoundland, October 1997.


C. Touchie, S.H.S. Lee, and K.R. Forward. Hepatitis B: A Quality Assurance Perspective survey from
1990-1993. Presented at the Canadian Association for Clinical Microbiology and Infectious Diseases conjoint meeting on Infectious Diseases, Winnipeg, Manitoba, November 1995.


**INVITED LECTURES AND WORKSHOPS**

2013 **Blueprint Impacts, Challenges and Opportunities**, 101st Annual Meeting of the Medical Council of Canada, Ottawa, Ontario, September 2013 (45 mins. Workshop – 25 participants)


2013 **MCC Blueprint: Building Consensus**, 101st Annual Meeting of the Medical Council of Canada, Ottawa, Ontario, September 2013 (90 mins. Workshop – 100 participants)

2013 **Defining the New MCC Blueprint**, 101st Annual Meeting of the Medical Council of Canada, Ottawa, Ontario, September 2013 (45 mins. Lecture – 100 participants)

2013 **Valorisation des activités et travaux pédagogiques**, Forum international pédagogique de la science de la santé, Montréal, Québec, May 2013 (90 mins. Workshop – 16 participants)

2013 **Validité : Documenter la qualité de vos évaluations**, Canadian Conference on Medical Education, Québec City, Québec, April 2013 (3 hour pre-conference workshop – 5 participants)

2013 **Giving Effective Feedback**, Health Educator Scholars Program, University of Ottawa, March 2013 (2 hour workshop – 15 participants)

2013 **Reconciliation of PGY-1 Supervision using Entrustable Professional Activities: Implications for the Future**, Department of Medicine Grand Rounds, University of Ottawa, March 2013 (1 hour lecture – 30 participants)

2013 **Habits of Successful Medical Education Scholars: What Every Medical Educator Should Know**, Faculty Development workshop, University of Ottawa, February 2013 (2 hours workshop – 8 participants)

2013 **Scholarship in Medical Education: Making the Most of What We Do**, Canadian Leadership Institute for Medical Education, Ottawa, Ontario, February 2013 (3 hour workshop – 48 participants)

2013 **Blueprinting and Choosing appropriate Tools for Assessment of Student Performance: Integrating a Curriculum**, Medical Council of Canada Centennial Workshop, University
of Saskatchewan, Saskatoon, January 2013 (3 hour workshop – 30 participants)

2013  
**Assessment of Clinical Decision making: Using a Key-featured Approach**, Medical Council of Canada Centennial Workshop, University of Saskatchewan, Saskatoon, January 2013 (3 hour workshop – 30 participants)

2013  
**MCQs: Writing, Reviewing and Assessing Quality Items**, Health Educator Scholars Program, University of Ottawa, January 2013 (2 hour workshop – 15 participants)

2012  
**Multiple-Choice Item Development Workshop**, Department of Pediatrics, University of Ottawa, October 2012 (full-day workshop – 10 participants)

2012  
**The Development of Multiple-Choice Questions using the Key-features Approach**, Medical Council of Canada Centennial Workshop, McGill University, Montreal, QC, September 2012 (3 hour workshop - ~40 participants)

2012  
**Évaluation des compétences cliniques: Évaluer la validité des résultats**, Association of Medical Education in Europe/Société internationale francophone d’éducation médicale, Lyon, France, August 2012 (1h45min workshop - 19 participants)

2012  
**Blueprinting and Choosing Appropriate tools for Assessment of Student Performance: A Start to the Charting of the C’s**, Medical Council of Canada Centennial Workshop, Dalhousie University Faculty of Medicine Summer Institute, Charting the Seven C’s: Advancing Education through Assessment. Halifax, NS, June 2012 (3 hour workshop – 60 participants)

2012  
**The Art of Writing Good Multiple-Choice Questions for High-Stakes Exams**, Medical Council of Canada Centennial Workshop, Northern Ontario School of Medicine, Thunder Bay (videoconferenced to Sudbury), Ontario, May 2012 (3 hour workshop – 25 participants)

2012  
**Giving Feedback: Moving Beyond the Sandwich**, University of Ottawa Faculty of Medicine New Staff Orientation Day, March and Sept. 2012 (1 hour workshop each time – total participants: 50)

2012  

2011  
**GEA/GSA Small Group Discussion: Habits of Successful Medical Education Scholars - What every medical educationalist should know**, American Association of Medical Colleges Annual Meeting, Denver, CO, November 2011 (90 minute workshop - participants: ~100)

2011  
**Giving Feedback: Moving Beyond the Sandwich**, Department of Medicine Postgraduate Lecture series (2 hour workshop - participants: 16)

2011  
**Hyperglycemia That Unravels Into Spontaneous Tumour Lysis Syndrome**, Department of Medicine Grand Rounds (participants: ~50)

2011  
**Developing Clinical Decision Making Questions: A Key Feature Approach**, Undergraduate Medical Education Working Group, Canadian Society of Otolaryngology,
Head and Neck Surgery (2 hour workshop - participants: 25)

2011 Giving Feedback: Moving Beyond the Sandwich, Faculty of Medicine New Staff Orientation Day (1 hour workshop - participants: 25)

2011 Scholarship in Medical Education: Making the Most of What We Do. Faculty Development, Canadian Leadership Institute for Medical Education, Ottawa (participants: 46)

2010 HIV infection in Women. HIV Interest Group. University of Ottawa, Ottawa (participants: 60)

2010 Giving Feedback: Moving Beyond the Sandwich, Department of Medicine Grand Rounds, University of Ottawa, (participants: ~100)

2010 Research in Medical Education, Faculty Development Workshop, International Conference on Resident Education, Ottawa (participants: 36)

2010 Giving Feedback: Moving Toward Improved Observational Assessments, Faculty Development, University of Illinois at Chicago, Chicago (participants: 24)

2010 Giving Feedback: How to say what you mean to say! Faculty Development Workshop, University of Ottawa (participants: 12)


2009 Tough Situations: An Approach to Providing Feedback, Workshop for Internal Medicine Residents, University of Ottawa. (participants: 18)

2009 Using a Key Features’ Approach for the Development of Clinical Decision Making Questions, Faculty of Medicine, University of Ottawa

2008 Common Therapeutic Interactions, The Better Prescribing Course, University of Ottawa

2008 AAMC/RIME Highlights. AIME Rounds. University of Ottawa

2008 HIV: A Primer for Physiotherapists, Division of Physiotherapy, The Ottawa Hospital Rehabilitation Centre

2007 Teaching at the Bedside: Managing the Variability in Learner Experience and Teaching Environment, The Challenges of teaching at the Faculty of Medicine Annual Faculty Development ½ Day University of Ottawa, Department of Medicine.


2006 Problem Employees – An Approach to providing feedback 6th OAHSLP, University of Ottawa Leadership Program, Department of Medicine

2006 HIV: A Primer for Primary Care, Department of Family Medicine Grand Rounds
2006  Care of women with HIV, Department of Family Medicine lecture series, The Ottawa Hospital

2005  C. difficile Associated Diarrhea “CDAD”, Department of Medicine, General Medicine Rounds, The Ottawa Hospital

2005  Effective Feedback Workshop, Faculty Development Full-Day, Faculty of Medicine, University of Ottawa

2005  Multiple-Choice Question Development Workshop, Faculty of Medicine, University of Ottawa (Sponsored by the Medical Council of Canada)

2005  Chasing Zebras, Internal Medicine Day, University of Ottawa

2004  Multiple-Choice Question Development Workshop, Faculty of Medicine, McMaster University (Sponsored by the Medical Council of Canada)

2003  Penicillins VS Fluoroquinolones: The Old and the New; Better Prescribing Practices, University of Ottawa

2003  Pneumonia: An Update 2003, Pembroke Regional Hospital (Sponsored by Janssen-Ortho Inc.)

2003  Medical Student to Fellow: Dealing with Multiple Learners at Varying Levels, Half-Day Faculty Development Workshop on Clinical Teaching Skills, University of Ottawa

2002  Pneumonia Clinical Pathway: The Ottawa Hospital Department of Family Medicine (Civic Campus), The University of Ottawa

2002  Giving and Receiving Feedback: A Workshop for Post-Graduate Clinical Supervisors, The University of Ottawa

2001  Teaching Clinical Skills The 2nd Annual Faculty Development Day, Faculty of Medicine, Continuing Medical Education, The University of Ottawa

2001  Update on Acute Exacerbation of COPD Club Med, Division of General Internal Medicine Lecture Series

2001  Doc, there’s a bug in my pregnancy! What should I do? Dalhousie Internal Medicine Residents Annual Retreat, White Point Beach Lodge, Nova Scotia

2000  The Capital, Study: A Controlled Trial of a Critical Pathway for Treatment of Community-acquired Pneumonia, Ottawa (Sponsored by Janssen-Ortho Inc.)

2000  Teach While You Work: Bedside, O.R. or Clinic, The 1st Annual Faculty Development Day, Faculty of Medicine, Continuing Medical Education, The University of Ottawa

1999  A 1999 Update on Influenza, General Medicine, “Talking to Ourselves” series, Queen Elizabeth II Health Sciences Center, Dalhousie University

1999  The Pneumonia Clinical Pathway: Does it Make a Difference? Family Medicine, Society of Nova Scotia Annual Meeting, Inverary Inn, Baddeck, Nova Scotia


1999  Pneumonia - New Therapeutic Options: A Ketolide and An Everninomycin, Infectious Diseases Supper Club

1999  Cytokines and Chemokines: An Update, Emerging Pathogens Lecture Series, Division of Infectious Diseases

1999  The Pneumonia Clinical Pathway, Family Medicine Grand Rounds, QEII HSC, Dalhousie University

1998  Pneumonia, An Update, Colchester Regional Hospital, Truro, Nova Scotia (Sponsored by Janssen-Ortho.)

1998  The Clinical Microbiology Lab in the 90's - A Molecular Era, Department of Veterans Affairs, North Texas Health Care System in Halifax, Nova Scotia (Organized by Dr. J.W. Smith)

1998  Basic Immunology, Preceptorship for AMGEN CANADA Inc., Halifax, Nova Scotia

1998  β-lactamases, Emerging Pathogens Lecture Series, Division of Infectious Diseases

1998  COPD and Antibiotics, Halifax, Nova Scotia (Sponsored by Bayers Inc.)

1998  An Update on Community-acquired Pneumonia, Halifax, Nova Scotia (Sponsored by Pfizer)

1998  The Art of Clinical Examination, Department of Medicine Academic Half Day, Dalhousie University

1998  Teaching the Teachers: Survival Skills, Workshop for Physicians, Department of Medicine, Dalhousie University

1997  Stenotrophomonas at the QEII: Why so Much? Infectious Diseases Supper Club, Dalhousie University

1997  Methicillin-Resistant Staphylococcus aureus, Medicine Grand Rounds, Department of Medicine, Dalhousie University

1997  Antibiotic Resistance - Clinical Day on Therapeutics and Infectious Disease, The
1997  **Opportunistic Infections in HIV, Clinical Day on Therapeutics and Infectious Disease,**
The Medical Society of Prince Edward Island, Charlottetown

1997  **Sepsis,** Department of Medicine Academic Half Day, Dalhousie University

1996  **Vancomycin-Resistant Enterococci,** Infectious Diseases Supper Club, Dalhousie University

**CONTINUING PROFESSIONAL DEVELOPMENT – LEADERSHIP DEVELOPMENT**

2012  **Strategic Planning – Physician Management Institute (Advanced Level)**
      2.5 days

2011  **Dollars and Sense – Physician Management Institute (Advanced Level)**
      2.5 days

2009  **Canadian Leadership Institute for Medical Education (CLIME)**
      4 days