# The CanMeds Role of Collaborator: How Well is it Taught and Assessed According to Faculty and Residents

BY

ELIZABETH BERGER
B.A., Tufts University, 1999
M.D., University of Toronto, 2004

THESIS

Submitted as partial fulfillment of the requirements
for the degree of Master of Health Professions Education
in the Graduate College of the
University of Illinois at Chicago, 2012

Chicago, Illinois

Defense Committee:

Ilene Harris, Chair and Advisor, Department of Medical Education
Carol Kamin, Department of Medical Education
Mathieu Albert, University of Toronto
Ayelet Kuper, University of Toronto

## ACKNOWLEDGMENTS

I would like to thank my co-investigators, Dr. Ming-Ka Chan at The University of Manitoba, Dr. Deirdre Jenkins at The University of Calgary, Dr. Megan Harrison at The University of Ottawa, Drs. Ayelet Kuper and Mathieu Albert at The University of Toronto and Dr. Ilene Harris at The University of Illinois at Chicago. Your dedication and effort over the past three years made this research possible and your advice enhanced the quality of the work.

Kind thanks as well to Melissa Fehr in Winnipeg and Elaine Stasiulis in Toronto for facilitating the focus groups.

Thank you to the program directors and the division heads at each of our four sites for their support of this research study. Their support made it possible for us to recruit the residents and faculty to participate in our focus groups.

Lastly, to my mentors, Dr. Susan Tallett and Dr. Michelle Shouldice, I wish to say that your guidance and advice have been incredibly valuable to me through my fellowship and my Masters Degree Program. Thank you for always setting aside time to speak with me, provide honest and sincere feedback and for always having my best interests in mind.

**TABLE OF CONTENTS**

## SUMMARY

Collaboration is critical for the cohesive functioning of medical teams and for job satisfaction of health care providers. The role of being a collaborator is part of the CanMEDs competencies set out by the Royal College of Physicians and Surgeons of Canada to guide physician training. Our objective in this study was to explore the perspectives of pediatric residents and faculty about how the role of the collaborator is taught and assessed.

We conducted focus groups for residents and faculty at The Universities of Toronto, Ottawa, Manitoba and Calgary. Data were analyzed by a single investigator using constant comparative analysis. Areas which were complex were sent to two other investigators for analysis until a consensus was reached.

Residents report learning about interprofessional collaboration by watching their faculty who modeled collaboration both positively and negatively. However, there was no formal teaching on the role of collaborator. Faculty also did not receive any instruction on how to effectively teach this role. Despite the lack of formal teaching, residents and faculty highly valued the role of collaborator. Our participants identified two main areas in need of improvement: conflict management and intraprofessional collaboration. Curriculum needs to be designed to address these two important areas. Lastly, both groups agreed that current methods to assess residents on their performance as collaborators are suboptimal. Thus, we need to look at innovative methods of assessing residents on this non-medical expert role so that they can receive valuable advice on how to improve their performance and enhance their practice as physicians.

# I. INTRODUCTION

Collaboration is an important aspect of providing comprehensive medical care, avoiding medical error (1) and ensuring job satisfaction among healthcare providers (2-3). The area of collaboration has been highlighted as an area of focus within physician training by The Royal College of Physicians and Surgeons of Canada. They developed the Canadian Medical Education Directives for Specialists (CanMEDs) Roles in 1996 that was subsequently revised in 2005 (4). CanMEDs provides a framework of essential physician competencies for guiding medical education that includes seven areas of competency expected for physicians: medical expert, communicator, collaborator, health advocate, manager, scholar and professional.

Previous studies have focused on the teaching and assessment of the roles of health advocate, communicator and professional (5-7). There are no studies that specifically explore the CanMeds role of collaborator in physician training. There was a study of the purposes and benefits of the collaborator relationship on medical teams from a qualitative perspective (8). In that study, 25 medical residents, 32 staff nurses, 5 physician faculty and 5 nurse faculty wrote narratives about successful collaboration. The study found that practitioners typically entered a care episode feeling worried, uncertain or inadequate and finished the interaction feeling satisfied, understood and grateful to their colleagues. The results of this study are encouraging as the narratives illuminate commonalities in the collaboration experience, regardless of gender, age, experience, or profession. It highlights the importance of collaboration and the positive effect that it can have on the health professional's personal experience while delivering patient care. However, further research is warranted to explore how the role of the collaborator is being taught and assessed in the training of health care professionals. The aim of our study was to

explore the perspectives of pediatric residents and faculty about how the role of the collaborator is taught and assessed.

## II. METHODS

Focus groups for residents and for faculty were conducted at four Canadian pediatric training sites, namely The University of Toronto, The University of Ottawa, The University of Calgary and The University of Manitoba. We chose to use focus groups, rather than another means of data collection such as interviews, because of the synergistic potential that is generated by focus group participants. These four sites were chosen because their size and geographic location were representative of the total 17 programs offering pediatric training across Canada.

We conducted focus groups with general pediatrics residents who were in Years 1-4 of their training and, separately, for pediatric faculty. Faculty were included as long as they spent more than two months per year working clinically with residents. Our goal was to include six-eight participants in each focus group, based on literature which indicates that this number of participants function well in an effective group discussion, with adequate input from each member (9-10). Each group session was audiorecorded and the data was subsequently transcribed.

At each institution, we obtained ethics approval. We then obtained the consent and support of the residency program directors and the chief of pediatrics / pediatric division chief at each hospital site. All participants gave informed consent.

In this study we used a grounded theory approach and the search was conducted using an iterative process of inquiry, alternating inductive cycles of identifying patterns and formulating hypotheses with deductive cycles of hypothesis verification. This constant comparative analysis

was conducted primarily by the principal investigator. Areas which were unclear or complex were sent to two other investigators for review. Then the investigators discussed their analyses until a consensus was reached.

## III. RESULTS

We had one resident focus group and one faculty focus group at each of the four sites, with the exception of Winnipeg where we had two faculty focus groups to accommodate a high level of interest in participation. The resident focus groups included a total of 21 participants: 5 from Toronto, 6 from Winnipeg, 5 from Ottawa and 5 from Calgary. The faculty focus groups included a total of 25 participants: 4 from Toronto, 10 from Winnipeg, 7 from Ottawa and 4 from Calgary. Each focus group was conducted over an hour long time period and was facilitated by a trained research assistant. The research assistant was not a pediatrician and had no previous affiliations with the faculty or the residents. A single research assistant facilitated all four focus groups in Toronto and Ottawa. For logistical reasons, a different research assistant facilitated the two groups in Winnipeg and another research assistant facilitated the two groups in Calgary. Each research assistant was briefed about the project and was given the transcripts from the preceding focus groups to review.

The questions that were asked in the focus groups changed over time due to the iterative process of inquiry. The questions in the resident focus groups were: 1) To what extent is the CanMEDS role of collaborator taught as part of your residency training and how is it taught? 2) To what extent is this role modeled by your staff person and in what ways? 3) What opportunities do you have to serve in the role of collaborator? 4) How important is it to learn about the role of collaborator as part of residency training? 5) Who observes you in this role? 6)

By what methods are you assessed in your performance as a collaborator? 7) Who assesses you and are there others who could offer evaluation or feedback on your performance as a collaborator? 8) How helpful is the assessment to you and how could the assessment be structured so as to be more meaningful and helpful to you? 9) In what ways, if any, have you changed your way of practicing based on feedback or assessments that you received about your performance as a collaborator?

The questions that were asked in the faculty focus groups were: 1) In what ways, if any, do you teach this role to your residents? 2) What type of instruction have you had about teaching the role of the collaborator to residents? 3) How do you model this role for your residents during the course of your work? 4) How important is it to teach the role of collaborator as part of residency training? 5) In what ways do you have the opportunity to witness your residents serving in this role and who else observes the residents in this role? 6) In what ways do you assess residents with regard to their performance as collaborators and how do you feel about your abilities to assess them in this role? 7) How could the assessment be structured so as to be more meaningful for you?

The major themes identified, which will be discussed below in more detail, were: 1) the collaborator role is highly valued but not formally taught; 2) two areas in need of improvement are teaching conflict management and intra-professional collaboration skills; and 3) current methods used to assess residents in this role are poor.

Participants in all eight groups commented about the importance of the collaborator role in their professional lives. It was highly valued and thought to be a critical factor in physician well-being and job satisfaction. As one resident commented:

*"It's also really important for well being at work …when we don't collaborate well that just ends up being misery and really wears you down and I think it's really important to our morale at work to be good collaborators."* (Resident)

Despite the value placed on this role, it was not perceived as being formally taught. Residents said that they did not have any teaching sessions on the role of collaborator and faculty said that they did not have any training in how to teach this role. They commented:

*I can't think of any situation where we've been taught how to be a collaborator"* (Resident)

*"Kind of like in medicine…You learn how to do it and then you teach it. You don't ever learn actually how to teach it*" (Faculty)

However, the general consensus was also that formal teaching would not be a useful or appropriate way for residents to learn this role. It is currently taught mostly through role modeling by faculty for their trainees and most participants thought that this was the best method by which to learn about collaboration. The main suggestions for improvement in teaching and learning the collaborator role were for faculty development in how to model this role and labeling the teaching moment. In other words, residents may not recognize that they are learning about collaboration per se, unless the faculty member talks about the lessons that can be learned in a particular instance within the explicit framework of the CanMEDs role of collaborator.

The second theme focused on two areas of the collaborator in need of further attention, namely, teaching intraprofessional collaboration and conflict management. Residents and faculty agreed that most physicians recognize the importance of working well as an interdisciplinary team on a daily basis. They also perceived that physicians are respectful of other healthcare

disciplines. However, difficulty arises when physician groups disagree with one another about patient care and the dispute escalates, as exemplified in two faculty member comments

> *"The tendency is…when a medical team comes to give a consult…for everyone's blood pressure to go up and to get really upset with advice given and then it becomes this big drama scene*" (Faculty)
>
> *"It's like it's fair game to criticize other doctors from other teams in a way that you would never try to get away with criticizing someone of another profession*" (Faculty)

Faculty thought that learning such skills would be an important part of training in an era of medicine in which there are increasingly more physician subspecialists who need to learn to work well together and to collaborate with the primary care team. Our resident focus group participants indicated that they wanted more teaching on how to improve their intraprofessional collaboration skills.

Within the second theme, the second area in need of improvement was identified as conflict management. Participants indicated that conflicts often take place behind closed doors between faculty members out-of-earshot of the rest of the team. Conflict also arises during nights and weekends when residents are working on their own. This point is made in the following comments by a resident and a faculty member:

> "*There are services who will give you a hassle from calling them in the night. And we haven't had great teaching [about] what to do about that. I am just scared to call now so I am not going to call if I can avoid it*" (Resident)
>
> *"If you conflict with someone…it would be perceived better..not to have your resident there. They would be like, 'How dare you talk to me like that in front of so and so"*" (Faculty)

Our participants thought that both of these issues need to be addressed in the curriculum so that residents can develop stronger skills in intraprofessional collaboration and conflict management, as these skills are both important components of the collaborator role.

The final theme identified focused on assessment of residents. Despite the fact that assessment methods were not uniform across the four sites, our participants indicated that all of the assessments relied, at least in part, on rating the residents on a numerical scale and were completed electronically. In all of the resident and faculty focus groups, across the board, there was unanimous agreement that the current assessment system is suboptimal. Residents and faculty thought that current methods are inappropriate for assessing a non-medical expert role. The residents discussed at length their desire for sincere and meaningful assessments, but felt that they were not getting the feedback that would help them to improve their practice. As several residents commented:

> *"I think we have decided that [it] is not exactly measurable quantitatively…I think maybe a lot of us are saying that the way that it's evaluated right now is very, very poor."* (Resident)
>
> *"I know that we get formally evaluated but like I said, it doesn't really mean all that much"* (Resident)

Faculty had a desire to provide residents with honest and constructive assessments but indicated that they did not have the format to do so. As one faculty member commented:

> "*So if you have [a] one to five [scale] then you want to put a 3 but they expect you to put them as a 4, and that's actually what I do… I never put them 3 because they get so upset"* (Faculty)

In fact, when faculty actually wanted to let the residents know how they were performing as collaborators, they often relied on informal feedback. They offered this feedback face-to-face and sometimes even "in the moment" which they found to be more meaningful to residents.

## IV. DISCUSSION AND LIMITATIONS

In our study, the residents and faculty highlighted the importance of faculty role modeling as a method of teaching / learning collaborator skills. In a study by Verma et. al on perceptions of the health advocate role, the faculty also reported that they modeled the role of health advocate in their daily work (7). However, the residents thought that they, themselves, were the only ones advocating for their patients and that the faculty had, in fact, given up on advocacy. Both our study and Verma's study demonstrate the need for more faculty development in how to teach and model the CanMeds roles effectively for residents.

Our focus group participants described some areas in need of improvement for teaching and assessing the collaborator role; they also made some constructive suggestions. They emphasized that, since residents are assessed on their skills as a collaborator on a regular basis, this competency needs to be part of the formal curriculum. Currently, it may be part of the hidden curriculum, with faculty modeling collaborative work. However, we need to make this aspect of the curriculum more explicit and part of the formal curriculum. This could be accomplished by labeling the teaching moment, as explained previously. There also needs to be more faculty training in how to effectively model this role so that faculty feel confident in their abilities to teach these skills to their residents. In addition, our participants pointed out that conflict management often takes place behind closed doors. One solution to this problem of observing conflict negotiation skills would be for faculty to hold a debriefing session after a

conflict situation. In this way, the faculty can still resolve conflict one-on-one with another faculty member if that is perceived as the most respectful way to handle the situation. However, after the encounter, the faculty member can sit down with the residents, medical students and the rest of the team to discuss the conflict, how it was resolved, what could have been done better to resolve the conflict and what could have been done to avoid the conflict. Thus residents will learn from the experience and taking the time to debrief will demonstrate the importance that faculty place on learning about collaboration and conflict negotiation.

There was a great deal of discussion about how assessments of the collaborator role could be improved. A study by Wood et al. was designed to develop and test the reliability, validity and feasibility of a 360-degree assessment to measure the performance of radiology residents in the competencies of professionalism and interpersonal/communication skills (8). They found that this method was a valid and reliable assessment of resident competence in these domains. It may also be a relevant and useful way to assess collaborator skills. In fact, some of the residents had been exposed to this method of assessment in medical school and found it to provide meaningful feedback. Overall, the residents in our study wanted face-to-face assessments with specific examples of how they collaborated well or poorly. Faculty seemed desperate to provide accurate and sincere assessments but were frustrated at not having the proper format to do so. Therefore, we need to look at new and innovative ways to assess this non-medical expert role so that both faculty and residents take it seriously and find it beneficial.

There are a few limitations to this study. It was only conducted with the participation of pediatric residents and faculty members. Therefore, the findings may not be applicable to all other medical subspecialties. Participants were voluntary and may therefore represent a group who is more interested in collaboration than the average resident or faculty member. We chose

four sites across Canada in order to collect data that was representative of the training programs that are offered in Canada. However, by only conducting our focus groups at four of the seventeen institutions which offer pediatric residency training programs, we did not capture the opinions and perceptions of residents and faculty at all of the Canadian Programs. In addition we did not obtain the perspectives of other health care professionals who collaborate with us and may participate in teaching and evaluating residents in the collaborator role.

## V. CONCLUSIONS

The role of the collaborator stands out as an important and unique competency because of its effect on the day-to-day lives of physicians and allied health care professionals and its impact on patient care. It is critical to train physicians who are successful collaborators in an era in which "team medicine" and "inter-disciplinary care" are being touted as essential components of medical practice. While teaching students to be collaborators may once have been part of the hidden curriculum, it has fast come to the foreground of medical education. Therefore, we must ensure that residents and faculty perceive that this role is being taught and assessed in ways that are effective. This study contributes to our understanding of the role of the collaborator and how it is currently taught, learned, and assessed. We hope that it may also influence future teaching of residents, faculty development and assessment of this important competency.

## CITED LITERATURE


1) Baldwin DC, Daugherty SR: Interprofessional Conflict and Medical Errors: Results of a National Multi-specialty Survey of Hospital Residents in the US. J Interprof Care. 22: 573-586, 2008.

2) Matheny GL. Money Not Key to Happiness. Physician Exec. 34: 14-15, 2008.

3) Masselink LE, Lee SD, Konrad TR. Workplace Relational Factors and Physicians' Intention to Withdraw from Practice. Health Care Manage Rev. 33: 178-187, 2008.

4) The Royal College of Physicians and Surgeons of Canada. Introduction: A Framework of Essential Physician Competencies, 2005.

5) Verma S, Flynn L and R. Seguin. Faculty's and Residents' Perceptions of Teaching and Evaluation the Role of Health Advocate: A Study at One Canadian University. Acad Med. 80: 103-108, 2005.

6) Wood J, Collins J, Burnside ES, Albanese MA, Propeck PA, Keicz F, Splide JM, Schmaltz LM. Patient, Faculty and Self-Assessment of Radiology Resident Performance: a 360-degree Method of Measuring Professionalism and Interpersonal/Communication Skills. Acad Radiol. 11: 931-939, 2004.

7) Rider E, Volkan K and J Hafler. Pediatric Residents' Perceptions of Communcation Competencies: Implications for Teaching. Med Teach. 30: e208-217, 2008.

8) McGrail KA, Morse DS, Glessner T, Gardner K. "What is Found There": Qualitative Analysis of Physician-Nurse Collaboration Stories. J Gen Intern Med. 24: 198-204, 2009.

9) Kitzinger, J. Qualitative Research: Introducing Focus Groups. BMJ. 311: 299-302, 1995.

10) Powell RA, Single HM. Focus groups. Int J. Qual Health Care. 8: 499-504, 1996.

**VITA**

**NAME: Elizabeth Berger**

**Education**

2008-present **Pediatric Academic Medicine Fellowship Program**
The University of Toronto, The Hospital for Sick Children, Toronto, ON

2008-present **Masters Degree in Health Professions Education**
The University of Illinois at Chicago, Chicago, IL

2009-present **Wilson Centre for Medical Education Fellowship Program**
The University of Toronto, Toronto, ON

2004-2008 **Pediatrics Residency Program**
The University of Toronto, The Hospital for Sick Children, Toronto, ON

2000-2004 **Doctor of Medicine**
Faculty of Medicine, University of Toronto, Toronto, ON
*Graduated with Honors*

1995-1999 **Bachelor of Arts**
Tufts University, Medford, Massachusetts
Major: English literature and writing
*Graduated Magna Cum Laude*

**Employment**

2010-present Pediatrician
The Hospital for Sick Children, Division of Pediatric Emergency Medicine

2010-present Pediatrician
Children's After Hours Clinic, Danforth Site

2010-present Pediatric Locum
Various office locations in Toronto

2001-2001 Research Internship
The Hospital for Sick Children, Division of Endocrinology

1999 – 2000 Research Assistant
Brigham and Women's Hospital, Department of Psychiatry, Boston, MA

1996 – 1999 Research Assistant
Tufts Sackler School of Biomedical Sciences, Department of Immunology, Boston, MA

**VITA Continued**

**Publications**

**E. Berger,** A. Kuper, M. Albert, M. Shouldice. The CanMEDS Portfolio: A Tool for Reflection in a Fellowship Program. *Clinical Teacher*. In press.

**E. Berger**, N. Saunders, A. Khambalia, L. Wang, J. Friedman. Sickle Cell Disease in Children: Osteomyelitis or Vaso-occlusive Crisis. *Archives of Pediatric and Adolescent Medicine.* 163: 251-255, 2009.

N. Saunders, **E. Berger**, L. Wang, J. Friedman. Osteomyelitis In Pediatric Sickle Cell Disease: A Comparison Of Various Imaging Modalities. *Clinical Orthopedics*, Submitted for publication.

**E. Berger**, V. Langlois. Nephrology Chapter. *The HSC Handbook of Pediatrics*, 11th ed. Toronto: Elsevier Canada, 2008.

**E. Berger**, A. Kirton, G. deVeber. Index of Suspicion: Case of Stroke. *Pediatrics in Review*. 28(8): 305-309, 2007.

**E. Berger**, E. Sochett, A. Peirone, A. Parikh, D. Daneman. Cardiac and Vascular Function in Adolescents and Young Adults with Type 1 Diabetes. *Diabetes: Technology & Therapeutics*. 6(2); 129-135, 2004.

A. Aneja, **E. Berger**, N. Lookhong. Obstetrics Chapter, *The Toronto Notes: Review for the MCCQE, 20th Ed.* Toronto Notes Medical Publishing: Toronto, 2004.

**E. Berger**, S. Greenberg. Case Report: Unilateral Laterothoracic Exanthem. *University of Toronto Medical Journal. 80(3), May 2003.*

**E. Berger**, R. Windrim. Case Report: Rhabdomyoma. *University of Toronto Medical Journal. 81(1), December 2003.*

**E. Berger**, K. Hogle. Obstetrics Chapter, *Essentials of Clinical Examination Handbook,* 4th ed. Toronto: University of Toronto Faculty of Medicine, 2002.

T.M. Luby, D. Sigurdardottir, **E.D. Berger**, E. Selsing. Sequences associated with the mouse Smu switch region are important for immunoglobulin heavy chain transgene expression in B cell development. *European Journal of Immunology*. 31(10):2866-75, 2001.

**Research Presentations**

**E. Berger**, A. Kuper, M. Chan, D. Jenkins, M. Harrison, I. Harris. The CanMeds role of Collaborator: How well is it taught and evaluated from the perspectives of faculty and residents. Canadian Conference on Medical Education. Toronto, Ontario, May 2011. (oral presentation)

**E. Berger**, A. Kuper, M. Chan, D. Jenkins, M. Harrison, I. Harris. Collaborator: How well is it taught and evaluated. Medical Education Day at The Hospital for Sick Children, Toronto, Ontario, March 2011. (oral presentation)

**E. Berger,** A. Kuper, M. Albert, M. Shouldice. Trainee and Faculty Perspectives on the Use of a CanMEDS Portfolio in a Pediatric Fellowship Program. International Conference on Residency Education. Ottawa, Ontario, September, 2010. (oral presentation)

**E. Berger,** A. Kuper, M. Albert, M. Shouldice. Trainee and Faculty Perspectives on the Use of a CanMEDS Portfolio in a Pediatric Fellowship Program. Health Professions Education Conference. Chicago, Illinois, July 2010. (oral presentation)

**E. Berger,** M. Albert, A. Kuper, M. Chan, D. Jenkins, I. Harris. The CanMEDs Role of Collaborator: How Well is it Taught and Evaluated from the Perspectives of Faculty and Residents. The Wilson Centre Research Day. Toronto, Ontario, October 2010.

N. Saunders, **E. Berger**, L. Wang, J. Friedman. Osteomyelitis in Pediatric Sickle Cell Disease: A Comparison of Various Imaging Modalities *Pediatric Academic Societies' Annual Meeting*. Honolulu, Hawaii, May, 2008.

N. Saunders, **E. Berger**, L. Wang, J. Friedman. Osteomyelitis in Pediatric Sickle Cell Disease: A Comparison of Various Imaging Modalities *85$^{th}$ Canadian Pediatric Society Conference*. Victoria, British Columbia. June, 2008.

**E. Berger**, N. Saunders, A. Khambalia, J. Friedman. Sickle Cell Disease in Children: Vaso-occlusive Crisis or Osteomyelitis? *Pediatric Academic Societies' Annual Meeting*. Toronto, Ontario. May, 2007.

**E. Berger**, N. Saunders, A. Khambalia, J. Friedman. Sickle Cell Disease in Children: Vaso-occlusive Crisis or Osteomyelitis? *84$^{th}$ Canadian Pediatric Society Conference*. Montreal, Quebec. June, 2007.

**E. Berger**, E. Sochett, A. Parikh, A. Pierone, D. Daneman. Carotid Artery Structure and Function in Young Adults with Type 1 Diabetes. *The American*

**Research Presentations continued**

*Diabetes Association National Meeting, 63rd Scientific Session,* New Orleans, LA. June, 2003. (oral presentation)

D. Daneman, **E. Berger**, A. Parikh, A. Pierone, E. Sochett. Carotid and Cardiac Function in Type 1 Diabetes. *The Annual Meeting of the International Society for Pediatric and Adolescent Diabetes*, St Malo, France. September, 2003.

**E. Berger**. Cardiovascular Function in Adolescents and Young Adults with Type 1 Diabetes. *The Banting & Best Institute*, Toronto, ON. August, 2001. (oral presentation)

**Awards, Honours & Grants**

| | |
|---|---|
| 2010 | Restracomp Studentship Award for $40,000, The Hospital for Sick Children |
| 2009 | Royal College of Physicians and Surgeons, Professional Development Grant |
| 2009 | The Hospital for Sick Children Pediatric Consultants Education Research Grant |
| 2007 | The Hospital for Sick Children, Research Training Centre, Start-up Fund Award |
| 2007 | Pediatric Research Award for a Junior Trainee, The Hospital for Sick Children |
| 2007 | The University of Toronto PAIRO Trust Fund Resident Teaching Award nominee |
| 2005 | Honorable Mention Essay Award, Pediatrics in Review Journal |
| 2001 | Summer Research Scholarship, Faculty of Medicine, University of Toronto |
| 2001 | Banting & Best Student Scholarship, Banting & Best Institute |
| 1999 | Golden Key National Honor Society |
| 1995-1999 | Dean's List, Tufts University |

**Administrative & Teaching Roles**

| | |
|---|---|
| 2010 | Workshop on Portfolios for in Postgraduate Medical Education, The Canadian Conference on Medical Education, Toronto, ON |
| 2010 | Supervisor for The Pediatric Longitudinal Experience, The University of Toronto |
| 2008-2010 | U of T Medical Undergraduate Professionalism Steering Committee |
| 2008-2010 | U of T Portfolio Committee for Undergraduate Medicine |
| 2008-2010 | U of T Medical Humanities Working Group for Undergraduate Medicine |
| 2008-2009 | Hospital for Sick Children Undergraduate Medical Education Committee |
| 2008-2009 | Hospital for Sick Children Postgraduate Medical Education Committee |
| 2009 | Hospital for Sick Children Women in Medicine Organizational Committee |
| 2009 | Fellow's seminar series for medical students at the Hospital for Sick Children |
| 2009 | Clinical Preceptor for U of T, Arts and Science of Clinical Medicine course |
| 2009 | Lecturer on "The Royal College Exam" for The Pediatric Residency Program |
| 2009 | Examiner for the medical student pediatric clerkship OSCE, U of T |

**VITA Continued**

**Certifications**

| | |
|---|---|
| 2010 | Basic Life Support and Pediatric Advanced Life Support Certification |
| 2008 | Royal College of Physicians & Surgeons of Canada Certification in Pediatrics |
| 2008 | American Board of Pediatrics Certification for Pediatric Medicine |
| 2008 | Neonatal Resuscitation Updated Certification |
| 2005 | Licentiate of the Medical Council of Canada |
| 2002 – 2005 | United States Medical Licensing Exam, Steps 1, 2 & 3 |
| 2004 | Pediatric Advanced Life Support Certification |
| 2004 | Neonatal Resuscitation Certification |
| 1998 | Emergency Medic licensed in the State of Massachusetts |