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17 Inter and Intra-Professional Collaborative Patient-Centred Care in Postgraduate Medical Education

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Executive Summary

According to Health Canada, collaborative, patient-centred practice is “designed to promote the active participation of each discipline in patient care. It enhances patient- and family-centred goals and values, provides mechanisms for continuous communications among caregivers, optimizes staff participation in clinical decision making within and across disciplines, as well as fosters respect for disciplinary contributions of all professionals” [1]. In all health and social care professions, including medicine, educational attention is incrementally focusing on interprofessional practice and, increasingly, on intraprofessional practice.

In order to better understand the current level of activity in these two areas in postgraduate medical education and the challenges and success factors in implementing educational experiences, this project reviewed the published and grey literature, and abstracts from medical education conferences and conducted interviews with eight leaders in health professional education across Canada to derive the following key messages. The paper also includes options for action in these areas.

Key Messages

1. Pockets of innovation do exist, but there is no common plan or approach and little if any sharing within and across university PGME programs.
2. As with undergraduate medical education, the hidden curriculum plays a powerful role in either reinforcing or undermining the importance of intra and interprofessional relationships in PGME (e.g. role models).
3. Support from senior leadership and champions is critical to successful integration of intra and interprofessional education into PGME.

Suggestions for Action

Given the paucity of literature relating to inter and intraprofessional education in post graduate medical education, suggestions for action begin with finding out what already exists in teaching, learning and assessing these areas. From this inventory and current evidence for inter and intraprofessional education generally, an appropriate education pathway for medical residents that is consistent across the country using national tools and strategies as well as appropriate faculty development can be planned. In addition assessment of performance as a collaborator can be examined as part of an ongoing program of research and scholarship.

Background

According to Health Canada, collaborative, patient-centred practice is "designed to promote the active participation of each discipline in patient care. It enhances patient- and family-centred goals and values, provides mechanisms for continuous communications among caregivers, optimizes staff participation in clinical decision making within and across disciplines, as well as fosters respect for disciplinary contributions of all professionals" [2]. In all health and social care professions, including medicine, educational attention is incrementally focusing on interprofessional practice and, increasingly, on intraprofessional practice. Nationally and internationally, curriculum renewal in medicine includes statements about the importance of intra and interprofessional collaboration and education. Interprofessional education is most commonly referred to as "occasions when two or more professions learn with, from and about each other to improve collaboration and quality of care." In the practice setting this refers to collaboration among different professions. In contrast, intraprofessional education refers to education that occurs when two or more disciplines within the same profession are engaged in learning together and subsequently collaborating in the workplace. In many instances the term *collaboration* can be used to imply both inter and intraprofessional education and practice.

Medical education in Canada consists of a minimum of undergraduate training and a post graduate residency in a chosen field of practice. The Future of Medical Education in Canada Medical Doctor (FMEC MD) Report[3] focuses on undergraduate medical education (UGME) with one of its key recommendations relating to the advancement of intra and interprofessional practice: "To improve collaborative, patient-centred care, MD education must reflect ongoing changes in scopes of practice and health care delivery. Faculties of Medicine must equip MD education learners with the competencies that will enable them to function effectively as part of inter and intra-professional teams." If this educational trend is gaining traction in undergraduate education, it follows that it should continue as a part of a seamless approach to practice through postgraduate medical education (PGME). However, there is little research to draw on that supports intra and interprofessional education in the context of PGME.

Although numerous scholarly articles have been written about interprofessional and a smaller number about intraprofessional education in the pre-licensure health and human services sector generally, there remains a paucity of literature related to intra and interprofessional medical education at the postgraduate level. However, in Canada, policies have been developed by a number of groups in order to move collaborative practice forward in all parts of the health care system. The Royal College of Physicians and Surgeons of Canada (RCPSC)[4] and the College of Family Physicians of Canada (CFPC)[5] have elaborated the CanMEDS and CanMEDS-FM roles and competencies that serve as the cornerstone for postgraduate education. In addition to the *medical expert*, these include the roles of *communicator, collaborator, scholar, health advocate, manager, and professional.* Health Canada has supported education initiatives through the Interprofessional Education for Collaborative Patient-Centred Practice[2] projects and more recently through the Accreditation of Interprofessional Health Education[6] project.

In order to achieve successful collaborative practice, the entire educational experience – from undergraduate to postgraduate medical education and continuing professional development – must be considered. How elements of intra and interprofessional competencies are taught and learned throughout one's career must be embedded in clinically relevant learning opportunities. This integration of intra and interprofessional learning for postgraduate medical residents seems particularly important given the high percentage of time that medical residents spend in direct clinical activity.

This paper is one of 24 papers commissioned for the Future of Medical Education in Canada Postgraduate (FMEC PG) Project. It builds on the work presented in the FMEC MD report and focus on intra and interprofessional education in PGME. The findings are organized into four sections: policy changes that have taken place in the current context, information from a review of the peer-reviewed and grey literature, a summary of conference abstracts, and an analysis of key informant interviews that describes educational initiatives across the country as well as success factors and challenges for implementation. The report concludes with a summary of key issues and possible directions for action.

Methodology

In order to develop this discussion paper, several activities were undertaken. Firstly, an in-depth review of current literature, published reports, and conference abstracts on the subjects of postgraduate interprofessional education and postgraduate intraprofessional medical education was undertaken. Secondly, telephone interviews were held with key informants across the country who were involved in postgraduate training and/or intra and interprofessional education. In addition, we established an expert panel of educators and a resident (see cover page) from across Canada who provided comments on the findings and offered advice on directions at various stages of the project.

We searched Pubmed and the grey literature for all publications relating to PGME. Primary search terms were education, medical, postgraduate, interprofessional, intraprofessional or curriculum in MAJR (main subject heading). We used intraprofessional and interprofessional separately in MeSH (term). All search terms were “exploded,” meaning that any publication indexed with one of Pubmed's many subheadings under these terms would also be found. So as not to overlook publications that might not have been indexed with the appropriate MeSH terms, we expanded the search to include articles with additional words such as competencies and collaborative practice. In addition, we searched abstracts from medical education meetings (Canadian Continuing Medical Education, Family Medicine Forum, International Conference on Residency Education, Research In Medical Education) for the past two years to identify educational initiatives that related to intra or interprofessional learning or practice in the context of postgraduate medical residents.

We reviewed documents developed and posted by the RCPSC and the CFPC, and reviewed documents posted independently by government, other organizations and education groups (but not necessarily published in academic journals). In addition, we consulted our expert panel to determine if there was additional grey or unpublished literature we had overlooked. We then searched through medial education conference abstracts from 2009 and 2010 for any projects relevant to this area.

Having completed this work, we then conducted eight semi-structured interviews of key informants across Canada who were recommended by experts in the field. Our questions included:

- What educational initiatives have you developed?
- What professions and learner groups were involved?
- Was this informal or formal teaching?
- What challenges did you encounter and how did you attempt to overcome them?

- What success factors did you identify and what strategies have you used to increase inter/intraprofessional education?

- Have you evaluated your activities and, if so, what indicators have you used?

The transcripts from the interviews were recorded and transcribed verbatim. A simple thematic analysis of the data was conducted by the project co-leads. The themes and final key messages were reviewed by our expert panel.

Ethics approval was obtained from the University of British Columbia.

Findings

The main findings from each of the sources of information are described below. Additional details can be found in the appendices.

Policies in the current context

The principles of intra and interprofessional collaboration are similar at a core level with a few specific differences. Those differences that are evident relate primarily to referral patterns and practices within the medical profession and relationships between and among different types of physicians. Given the similarities between intra and interprofessional practice this report has blended the two concepts under the broad umbrella of collaboration.

While it appears to be generally understood that intra and interprofessional education in support of the collaborator and communicator roles identified in the CanMEDS competency framework are occurring in PGME in many places in Canada and internationally, there is little written in the literature that describes exactly what this looks like. All medical schools in Canada provide residency training, with curriculum, accreditation and evaluation overseen by the two major certifying colleges, the RCPSC and the CFPC. The widely accepted and adopted CanMEDS and CanMEDS-FM frameworks include core competencies for collaborative practice and provide a framework for PGME in Canada. The Collaborator role includes skills to work effectively with all members of the health care team and to manage conflict. The Communicator role includes skills in interacting with patients, families and other health care professionals and in writing consultation and referral letters. There are statements within other roles such as the Medical Expert and the Manager that also speak to collaborative competencies. One of the areas in which interprofessional education in particular is gaining traction is through the national accreditation of health education programs. In 2008, through support from Health Canada, eight accrediting organizations were brought together from six health professions to develop principles and to prepare guidelines for the accreditation of interprofessional health education. The involved health professions are nursing, physical therapy, occupational therapy, medicine, pharmacy and social work. The project, Accreditation for Interprofessional Health Education[6] (AIPHE), has published principles and is currently developing language to guide accreditation standards. The guiding principles are:

- The patient/client/family is the central focus of effective interprofessional collaboration and, therefore, of effective interprofessional education.
- In order to educate collaborative practitioners, interprofessional education is an integral component of education for all health and human service professions.
- Interprofessional education is most effective when integrated explicitly into academic and practice or clinical contexts for learning.

- Core competencies for collaborative practice are used to inform health and human service inter-professional curricula in Canada.
- Interprofessional education embraces a relationship-centred approach as one of the key pillars of successful interprofessional collaboration.
- Interprofessional education requires active engagement of students across the professions in meaningful and relevant collaboration.
- Flexibility in the integration of IPE [interprofessional education] into health and human service curricula facilitates the development of accreditation standards that are consistent with each of the profession's processes and the diverse educational models across the country.
- Accreditation as one quality monitoring process for education, and regulation (licensing) as the quality control process for practice, must provide consistent messages about interprofessional education and collaboration.
- Emerging evidence is used to guide interprofessional education in all health and human service program curricula.
- Required support structures for interprofessional education should be considered in all aspects of accreditation including institutional commitment, curriculum, resources, program evaluation, faculty and students.
- Collaborative learning is integrated along the continuum of health professional education.
- Specific knowledge, skills and attitudes are required for effective interprofessional collaboration and these are reflected in IPE curricula.

As a result of these initiatives, the accreditation committees of the RCPSC and the CFPC have developed and approved explicit conjoint standards[6] that encourage residency programs to explicitly teach these competencies. Within the "A" and "B" standards are statements that speak directly to the need to provide educational experiences and evaluation methods in these domains. For example, under "University Structure" the standard states that

There must be a multidisciplinary faculty postgraduate medical education committee in place for the development and review of all aspects of residency education….There should be links between this committee and program committees and other health professional programs.

Under "Sites for Postgraduate Medical Education", an additional standard was added that states that:

All teaching sites should provide residents with opportunities to work with other health professional students and learn the competencies required for collaborative practice.

In the "Resources" section a number of standards refer to collaboration.

There must be a sufficient number of qualified teaching staff from a variety of medical disciplines and other health professions to provide appropriate teaching and supervision of residents.

Within the CanMEDS roles, clear statements are made about teaching residents to be effective collaborators:

There must be an effective teaching program in place to ensure that residents learn to consult and work collaboratively with other physicians and health care professionals to provide optimal care of patients (Medical Expert); interact with patients and their families, colleagues, students, and co-workers from other disciplines and health professions to develop a shared plan of care

and write letters of consultation and referral (Communicator); work effectively with all members of the interprofessional health care team including other physicians and other health professionals through understanding each other's roles and responsibilities, understanding team dynamics and functioning, shared leadership, and managing conflict (Collaborator).

Finally, the section on "Evaluation of Resident Performance" states that attitudes and professionalism must be assessed by such means as interviews with peers, supervisors, other health professionals, health personnel, and patients and their families and that collaborating abilities, including interpersonal skills in working with all members of the interprofessional team, including other physicians and health care professionals, must be assessed.

With such explicit accreditation standards from both Colleges, it is expected that all residency programs will develop explicit educational interventions to teach and evaluate these skills within supportive environments.

In the context of intraprofessional issues, it is generally assumed that when looking at ways to improve the relationships between family physicians and other specialists and between physicians in general, education should be examined at all levels of the education and training continuum from undergraduate to postgraduate education through to continuing professional development (CPD) and faculty development (FD). While changes to UGME will affect working and learning together in the future, postgraduate and CPD and FD have the potential to affect working and learning together for practitioners and teachers. In the CFPC/RCPSC paper entitled *Family Physicians and Other Specialists: Working and Learning Together*[f)8], colloquium participants made several strong recommendations on the importance of PGME in the teaching of how physicians should communicate and collaborate with each other. The paper noted the importance of having family physicians and other specialists work jointly on faculty development committees as well as having RCPSC specialty and family medicine residents working together in order to better understand one another's scope of practice, ultimately to learn how best to refer to and consult with each other. To assist in this process, both Colleges are contributing to the Collaborative Action Committee on Intra-professionalism (CACI). This group has produced two documents. The first[9] (see Appendix 4) describes the core competencies needed for effective relationships between and among physicians:

1. Develop and maintain relationships with other physicians that enable intra-professional patient care.

2. Partner collaboratively in the referral and consultation process for effective and efficient patient care.

3. Work effectively with other physicians to ensure shared, coordinated, and on-going patient care.

The second is a guide to the referral-consultation process[9] and can be used as a teaching as well as a practice tool.

Published Literature

There is a paucity of articles in the published literature on intra and interprofessional education in postgraduate medicine as well as in other health professional education at this level of training. The lack of findings related to PGME is consistent with the results of a review by Reeves[11,] in which the author suggested that there is still no clear gold standard for interprofessional education in either delivery or evaluation contexts. The published examples of postgraduate interprofessional education (IPE) in medicine are few and far between, and those

that exist fall into the categories of descriptive studies rather than evidence-based models which demonstrate long-term impact on practice and health outcomes. Curran et al[12] provide one of the few that describes an evaluation of a workshop given to postgraduate residents, nursing and other allied health students. Anecdotally, it appears that the lessons about collaboration that are learned in medical undergraduate education are lost once medical residencies are undertaken. In a paper by Barker and Oandasan[13,] medical residents in family practice supported the concept of IPE but felt that they received mixed messages from supervisors, thus minimizing the long-term potential for family practitioners to integrate interprofessional collaboration into their practice. A recent article by Barker et al[14] presented data on how power relationships in health care have implications for IPE, particularly within the context of hidden agenda.

Writing a good referral or consultation letter can be of major importance when residents begin to practice. Related to this, Keely[15] describes the experience of teaching residents to write effective consultation letters. Little else can be found in the literature that describes how best to teach this to postgraduate learners. The background paper for the FMEC MD project prepared by Marie-Dominique Beaulieu[16] that was based on a project conducted in 2005[17,] identified the importance of creating an appropriate environment for intraprofessional relationships and specific competencies that are similar to those elaborated on by CACI.

In an unpublished survey of UBC residents and postgraduate program directors conducted in 2007, interprofessional education was examined. Among the respondents, most understood the context of interprofessional education and practice as involving medicine and other professions. Respondents could name examples of interprofessional learning that they had experienced during their residency and could cite key benefits to interprofessional education. Excerpts from the full report can be found in Appendix 5.

Conference Abstracts

Most medical education programs across Canada include a number of presentations on interprofessional learning and a few on intraprofessional education. Specific sessions at the Canadian Association of Medical Education/Canadian Conference on Medical Education (CAME/CCME) for the past two years and the Association of Medical Education in Europe (AMEE) conference held September, 2010 offered presentations related to IPE. Most of these have focused on undergraduate education. However, there were a few that involved postgraduate trainees. In addition, a small number were presented during the International Conference on Residency Education (ICRE) and the Family Medicine Forum (FMF) over the past two years[18-23].

- The PGCorEd Collaborator module from the University of Toronto specifically covers elements such as teamwork, roles and responsibilities, and conflict delivered using a web-based set of modules.

- Memorial University has run a number of one-day sessions with teams from inpatient units on interprofessional collaboration.

- The University of Toronto has developed a six-part program on teaching interprofessional maternity care.

- Simulation in a pre-arrest situation has been used for medical residents at the University of Toronto.

- An observational study at the University of Ottawa demonstrated how informal IPE was taking place that taught a number of the CanMEDS competencies.

- A number of educational initiatives and studies were presented during the 2009 and 2010 Family Medicine Forums on Interprofessional Education in care of the elderly, home care, communications skills, mental health, and maternity care.

- A faculty development workshop on “Teaching Intraprofessionalism” that has been offered at FMF, CCME and ICRE allows participants to identify opportunities for teaching the core competencies developed by CACI.

- Teaching modules around topics such as abortion, research skills, and continuous quality improvement (CQI), have been given to residents from different programs.

- A study to identify barriers and potential solutions to optimize collaboration between internal medicine and emergency ,medicine physicians in the emergency room has been completed.

As is evident in the literature and in the increasing number of conference abstracts, medical undergraduate education is now embracing interprofessional education, and there is an increasingly large number of examples of courses, lectures, problem-based learning cases, clinical placements, community service learning, and student projects that are now embedded into medical curricula. In PGME, however, despite an implicit expectation that intra and interprofessional education continue to occur throughout residency, how and when this occurs is not well detailed in the literature.

Key informant interviews:

Eight semi-structured interviews were conducted with key PGME informants. The questions explored the current level of intra and interprofessional education activity, challenges, success factors and examples, as well as assessment and evaluation strategies. The interviews were recorded and transcribed verbatim following acquisition of formal consent. A simple analysis was conducted to identify key themes emerging from the data. Eight global themes emerged initially which were clustered into five key themes:

1. Support and leadership;
2. Challenges and barriers;
3. Facilitators;
4. Opportunities; and
5. Assessment

Examples of intra and interprofessional strategies

Support and leadership

Structural elements of intra and interprofessional education included support, leadership, structure and partnerships as well as a common understanding of collaboration within and among professions. Both time and funds to develop and embed new intra and interprofessional learning initiatives were identified as important to the growth of these areas of learning in PGME. Leadership through champions and through tangible and intangible recognition of the importance of these areas of learning by deans and associate deans helped to pave the way for the development and implementation of programs of intra and interprofessional learning. The integration of principles of learning that include a focus on intra and interprofessional learning

help to keep these areas in the forefront of PGME. Formal structures such as offices of IPE can help to develop new initiatives, but there are few connections between the UGME work that these offices have spearheaded and PGME. A clear expectation that all individuals involved in PGME seek out opportunities for collaborative learning helps to share the responsibility throughout the faculty both at the university and in the community.

Mechanisms for identifying relevant and timely learning opportunities, such as blueprinting, were identified as one way of mapping the collaborator role throughout PGME, especially when concurrent mapping of other health professional curricula could be linked to the PGME process. Strategic planning processes focusing on each role, including collaborator, could help to move PGME forward across the CanMEDS framework. And a PGME curriculum structure that allowed for mandatory learning for components of collaboration could ensure that all medical residents received training in the collaborator role.

The language used to frame intra and interprofessional education was seen as a key structural component. A common understanding of what collaboration means could enable learning about collaboration without isolating it from clinically relevant learning. Hence, calling it intra and interprofessional education in UGME needs to translate more easily into the collaborator role language in PGME.

Challenges and barriers

While many of the challenges and barriers to intra and interprofessional education in PGME identified in the interviews were not dissimilar to those cited in the context of undergraduate or entry level health professional programs generally, there were some specific issues. The demands on residents' time are typically greater than for entry level students, and ensuring a good fit based on the level of the learner can be more challenging in PGME as medical residents may align more closely with practicing professionals than with students. The hidden curriculum in PGME was felt to be more linked to role models and mentors' attitudes and practices than to other residents. The lack of centralized policy in PGME makes changes more challenging than in UGME. There is little in the literature to support intra and interprofessional learning in PGME, and in spite of the train-the-trainer module developed by the RCPSC, few practical tools exist for use by specific specialty programs to strengthen the collaborator role. There has been no evaluation to date to determine the effectiveness of the train-the-trainer model.

In some areas, the challenges are similar to those faced by other professions. It takes considerable energy to synchronize learning experiences across professions and to develop appropriate and valid tools. There is often an assumption that learning about collaboration occurs without making it explicit. Medical residents, as well as other health professional learners, work side-by-side with other disciplines and professionals but do not have the personal tools to effectively collaborate.

Facilitators

Despite the lack of literature intra and interprofessional education in PGME, interview participants were able to identify some facilitators. Stratified learning opportunities (phased intra and interprofessional learning experiences) could allow medical residents to improve their collaboration skills over time by engaging in increasingly complex interactions with other disciplines and professions. This was also termed incrementalism, which also referred to a seamless continuum of learning between UGME and PGME. Faculty development in both academic and clinical settings was seen to be a major facilitator, as was building on informal

learning opportunities. The current emphasis on collaboration in curriculum renewal in medicine across the country was identified as a major facilitator. The integration of the CanMEDS roles in a strategic manner so that not all roles were the focus of all learning in PGME was identified as a way of avoiding CanMEDS overload and improving the learning experiences. Online learning, as in the PG Core Education program developed by the RCPSC, was also seen as a possible facilitator capitalizing on technology. Finally, medical residents have suggested that a critical mass of learners is essential – isolated pockets of individual intra and interprofessional learning are not as effective.

Opportunities

General opportunities were described in the specific context of PGME with some elements common to all health professions. The emerging use of the electronic health record and electronic charting was seen to be an important opportunity for collaboration for medical residents. By integrating notes by different professions , it is more likely that each health care provider will become more familiar with the roles of others and to use others' finding and opinions to inform their own practice. In addition, it was felt the residents could be important change agents if their collaboration skills were used to teach medical and other health professional students and to role model a new generation of physicians that understands the value of intra and interprofessional practice. It was also felt that choosing areas of practice in which there already exists a high level of collaboration in which to embed intra and interprofessional learning may allow for some quick wins. Mandatory learning was also cited as a possible opportunity, as was explicit linking of intra and interprofessional learning to clinical realities. The idea of choosing two or three of the large specialties to begin this work was also suggested, as was exploring the use of social media such as Facebook.

Assessment

Little emerged from the interviews that related to assessment or evaluation. Key features case studies and pre- and post-test methods were cited but not fully developed in PGME. This is an obvious area for further research and development.

Examples of intra and interprofessional education in PGME

From the interviews, we could extract a few examples of intra and interprofessional initiatives in medical residency training. Phased learning was one example which links to the concept of incrementalism or the introduction of increasingly complex care requiring more complex collaboration with a concomitant increase in the number of team players. A tool kit for the collaborator role has been developed through the RCPSC CanMEDS office. Faculty development workshops on the collaborator role have been offered at the ICRE and through RCPSC CanMEDS office. Post Graduate Core Education on the collaborator role has been developed with five separate units on intra and interprofessional collaboration, teams, conflict and roles and responsibilities. A series of interactive and case-based World Cafes open to all professions has also been developed and tested. In some programs, the medical expert role is linked to the collaborator role by facilitating intraprofessional case discussions across medical specialties. Wellness sessions and interprofessional teaching and clinical rounds and case reviews, led by medical residents and other health care providers in various settings were seen as an opportune method for learning. Academic half days devoted to intra and interprofessional collaboration have created effective learning opportunities. Finally, training medical residents to facilitate collaboration for senior medical students was offered as a successful intra and interprofessional strategy that also used learning journals as a method of self-reflection on collaboration.

The interviews confirmed areas of encouraging development and highlighted areas to be addressed. It is clear that much work needs to be done to embed a standard of intra and interprofessional education into PGME in Canada, but there is a base from which to build and an emerging willingness to do the building.

Summary

While there is a significant amount of literature either published or underway discussing interprofessional education at the medical undergraduate level, and in spite of the powerful drivers for the integration of inter and intraprofessional education into PGME, there is scant literature available that describes the integration of intra and interprofessional education at the postgraduate level. A number of individual universities have identified the need for further education about the Collaborator role at the postgraduate level, and several are offering courses or supplementary programs to mitigate this gap. However, while there may be individual evaluations occurring about the success, challenges and failures of these programs, there is little in the literature that compares, contrasts or collates what is out there, and who is doing what.

The environmental scan highlighted a number of issues. Both the RSPSC and the CFPC have policies that support and encourage intra and interprofessional education. Educational activities range from broad programs on the Collaborator role produced by the PGME offices and offered to all postgraduate trainees as a foundational course to individual learning experiences facilitated throughout the residency.. Specific programs reinforce this learning through their own curricula, particularly in clinical experiences, but this is intermittent and definitely not mainstream either within or across universities. Offices of IPE that have been established in several universities have focused their work on UGME with little connection to the PGME Collaborator needs. Finding the right mix and level of learners is also challenging for residency education. As with UGME, the hidden curriculum plays a significant role in intra and inter professional learning as negative language, stereotyping, and power differentials unfold among physicians and among physicians and other health professionals. Negative experiences in the clinical setting can quickly reinforce or undo what has been learned as undergraduate students.

The leadership by senior administrators such as deans and postgraduate deans is critical to success. Where this occurs, there has been much greater penetration of intra and interprofessional teaching within postgraduate programs. Aligning education with new models of care in the community also provides an opportunity. Faculty development is a key part of this process and will require investment by medical schools. Lastly, attention must be paid to evaluation techniques and processes to assess and reinforce this learning.

Key Messages

1. Pockets of innovation do exist, but there is no common plan or approach and little, if any, sharing within and across university PGME programs.

2. As with UGME, the hidden curriculum plays a powerful role in either reinforcing or undermining the importance of intra and interprofessional relationships in PGME (e.g. role models).

3. Support from senior leadership and champions is critical to successful integration of intra and interprofessional education into PGME.

Suggestions for Action

1. Complete an inventory of intra and interprofessional learning and assessment strategies across the country using program directors and medical residents as the key informants.
2. Describe a learning pathway for medical residents that builds on undergraduate training and is anchored in a clinically relevant context.
3. Examine the concept of the hidden curriculum and explicitly identify and teach around hidden messages and negative role modeling that undermine collaborative relationships.
4. Invest in faculty development for clinical and academic teachers.
5. Explore funding models for intra and intrerprofessional education that align with new practice models.
6. Develop and test learning and assessment strategies related to collaboration for medical residents.
7. Create a national tool kit of learning objectives, strategies and assessment tools for use in all medical education residency programs.
8. Engage in research and scholarship to examine the effectiveness of inter and intraprofessional education on practice patterns and behaviours among medical residents.

References

1. Centre for the Advancement of Interprofessional Education (CAIPE). (2001). Defining IPE. Retrieved April 6, 2011, from http://www.caipe.org.uk/about-us/defining-ipe/?keywords=principles

2. Health Canada. A Request for Proposal from Health Canada: Interdisciplinary Education for Collaborative, Patient-Centred Practice: Discussion paper & Research report. Ottawa, ON: Health Canada; 2003. Report No.: RFP Reference number # H1021-03-9032

3. The Future of Medical Education in Canada (FMEC). Report. Association of Faculties of Medicine of Canada, 2010.

4. Frank JR, Jabbour M, etc. Eds. The CanMEDS 2005 Physician Competency Framework. [Internet]Ottawa: Royal College of Physicians and Surgeons of Canada; 2005 Available from: http://rcpsc.medical.org/canmeds/bestpractices/framework_e.pdf

5. CanMEDS-FM. [Internet]The College of Family Physicians of Canada; 2010. Available from: http://www.cfpc.ca/local/files/Education/CanMeds%20FM%20FINAL%20Formatted%20version.pdf

6. Accreditation of Interprofessional Health Education (AIPHE) [Internet]. July 13, 2009. Available from: http://www.cihc.ca/aiphe/about

7. General Standards of Accreditation. Ottawa: Royal College of Physicians and Surgeons of Canada; College of Family Physicians of Canada; College des Medecins du Quebec; October 2009 Available from: http://www.rcpsc.edu/residency/accreditation/genstandards_e.pdf

8. Family Physicians and Other Specialists: Working and Learning Together. [Internet]College of Family Physicians of Canada (CFPC); Royal College of Physicians and Surgeons of Canada (RCPSC); 2006

9. Core Competencies in Intra-Professionalism [Internet]. College of Family Physicians of Canada (CFPC); Royal College of Physicians and Surgeons of Canada (RCPSC) 2008. Available from: http://www.cfpc.ca/CACIResources/

10. Collaborative Action Committee on Intra-professionalism (CACI) [Internet]. The College of Family Physicians of Canada. Available from: http://www.cfpc.ca/CACI/

11. Reeves S. The future of medical education in Canada: Interprofessional Education. [Internet]Montreal: Health Canada; Wilson Centre; 2010. 520 p Available from: http://www.afmc.ca/fmec/pdf/National%20Literature%20Reviews.pdf

12. Curran VR, Heath O, Kearney A, Button P. Evaluation of an interprofessional collaboration workshop for post-graduate residents, nursing and allied health professionals. J Interprof Care. 2010 May;24(3):315-8.

13. Barker KK, Oandasan I. Interprofessional care review with medical residents: Lessons learned, tensions aired--a pilot study. J Interprof Care. 2005 Jun;19(3):207-14.

14. Baker L, Egan-Lee E, Martimianakis, MA, Reeves S. Relationships of power: implications for interprofessional education. J Interprof Care 2011 25:98-104.

15. Keely E, Dojeiji S, Myers K. Writing effective consultation letters: 12 tips for teachers. Med Teach. 2002 Nov;24(6):585-9.

16. Beaulieu MD. Compétences de base sur la collaboration intra professionnelle (ou intra professionnalisme) pour les études pré-graduées en médicine. [Internet]Montreal: Health Canada; Wilson Centre; 2008. 380 p Available from: http://www.afmc.ca/fmec/pdf/National%20Literature%20Reviews.pdf

17. Beaulieu MD, Samson L, Rocher G, Rioux M, Boucher L. Collaboration between family physician and other specialist: The gulf between preferred and actual practice. Montréal: Doctor Sadok Besrour Chair in Family Medicine; 2005.

18. 2009 Canadian Conference on Medical Education. In: [Internet]; 2009 May 2-6; Edmonton, Alberta. Canadian Conference on Medical Education; 2009. p. 24.cited 2011 January 25]. Available from: http://www.mededconference.ca/archives/CCME2009-AbtractSupplement.pdf.pdf

19. International Conference on Residency Education 2009. In: [Internet]; 2009 Sep 24-26; Victoria, BC, Canada. Royal College of Physicians and Surgeons of Canada; 2009. p. 28. Available from: http://www.openmedicine.ca/article/view/353/270.

20. Family Medicine Forum Conference 2009. In: [Internet]; 2009 Oct 29-31; Calgary, AB, Canada. The College of Family Physicians of Canada; Alberta College of Family Physicians; Section of Teachers of Family Medicine; Section of Researchers of Family Medicine; 2009.20. 2010 Canadian Conference on Medical Education. In: 2010 May 1-5; St. John's, Newfoundland, Canada. Canadian Conference on Medical Education; 2010.

21. International Conference on Residency Education 2010. In: 2010 Sep 23-25; Ottawa, ON, Canada. Royal College of Physicians and Surgeons of Canada; 2010.

22. Research in Medical Education (RIME) Conference 2010. In: [Internet]; 2010 Nov 5-10; Washington, DC. Association of American Medical Colleges; 2010 Available from: https://www.aamc.org/meetings/2010_annualmtg/; https://www.aamc.org/meetings/2010_annualmtg/programs_by_sponsor/157076/rime_home.html

23. Family Medicine Forum Conference 2010. In: [Internet]; 2010 Oct 14-16; Vancouver, BC, Canada. The College of Family Physicians of Canada; BC College of Family Physicians; Section of Teachers of Family Medicine; Section of Researchers of Family Medicine; 2010. Available from: http://www.cfpc.ca/local/files/CME/FMF_2010/FMFWEb_Jun23_links.pdf

Appendix 1: About the Authors

Lesley Bainbridge, BSR (PT), MEd., PhD

Director, Interprofessional Education, Faculty of Medicine

Associate Principal College of Health Disciplines

Dr. Bainbridge holds a masters degree in education and an interdisciplinary doctoral degree with a focus on interprofessional health education. Prior to her UBC positions she worked for 5 years as a clinical physical therapist and for 15 years in administrative positions in the health system. She acted as Head of the Physical Therapy program and interim Director of the School of Rehabilitation Sciences, both at UBC, prior to her current positions. Her areas of special interest are interprofessional health education (IPE), collaborative practice, leadership, evaluation of IPE, curriculum development related to IPE, interprofessional practice education and other areas related to IPE such as rural health, geriatrics and underserved populations. She has been and is currently principal or co-investigator on several Teaching and Learning Enhancement Fund grants, Health Canada's "Interprofessional Education for Collaborative Patient Centred Practice" project in BC, and several other research grants related to IPE, community teachers and shared decision making. She has published in peer reviewed journals on IPE and informed shared decision making and has presented on IPE related topics at several national and international conferences. Lesley is a co-investigator for the second CIHR funding cycle for the Transdisciplinary Understanding and Training on Research in Primary Health Care (TUTOR-PHC) and for the CIHR funded E-Mentoring for Aboriginal Youth project. She is just commencing a role as moderator for the e-community of practice that will support the intra and interprofessional recommendation from the Future of Medical Education in Canada through the Association of Faculties of Medicine of Canada and she co-chairs the Standards Development Working Group for Phase 2 of the Health Canada funded Accreditation for Interprofessional Health Education project.

Louise Nasmith, MDCM, MEd, CCFP, FCFP, FRCPSC(Hon), FCAHS,
Principal, College of Health Disciplines, University of British Columbia

Dr. Nasmith obtained her medical degree from McGill University in 1978 and her CCFP in 1982. As a faculty member in the Department of Family Medicine at McGill University, her scholarship has focused on medical education spanning the continuum from undergraduate through to continuing professional development. In 1995 she was named chair of the Department of Family Medicine at McGill, a position that she held until 2002 when she moved to Toronto to take on the same role in the Department of Family and Community Medicine at the University of Toronto. She completed a Master's of Education from McGill in 1994 and has published and presented nationally and internationally. She has been involved in a number of projects that focus on integration of care for chronic illness and interdisciplinary care including promoting self-care. As well, she was a member of the National Expert Committee on Interprofessional Education for Collaborative Patient-Centred Practice and currently of the Health Education Task Force, both Health Canada initiatives. From 2005-2006 she was the President of the College of Family Physicians of Canada. In June,

2007, she assumed the role of Principal of the College of Health Disciplines at the University of British Columbia and from 2008-2010 was also Acting-Head of the Department of Family Practice. For the last decade, she has been working with educators, practitioners, health authorities, and the government to advance collaborative practice and interprofessional education in various jurisdictions within Canada.

Dr. Nasmith was co-lead on Interprofessional and Intraprofessional Education

Appendix 2: Annotated Bibliography

Curran VS, Health O, Kearney A, Button P. Evaluation of an interprofessional collaboration workshop for post-graduate residents, nursing and allied health professionals. J Interprof Care. 2010 May;24(3):315-8.

This paper describes a study aimed at testing the impact of workshops provided for nursing, allied health and medical residents on their collaborative practice skills. The workshops were offered across specific program areas (e.g., Mental Health, Child Health, and Surgery) and were voluntary for non-medical residents but mandatory for medical residents. The key workshop lessons related to teams and roles as well as managing conflict and leading effective meetings. Learning methods included a combination of small and large-group discussion, video, self-reflective and case study exercises, and lecturettes.

Participants completed pre and post workshop surveys using the Attitudes Towards Interprofessional Health Care Teams Scale (Heinemann, Schmitt, Farrell, & Brallier, 1999) Results suggested that this type of workshop improves residents' attitudes towards health care teamwork. Future workshops should focus more on the roles of different health professionals and should facilitate incremental steps to foster and enhance teamwork . A key finding was the need for organizational change in policy and care delivery processes to support learning about and practicing collaboration.

J Interprof Care. 2005 Jun;19(3):207-14.Interprofessional care review with medical residents: lessons learned, tensions aired--a pilot study.Barker KK, Oandasan I.SourceDepartment of Family & Community Medicine, University of Toronto, Ontario M5T 2S8, Canada. keegan.barker@uhn.on.ca

Based on the integration of interprofessional care teams as a key to the future of health services delivery, a family medicine teaching site developed an educational initiative to expose medical residents to interprofessional care (IPC) processes. A formative evaluation pilot study was completed using one-on-one interviews and a focus group (n = 6) with family medicine residents. A semi-structured guide was used to examine knowledge, skills and attitudes related to interprofessional care. Data were analyzed using content analysis. Residents' perspectives on their learning revolved around four themes: changes to understanding and practice of interprofessional care; personal impact of IPC; learning about other health professionals; tension and challenges of IPC learning and clinical implementation. Residents valued the educational experience, but identified that faculty supervisors provided "mixed messages" in the value of collaborating with other health professionals.

Baker L, Egan-Lee E, Martimianakis, MA, Reeves S. Relationships of power: implications for interprofessional education. J Interprof Care 2011 25:98-104.

An important factor connected to interprofessional education is the unequal power relations that exist between the health and the social care professions. This paper draws on data from the evaluation of a large multi-site IPE initiative and uses Witz's model of professional closure to explore the perspectives and the experiences of participants and the power relations between them. A subset of interviews with a range of different professionals were analyzed to generate emerging themes related to perceptions of professional closure and power. The findings highlight how professionals' views of interprofessional interactions, behaviours and attitudes tend to either reinforce or attempt to restructure traditional power relationships within the context of an IPE initiative.

Appendix 3: List of Interviewees

Sue Berry: Interim Associate Dean Continuing Health and professional Education, Northern Ontario School of Medicine

Vernon Curran, Centre for Collaborative Health Professional education Memorial University

Serge Dumont, Director, School of Social Work, Laval University

Margo Patterson, School of rehabilitation Therapy, Office for Interprofessional Education and Practice, Queen's University

Denyse Richardson, Department of Psychiatry, University of Toronto, RCPSC Medical educator

Kam Runtga, Associate Dean Postgraduate Medical Education, University of British Columbia

Anurag Saxena, Associate Dean Postgraduate Medical Education, University of Saskatchewan

Sal Spadafora, Vice-Dean Postgraduate Medical Education, University of Toronto

Appendix 4: Core competencies in intraprofessionalism: Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada

Definition

Work with physician colleagues to provide effective intra-professional collaborative patient care

Key Competencies

1. Develop and maintain relationships with other physicians that enable intra-professional patient care.
2. Partner collaboratively in the referral and consultation process for effective and efficient patient care.
3. Work effectively with other physicians to ensure shared, coordinated, and on-going patient care.

Enabling Competencies

1. Develop and maintain relationships with other physicians that enable intra-professional patient care.

1. Recognize the impact of one's own beliefs and biases about other physicians.
2. Demonstrate professional attitudes/behaviour toward other physicians.
3. Actively intervene when lack of respect for a colleague has been witnessed.

2. Partner collaboratively in the referral and consultation process for effective and efficient patient care.

1. Ensure the patient understands the need for and purpose of the consultation.
2. Appropriately assess the level of urgency of referral and respond accordingly.
3. Employ appropriate and prompt communication strategies with other physicians about patient care issues.
    a. For the referring physician: Clearly formulate the reason/rationale for the consultation and provide appropriate patient information and investigation results.
    b. For the consultant physician: Communicate clearly and promptly the assessment and recommendations of consultations, including subsequent management, follow-up and the role of the referring physician.
4. Respect the concerns of patient's physicians about lateral and cross referrals for other medical problems.
5. Take into account the health system issues that help or challenge the referral/consultation process.

3. Work effectively with other physicians to ensure shared, coordinated, and on-going patient care.

1. Actively engage patients/families in the shared plan of care, including who has assumed responsibility for care for a specific problem.

2. Describe the roles and responsibilities of all physicians involved in patient care and how they intersect and complement each other.

3. Negotiate the types of appropriate involvement of consultants for ongoing care according to the specific clinical context.

Appendix 5: Excerpts from Interprofessional Education (IPE) Survey of UBC Residents and Postgraduate Program Directors

In 2007 an unpublished report described the results of a survey administered to UBC residents and program directors specifically on the subject of interprofessional education. One hundred and one responses were received to an electronic survey which asked:

- How do you define interprofessional education?
- Are there opportunities for interprofessional learning during medical residency training? If yes, please describe.
- Is there currently any process for assessment of collaborative practice in medical residency training? If yes, please describe.
- What would the top two benefits of interprofessional training be for your education program?
- Would more interpofessional learning opportunities be of benefit to you? If yes, please describe.

The following section summarizes the responses by question:

Definition of IPE:

While there were some of the 56 respondents to this question who claimed not to know, or be sure, about IPE, the majority of responses indicated some understanding about the process. Only a few suggested that IPE was limited to learning within the medical disciplines. The main themes from the remaining responses suggested that IPE is:

- Education taught by different professionals
- Education between professions
- Learning alongside other professions
- Learning from other professionals
- Interactive
- Collaboration alongside other professions rather than in series
- Knowledge transfer that is relevant to all professions and encourages collaboration
- Multidisciplinary conferences such as rounds
- Education on common areas
- Learning to work with other disciplines within the health care team
- Education that is outside the scope of one's own profession
- Discussion and learning from other professions

Key quotes include:

> *"Discussions and learning from other professionals in terms of their viewpoint on patient care and needs"*
>
> *"Education on how health care professionals interact with each other with the common goal of optimal patient care"*
>
> *"Collaborative work among professionals to achieve common benefits to all"*

Opportunities for IPE:

Thirty-nine respondents answered this question as "yes" and provided examples. The primary examples include:

- Academic half days with lectures by other professionals
- Patient encounters and daily interaction with others
- Consultations
- Events such as CPR training, ACLS
- Combined rounds
- Workshops
- Social events
- Shared care
- Role play

Some respondents suggest that IPE is discouraged in their area of practice and another noted that IPE is not prominent. Some were not sure. Constraints to participation included time and mandatory resident teaching sessions. Overall though, there are key opportunities for IPE that could be examined further and strengthened.

Assessment of IPE:

The responses to this question ranged from unsure or don't know to consideration of a 360 evaluation as a future tool. Observation and feedback seem like the most common ways of assessing collaboration. This may be by the preceptor or health professionals from outside medicine. Self evaluation in a facilitate context is also used as a form of assessment. Simulation was described as an area for future study in the context of assessment of collaboration. Only one respondent noted that their exam included questions but it is unclear whether the questions relate to collaborative practice or to transfusion. The area of assessment of IPE is clearly an area requiring study.

Top two benefits:

In response to this question, there are clearly respondents who do not understand what IPE is, often relating it to sub-specialties or other disciplines within the broad context of medicine. In addition, delegation was described as a benefit which may promote the top-down approach.

The concept of working with other professionals is seen as beneficial to interaction and collaboration with other health care professions in order to benefit patient care as well as learning about roles in the team, how health care functions, and developing good rapport with team members. Improved awareness of what the various disciplines contribute to overall patient care, and facility with interdisciplinary communication. Improved information sharing and quality of patient care; easier and more appropriate referral patterns; wider scope of knowledge and perspective on cases that encourages a collaborative team approach; improved knowledge of practices of other professions; and improved satisfaction were also cited as benefits of IPE

Key quotes include:

> *"having greater insight into the skills that other professions bring to the care team. Humbling at times"*
>
> *"Developing greater understanding of what other professionals do and foster respect for other professional roles and opinions"*
>
> *"With xxxxx working in such close proximity an synchrony with so many other professions, including nursing, RT, Anaesthesia Techs etc, it would be invaluable to have common-goals education"*
>
> *"it's the building block of more interprofessional learning in the years to come"*
>
> *"Developing greater understanding of what other professionals do and foster respect for other professional roles and opinions"*
>
> *"Understanding and respecting different perspectives and aspects of patient care may improve communication among caregivers, and hopefully improve patient care by reducing misunderstanding, error, and oversight."*
>
> *Better patient care. Better learning potential."*
>
> *"For the resident who has graduated, it is assumed that the medical expert bit is assumed. However, it is often the other medical expert roles which play a big part in whether or not someone is hired, and the collaborator role is one which is often the deciding factor. If residents can get this part down early in their training while still a resident, it would serve them well later in their professional life, not only to secure a position, but also in their job satisfaction."*

Benefits of increased IPE:

While there was support in general for IPE, it was also seen as an added element of curriculum rather than an integrated one. The lack of time posed barriers frequently. Several participants, again, were unsure of the concept and could not visualize benefits of increasing "it." There was concern that evidence supporting the IPE approach be used and that the benefits clearly outweighed the drawbacks. It was clear from the responses that IPE would have to be very high quality as it would have to replace another valued component of learning. In addition,

respondents felt that increased IPE would improve consultation, improve care and increase learning potential.

Key quote:

> “provide more dedicated time and efforts for such meetings and group study in a more organized fashion. I believe that we live in a highly competitive world of medicine, however, I once was told that "we gained nothing from others' failure, nor were we diminished by others success"... I hope that spirit is deeply adopted in all our programs”

The report was generated to provide insights into local PGME but may hold some relevant messages for this project.