

THE FUTURE OF
MEDICAL EDUCATION
IN CANADA

POSTGRADUATE PROJECT



L'AVENIR DE
L'ÉDUCATION
MÉDICALE AU CANADA

PROJET POSTDOCTORAL

FMEC PG Project Draft Report

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THE COLLEGE OF
FAMILY PHYSICIANS
OF CANADA



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MÉDECINS DE FAMILLE
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DES MÉDECINS ET CHIRURGIENS DU CANADA

A Health Canada-funded project

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EXECUTIVE SUMMARY

The Future of Medical Education in Canada Postgraduate (FMEC PG) Project lays out a bold and innovative vision for educating the doctors that Canada needs. By the end of their medical school training, graduating physicians must have acquired excellent clinical expertise that enables them to practise medicine focusing on issues of quality, safety, professionalism and patient-centred team-based care. The Canadian medical education system is the envy of the world. However, there is more that we can and must do. The Association of Faculties of Medicine of Canada (AFMC), le Collège des Médecins du Québec (CMQ), the College of Family Physicians of Canada (CFPC) and the Royal College of Physicians and Surgeons of Canada (RCPSC) have come together with other key stakeholders to develop critical recommendations for change in Canada's postgraduate medical education system. The consortium wishes to ensure that the right kind of physicians are trained and that we are able to meet all of Canada's healthcare needs.

Building on the work of the FMEC MD Education Project, the FMEC PG Project has examined postgraduate medical education as part of the learning continuum for physicians, beginning with medical students as they move into postgraduate training and eventually into practice. Many of the reforms we found necessary for postgraduate medical education echo those identified in the FMEC MD Education Project. The importance of making consistent changes across the educational continuum cannot be underestimated.

The foundation of the FMEC PG Project was the identification of a comprehensive base of evidence including a literature review, stakeholder interviews and an examination of international best practices. Recommendations and action plans were drafted and refined through an iterative process involving extensive consultations with many stakeholders. The project culminated in eight recommendations for change and action items that will require a collective will to implement. What follows in this executive summary is a listing of the eight recommendations, with at least one action item for implementation of each, that we believe is needed to transform our system of postgraduate education and act as an anchor for other changes. The remaining action items listed in the body of this report also require implementation to more effectively improve the system. This is not a report that will be conducive to cherry-picking; effective, sustainable change will require implementation of all recommendations. This can only be accomplished with the engagement of resident learners and their organizations as key contributors to the implementation of all the recommendations.

1. Ensure the Right Mix, Distribution and Number of Physicians to meet Societal Needs

The recommendation states:

Working collaboratively, physicians must address the diverse health and wellness needs of individuals and communities throughout Canada. The Postgraduate Medical Education (PGME) system must continuously adjust its training programs to produce

the right mix, distribution and number of generalist and specialist physicians, including clinician scientists, educators and leaders to serve and be accountable to the Canadian population.

This recommendation is considered fundamental; we need to adjust our physician workforce for the future. We need physicians in all corners of our country, with the right skill set and balance of generalists and specialists. A determination of physician requirements needs to recognize the increasing importance of team-based care, the changing scopes of practice of physicians and other healthcare providers and how the professions interact.

Key Transformative Actions

Establish a national partnership to assess and adjust the Canada-wide complement of training programs such that they align with societal and health policy needs.

and

Continuously adjust residency training programs and resources of Canadian medical schools in response to an assessment of local, provincial and national health human resources (HHR) needs.

Implementation of this recommendation needs to be led by AFMC, CFPC, CMQ, federal/provincial/territorial governments, medical schools (PGME offices), and RCPSC.

2. Integrate Competency-Based Curricula in Postgraduate Programs

The recommendation states:

Implement and evaluate innovative, competency-based, learner-centred curricula to ensure that they meet the diverse learning needs of residents and the evolving healthcare needs of Canadians.

Competency-based education is still in its infancy. It involves moving away from a strictly time-based training model towards one that identifies the specific knowledge, skills and abilities needed for practice. Some of these competencies will be generic - needed by all physicians - others will be specific to specialties or groups of specialties, while others will be specific to the needs of particular communities. Each needs to be identified, explicitly taught and assessed.

Key Transformative action

Develop and implement residency training models based on demonstrated mastery of competencies required for readiness to practice.

Implementation of this recommendation needs to be led by the AFMC, CFPC, CMQ and RCPSC working with the PGME offices in our medical schools.

3. Create and Implement Effective Assessment Systems that Support Residents as Learners and Service Providers

The recommendation states:

Competence and readiness to practice must be assessed, emphasizing longitudinal, formative feedback and in-training assessment over final, summative examinations. Multiple observations, using various modalities that are valid, fair and reliable should be used, combined with input from self, supervisors, physician peers, other health professionals, patients and families.

The science of assessment is continually evolving and there is increasing recognition that new assessment tools are required as we further develop competency-based medical education. Assessments need to be appropriately timed to provide ongoing feedback to learners and to maximize all learning opportunities within a residency program.

Key Transformative action

Critically appraise the nature, role and timing of summative assessments in order to ensure that appropriate time is spent in the latter part of residency to hone clinical competencies needed to enter practice.

Implementation of the recommendation needs to be led by the CFPC, CMQ, Medical Council of Canada (MCC), RCPSC and medical schools (PGME offices).

4. Develop, Support and Recognize Clinical Teachers

The recommendation states:

Support clinical teachers to provide excellent instruction, responsible role-modelling and effective feedback and assessment, through targeted faculty/professional development and by the recognition of their contributions.

Teaching of residents in medicine now occurs in a wide range of clinical settings with instruction by a variety of physicians and other healthcare professionals, all of whom possess varying levels of teaching skills. All of these teachers must be provided with effective and appropriate faculty/professional development and support to optimize educational outcomes.

Key Transformative action

Develop an accessible, comprehensive, national, continuing professional development strategy that supports the spectrum of clinical teaching activities,

including the teaching of CanMEDS and CanMEDS-FM roles, with added emphasis on responsible role-modelling.

Implementation of the recommendation needs to be led by the Association of Canadian Academic Healthcare Organizations (ACAHO), CFPC, the Canadian Medical Association (CMA), CMQ, medical schools [PGME, Faculty Development and Continuing Professional Development (CPD) offices] and RCPSC.

5. Ensure Effective Transitions along the Educational Continuum

The recommendation states:

The Canadian postgraduate medical education (PGME) system must prepare physicians for practice. This requires development of increasing responsibility throughout the medical education continuum and effective transitions from Medical Doctor (MD) education to PGME, within PGME, and from PGME into practice.

The transitions from medical school to residency and then into practice are key opportunities for learning, but need to be managed and used more effectively. In particular, entry to residency and the final year of residency training need to be better structured to maximize learning and readiness to practice.

Key Transformative action

Review current practices and systems, e.g. including the Canadian Resident Matching Service (CaRMS) match process leading to entry into residency, and the timing of national examinations, to develop smoother and more effective transitions.

Implementation of the recommendation needs to be led by ACAHO, medical schools (PGME and UGME offices), the certifying bodies (CFPC, CMQ, RCPSC), , MCC, with the collaboration of CaRMS.

6. Align Standards of Training and Accreditation through Effective Governance

The recommendation states:

Governance, standards of training and accreditation should be aligned across the learning continuum - beginning with the MD education program through residency and continuing into professional practice - designed within a social accountability framework and focused on meeting the healthcare needs of Canadians.

There is widespread acknowledgement that the PGME system in Canada is complex and, at times, somewhat inefficient, with many stakeholders, decision points and governance challenges. There are many vested interests, some that need to be recognized and supported, and others that need to be reevaluated and reconceptualized for more effective governance.

Key Transformative action

Facilitate and enable a more integrated medical education governance system by aligning accreditation processes across the continuum of learning in undergraduate, postgraduate and continuing medical education environments.

Implementation of the recommendation needs to begin with aligning accreditation and requires the leadership of AFMC and the accrediting agencies of UGME, PGME and CPD.

#7. Foster Residents' Leadership Development

The recommendation states:

Foster the development of leadership in future physicians so they may work collaboratively and effectively with other healthcare professionals and help shape our complex healthcare system to better serve society.

Both the FMEC MD Education project and this project recognize that collaborative MD leadership is essential. Leadership development must begin in medical schools and be further developed through residency into practice.

Key Transformative action

Develop, in close collaboration with undergraduate medical education programs, a national core leadership curriculum for all residents with a focus on self-awareness, providing and receiving feedback, conflict resolution, change management and working as part of a team as leader, facilitator or team member.

Implementation of the recommendation needs to be led by the CMA and the medical schools (UGME and PGME offices).

#8. Create a Positive, Safe Learning and Work Environment

This recommendation states:

Teaching and learning must occur in a collaborative system that is centered on the patient, based in safety and quality of care and directed towards teaching and assessing the competencies necessary for completion of training. The learning and work environment needs to be supportive of residents, guide their choice of future practice and respond to future developments in health care.

There needs to be a focus on professionalism and team-based care to assure the best attributes of the physician are enhanced. Both the privilege of being a physician and the responsibilities that accompany it need to be emphasized. A careful balance is required to assure our future physicians combine the best of scientific knowledge and its application with exemplary bedside manner.

Key Transformative Action

Provide resident training that models and reflects patient-centred care and ensures quality, safety and accountability.

Implementation of the recommendation needs to be led by ACAHO and the medical schools (PGME offices).

The challenge for us all is to achieve a collective vision, including not only learners and teachers but also provincial governments and the broader Canadian public. We hope that this report and recommendations will accomplish this.

DRAFT

INTRODUCTION

Over the last century major changes have created increasing demands on the delivery of health care in this country. Canadians are living longer. Many are now experiencing multiple chronic diseases which have generated an increased need for community-based services. Ongoing healthcare challenges and public health threats continue to surface with scientific discoveries and the evolution of medical technologies all influencing the way medicine is practised. Expectations on the part of patients, their families and communities are continuously evolving with increasing demands that the healthcare system be accountable for safety, quality, timeliness and equitable access to healthcare services. Concurrent with all of these changes, governments across Canada are facing significant budgetary challenges resulting in an increased demand upon healthcare organizations and providers to demonstrate fiscal accountability.

Collective planning and action is central to addressing these challenges. Medical education in Canada plays a vital role in developing the different types of physicians needed by Canadians. Physicians, as 'products' of the medical education system, must be ready to practise, and see themselves as practising, within an integrated healthcare system designed to deliver the highest quality care for the people they serve.

Physician training in Canada is recognized worldwide for its high standards. The excellent training that exists in this country can be attributed to the thousands of medical educators and leaders who believe in their collective responsibility for educating physicians needed now and into the future. To ensure that medical education remains responsive to what Canadians expect of their physicians, a comprehensive review of physician education in Canada is timely.

The Future of Medical Education in Canada Medical Doctor (MD) Education Project

The Future of Medical Education in Canada Medical Doctor (FMEC MD) Education Project was initiated by medical educators and leaders as an update to the 1910 Abraham Flexner Report,¹ which examined medical education in Canada and the United States. The FMEC MD Education Project, which ran from 2007-2010, focused on enhancing the delivery of undergraduate medical education (training towards the attainment of a medical degree) in Canada. The FMEC MD Education Project released its recommendations in a report entitled "The Future of Medical Education in Canada: A Collective Vision for MD Education."² Regional, national and international interest has been garnered since the release of the 10 recommendations that identified how undergraduate medical education should be enhanced to produce the type of physician collectively envisioned for the future.

¹ Flexner, A. Medical Education in the United States and Canada. A Report to the Carnegie Foundation for the Advancement of Teaching. Bulletin No. 4. New York: Carnegie Foundation; 1910.

² The Association of Faculties of Medicine of Canada. The Future of Medical Education in Canada: A Collective Vision for MD Education. Ottawa, ON: The Association; 2010.

Vision of the Physician of the Future

Physicians of the future “need a broad knowledge base and strong clinical competencies to enter practice. Through lifelong learning the physician of the 21st century will be a skilled clinician, able to adapt to new knowledge and changing patterns of illness as well as new interventions, personalized therapeutics, and rapidly changing medical science and healthcare systems. Physicians will need to be independent and critical thinkers, capable of appraising evidence free from personal bias and inappropriate influence.”³

AFMC led the Health Canada-funded FMEC MD Education Project. The success attained from the FMEC MD Project motivated the initiation of the (FMEC PG) Project, in partnership with CMQ, CPFC and RCPSC, focusing on enhancing postgraduate residency education (training to the point of independent practice) in Canada. The FMEC PG Project links to and builds upon the work of the FMEC MD Education Project, in which a comprehensive review of undergraduate medical education was completed, resulting in a series of 10 recommendations. With the vision of the physician of the future defined the second phase of the project captures the collective wisdom and aspirations of the Canadian public, leaders in health professionals’ education, decision-makers and policymakers on how postgraduate medical education in Canada needs to change to fulfill this vision.

The Future of Medical Education in Canada Postgraduate (FMEC PG) Project

The recommendations listed in this FMEC PG report aim to provide a blueprint for action.

The FMEC PG Project was designed to examine the postgraduate medical education environment to assess its systems, programs and processes. Building on the successful model used by the FMEC MD Education Project, a rigorous review was undertaken involving hundreds of stakeholders over a 25-month period (February 2010 - March 2012). A full description of the process is described in the section entitled Methodology. Eight recommendations have been developed to enhance the strong postgraduate education system already in place. The changes suggested are aimed to strengthen the role medical educators and leaders have in producing the type of physicians needed in the future. The greatest hope for the FMEC PG Project lies in its opportunity to influence the production of the right number, mix and type of physicians ready to practice medicine across Canada and their distribution across the country.

The Context of Canadian Postgraduate Medical Education

To understand how the recommendations made in this report are interrelated and demonstrate their alignment with the FMEC MD recommendations, it is important to understand the context within which residents are educated. Medical education is a lifelong learning journey; it is helpful to consider the points of transition in what is described as the continuum of medical education, as medical students develop into practising physicians.

³ Ibid. pg. 11

From Medical School to Residency Training

In their last year of medical school, medical students choose and are then matched to a specialty residency program affiliated with one of the 17 Canadian Faculties of Medicine. Each of these university-based degree programs is responsible for providing residency programs that meet accreditation standards set by either the CFPC, with the CMQ for Québec programs, for the specialty of family medicine or the RCPSC, with the CMQ for Québec programs, for all other specialty programs. Once residents complete their training they must provide both evidence of satisfactory completion of their residency program and pass the CFPC or RCPSC examination to become certificants of their respective Colleges. The CMQ no longer has separate examinations and recognizes the examinations of the CFPC and the RCPSC. CMQ certification is necessary to practice in Québec. To practise medicine within a province in Canada, graduates must also successfully pass the National Licensing Examinations (Licentiate of the Medical Council of Canada (LMCC) - parts I and II). With these qualifications obtained, a resident is ready for practice upon completion of the residency program.

For some residents, the learning journey continues into a subspecialty area; for others, a choice is made to undertake enhanced skills training with a certificate or diploma of added competence. These additional qualifications are recognized in various ways within different healthcare organizations.

From Residency Training to Practice in Canada

Once in practice, all physicians must maintain a level of competence that meets the needs of their practice population in order to retain their medical license to practice. The pursuit of continuing professional development has become a mainstay of practice for all physicians.

The Unique Dual Role of the Resident as Student and Care Provider

Residents are considered learners throughout their residency training. Residents are also considered clinical service providers through their affiliation with the healthcare organizations within which they are training. This duality is essential to the development of competence, in particular to residents' ability to function as members of an integrated healthcare delivery system. They are supervised by staff physicians, but also provide direct patient care. As such, residents receive monetary compensation for their clinical service duties paid by the provincial ministries of health and also belong to an employee union or association specifically for residents within each province.

Stakeholders Involved in the Canadian Postgraduate Medical Education System

This unique role of the resident as learner and service provider results in a diverse and complex network of stakeholders involved in different aspects of postgraduate medical education in Canada. Stakeholders include, but are not limited to: universities, accrediting colleges, specialty societies, provincial regulatory licensing bodies, provincial ministries of education and health, healthcare organizations, unions, national and provincial

associations involved in care and/or medical education issues, residents, faculty, clinical providers, patients, government and policymakers. It is clear from this list that postgraduate medical education involves stakeholders with a variety of different interests representing a multitude of diverse groups. The interconnectivity among these groups helps to define a *system* of players all of whom have a role in the delivery of postgraduate medical education. The recommendations in this report are aimed at different stakeholders, many of whom were identified above, all part of a system supporting postgraduate medical education. For success to be achieved, a coordinated approach, anchored by a collective vision for medical education in Canada, is required.

A Collective Vision for Medical Education

The FMEC MD Education Project shares a vision of medical education that holds true for the FMEC PG initiative:

Medical education in Canada must ensure that key competencies are attained by every physician while simultaneously providing a variety of learning paths and technologies that prepare students for diverse roles in their future careers.

A seamless integration of MD training and postgraduate medical education is critical in order to respond to the evolving needs of Canadians.

Many of the themes that emerged through the FMEC MD Education Project have resurfaced as important issues for the future of postgraduate medical education. In both educational environments, the primacy of medical education's **social accountability** role in health care emerged as its core *raison-d'être*. Social accountability must inform physician training, with the health and well-being of patients and their communities providing the unequivocal focal points for medical education. Equally, it is held that physicians must work within a healthcare system founded upon **quality, patient safety and patient-centred care**. The medical education system must create physicians who are committed and competent to practising medicine in this way. Advancing **interprofessional care** and the abilities of physicians to **work effectively in healthcare teams** have emerged as other strongly held views regarding the manner in which physicians must be trained to provide effective patient-centred care. Another area of emphasis is the need to ensure that physicians practise medicine in an **evidence-informed** manner.

Guiding Principles

The identified common thematic areas described below encapsulate the strongly held views that emerged from both the FMEC MD Education and PG Projects. These themes serve to highlight the underlying assumptions that are widely held and shape the way in which the recommendations and actions shared in this report must be interpreted and held accountable.

1. Align Physicians' Learning, Service and Work around the Health and Well-being of Patients and Communities
2. Ensure Patient Safety and Quality Patient Care
3. Value, Model and Integrate Interprofessionalism into Resident Learning and Practice
4. Integrate State of the Art Technology

From Shared Vision to Collective Action

The FMEC PG Project reflects collaboration at its best. The ideas and interests of those inside and outside of medicine and medical education have been collected through an extensive consultation process and rigorous literature review. This report captures a multitude of ideas, aspirations and commitments from Canadians, who are directly and indirectly connected to medical education and health care. The eight recommendations in this report encompass the collective wisdom of constituents and educational leaders across Canada. Acknowledged as a highly iterative project, further input from the community is anticipated as the recommendations are moved forward and discussions are held on how implementation will take place. Successful implementation will require commitment from the entire range of stakeholders involved in the postgraduate medical education system. Accountability must be shared by all if success is to be achieved.

The consortium partners and committee members involved in this initiative are excited by the possibilities that this report and its recommendations hold. It is shared with enthusiasm with all who have a role in shaping the future of postgraduate medical education in Canada.

1: Ensure the Right Mix, Distribution and Number of Physicians to meet Societal Needs

RECOMMENDATION

Working collaboratively, physicians must address the diverse health and wellness needs of individuals and communities throughout Canada. The (PGME) system must continuously adjust its training programs to produce the right mix, distribution and number of generalist and specialist physicians, including clinician scientists, educators and leaders to serve and be accountable to the Canadian population.

Actions:

1. Develop and implement a pan-Canadian HHR strategy to respond to societal health and wellness needs. *Leadership and Accountability: AFMC, CFPC, CMQ, F/T/P governments, medical schools (PGME offices), RCPSC.*⁴
2. Establish a national partnership to assess and adjust the Canada-wide complement of training programs such that they align with societal and health policy needs. *Leadership and Accountability: AFMC, CFPC, CMQ, F/T/P governments, medical schools (PGME offices), RCPSC.*
3. Create a national process to establish the number and types of specialty positions within Canadian residency programs that are required to meet societal needs. *Leadership and Accountability: AFMC, CFPC, CMQ, F/T/P governments, medical schools (PGME offices), RCPSC.*
4. Continuously adjust residency training programs and resources of Canadian medical schools in response to an assessment of local, provincial and national health human resources needs. *Leadership and Accountability: AFMC, CFPC, CMQ, F/T/P governments, medical schools (PGME offices), RCPSC.*
5. Effectively integrate international medical graduates (IMGs) as part of the Canadian HHR strategy. *Leadership and Accountability: AFMC, CFPC, CMQ, F/T/P governments, medical schools (PGME offices), RCPSC.*

Rationale:

Canadians deserve a responsive healthcare system to address our evolving and diverse healthcare needs. Yet, we know that gaps in health services exist, for example, people living

⁴ Immediately following each Action item, there is a suggested designation for Leadership and Accountability. Organizations are listed in alphabetical order. This is not to suggest that the organizations listed will have exclusive responsibility for implementing particular actions; rather, it is suggested that they take a lead role in collaboration with all other relevant stakeholders. Potential stakeholder groups involved in implementation are listed in the Glossary on page 44.

in remote communities, Aboriginal and refugee populations, the urban homeless and increasing numbers of the elderly face significant barriers in accessing the care they need. Family physicians are trained to provide front line health care to meet most needs of Canadians. While specialists will always be required, they are needed in fewer numbers relative to generalists. Even though generalist physicians could provide care to many underserved populations and close the current gap in services, we are failing to graduate enough physicians who continue to practice as generalists from residency training programs. The balance between the requisite number of generalists and specialists is askew. More important than the actual number of practitioners is the effective scope of practice of the specialist. Residency training must instill in residents the importance of maintaining a generalist scope of practice (whatever their specialist title) and equip them to meet this mandate.

To be socially accountable, the Canadian PGME system must produce the right mix, number and distribution of physicians across Canada to meet the identified healthcare needs of Canadians. Social accountability requires us to be good stewards of healthcare human and financial resources. By committing to a coordinated and strategic planning process, leaders across the PGME system can propel this accountability agenda forward. Strategic planning combined with collaborative stewardship among stakeholders are vital.

While we advocate for the development of a pan-Canadian agenda in facilitating socially accountable health care, we also recognize the inherent need for flexible adaptation and implementation of such an agenda in various jurisdictions across Canada. Whereas national consensus may be reached on principles, application of these principles will necessarily hinge on local needs and capacities. We expect that through a national dialogue, shared interests for postgraduate medical education will be articulated to address such topics as movement of physicians across provincial boundaries; remuneration structures; the differing needs of rural and urban health care; job security; and changing scopes of practice (subspecialties and diploma programs) juxtaposed against geography and demographic changes. Flexibility and adaptability will be required, not only in adjusting the types, locations and numbers of residency training programs and positions, but also to facilitate career choice changes. Opportunities for transfers during residency training as well as retraining during physicians' lives and practice changes need to be available and supported.

Canadian medical schools are the main source of Canadian physicians and have increased enrollment by approximately 50% over the past decade to address physician shortages. IMGs will continue to have an important role in the Canadian healthcare system. Effectively integrating IMGs into the Canadian healthcare system will be fundamental to the success of achieving the right mix, number and distribution of physicians. This will require concerted action by governments, including immigration authorities, licensing authorities, universities and health systems. The Canadian PGME system provides training for many IMGs (the number of IMGs entering PGME in Canada has increased by over 400% over the past decade). All trainees must have an understanding of the healthcare system, culture and regulation. Those receiving MD training in another jurisdiction may be disadvantaged in this regard; therefore, introductory programs for such individuals should be developed

so that they enter and progress through their PGME educational program being able to take full advantage of learning opportunities.

DRAFT

2: Integrate Competency-Based Curricula in Postgraduate Programs

RECOMMENDATION

Implement and evaluate innovative, competency-based, learner-centred curricula to ensure that they meet the diverse learning needs of residents and the evolving healthcare needs of Canadians.

Actions:

1. Conduct a thorough, evidence-based review of competency-based training model options that most effectively measure readiness to practice by specialties. *Leadership and Accountability: CFPC, CMQ, RCPSC.*
2. Develop and implement residency training models based on demonstrated mastery of competencies required for readiness to practice. *Leadership and Accountability: AFMC, CFPC, CMQ, medical schools (PGME offices), RCPSC.*
3. Create innovative training models, encouraging new ways of teaching within and across specialties and healthcare professions, in a way which reflects patient expectations for interprofessional, patient-centred, collaborative, team-based care. *Leadership and Accountability: CFPC, CMQ, medical schools (PGME offices), RCPSC.*
4. Demonstrate evidence that links program standards and resident competencies to meeting society's healthcare needs. *Leadership and Accountability: AFMC, CFPC, CMQ, RCPSC.*
5. Create a system and a process to share curricular innovations and best practices among medical schools and residency training programs. *Leadership and Accountability: AFMC, medical schools (PGME offices).*

Rationale:

According to the latest Canadian census data, nearly 80% of Canadians live in urban areas. Serving the healthcare needs of all Canadians, however, means that we must adapt our training of doctors to meet the unique healthcare interests of the minority as well as the majority of the population. To adequately meet the needs of rural and remote communities as well as marginalized groups, curricula must be adapted to provide residents with exposure to different populations and different service delivery models both within and outside the urban and large tertiary care centres.

Canadians' evolving healthcare needs must drive and guide the core competencies required of physicians. As society's healthcare needs shift, the requisite competencies (collection of observable knowledge, skills and behaviours) for physicians will also shift. In other words, competencies must be defined on the basis of individual and community health needs. By

working together, medical schools, the CFPC, CMQ and RCPSC can establish a process whereby competencies will be periodically reviewed and articulated to ensure the right generalist and specialist skills are developed for quality patient care in all settings.

Residency training should provide learning experiences that support the development of defined requisite competencies. We also recognize that a flexible, learner-centred curriculum is critical to developing competent physicians. Flexibility requires that we use a blend of time-based milestones and competencies assessment to guide learning and progression through residency programs.

We have made significant strides in integrating the CanMEDS⁵ and CanMEDS-FM⁶ frameworks into the PGME curricula. Undergraduate and continuing professional development curricula are also incorporating CanMEDS, providing greater fluidity and uptake of identified competencies. Readiness to practice is an essential marker for successful completion of resident training; curriculum and assessment should be fashioned around this objective with time-based milestones and demonstration of competencies as complementary markers of success. Residency training must equip residents with the tools for self reflection and self assessment to maintain competency throughout their careers.

⁵ Frank, JR. (Ed). The CanMEDS 2005 physician competency framework. Better standards. Better physicians. Better care. Ottawa: The Royal College of Physicians and Surgeons of Canada. (http://rcpsc.medical.org/canmeds/CanMEDS2005/CanMEDS2005_e.pdf). Revised 2005. Accessed January 5, 2012.

⁶ CanMEDS - Family Medicine. Working Group on Curriculum Renewal. The College of Family Physicians of Canada. (<http://www.cfpc.ca/WGPCResources/>). Accessed January 5, 2012.

3: Create and Implement Effective Assessment Systems that Support Residents as Learners and Service Providers

RECOMMENDATION

Competence and readiness to practice must be assessed, emphasizing longitudinal, formative feedback and in-training assessment over final, summative examinations. Multiple observations, using various modalities that are valid, fair and reliable should be used, combined with input from self, supervisors, physician peers, other health professionals, patients and families.

Actions:

1. Ensure that residents are provided with regular and adequate formative feedback, including identification of strengths and challenges, to support progressive development along the learning continuum. *Leadership and Accountability: CFPC, CMQ, medical schools (PGME offices), RCPSC.*
2. Provide residents with multi-source feedback (from patients, students, peers, other healthcare professionals and preceptors) regarding their overall performance as well as their performance within teams. *Leadership and Accountability: CFPC, CMQ, medical schools (PGME offices), RCPSC.*
3. Develop summative assessment methodologies and tools for providing evidence of readiness for entry to practice that reflects integration of all CanMEDS and CanMEDS-FM roles. *Leadership and Accountability: CFPC, CMQ, MCC, medical schools (PGME offices), RCPSC.*
4. Build a framework of validated assessment tools, methods and implementation processes that support the development and mastery of required physician competencies. *Leadership and Accountability: CFPC, CMQ, MCC, medical schools (PGME offices), RCPSC.*
5. Strengthen the linkages between in-training assessment methods and national examinations to ensure readiness for practice. *Leadership and Accountability: CFPC, CMQ, MCC, medical schools (PGME offices), RCPSC.*
6. Critically appraise the nature, role and timing of summative assessments in order to ensure that appropriate time is spent in the latter part of residency to hone clinical competencies needed to enter practice. *Leadership and Accountability: CFPC, CMQ, MCC, medical schools (PGME offices), RCPSC.*
7. Ensure adequate funding and flexibility are available for residents who require remediation and develop strategies for sharing of best practices in effective

remediation. *Leadership and Accountability: AFMC, medical schools (PGME offices), P/T governments.*

Rationale:

Residents are expected to develop core competencies throughout their residency. The current process of In-Training Evaluation Reports (ITERs) is not necessarily reliable for ensuring the quality and rigor of non-Medical Expert CanMEDS roles. Assessment provides mechanisms for focusing attention to stay on track and on target to develop practice-ready residents. We should only measure what matters. CanMEDS and CanMEDS-FM, for example, emphasize the importance of the interlinked seven competencies to the development of the complete physician. From the patients' point of view they wish and deserve a medical expert who embodies and integrates all of the CanMEDS and CanMEDS-FM competencies.

Assessment often results in value-laden scores, which ideally constitute valid and reliable data. Assessment is also about a process, and the process must be unequivocally fair. The major rationale to provide supportive and 'in-the-moment' evaluation and assessment is to develop the competencies to improve patient care. A lesser reason for the need for reliable, valid and fair assessments is increased legal challenges by residents who assert unfair evaluations. Robust assessment and proper process is essential to ensure equity among learners. More medical education research and faculty development in this area are crucial for both proper assessment and process.

Educational scholarship has shown that multiple, independent observations enhance validity and that direct observation is the best means of assessing residents' competencies in providing patient care. While many valuable assessment tools and methods are currently available, there are opportunities for innovative new practices in this area. Assessment must be based in both simulated and actual clinical environments. Evaluating competencies that appear inherently subjective, such as "effective and appropriate collaboration," requires special attention. Furthermore, tools and methods offer utility if applied in a consistent fashion. Future improvements to assessment practices should enhance regular formative feedback in a safe environment leading to summative tools and methods, and encourage consistent application. Remediation programs, often customized around specific learner needs, deserve greater attention. Medical education scholarship should develop best practices in remediation programming that can be shared through faculty development channels.

On a day-to-day basis, we assess trainees to improve their ability to care for patients. In a broader sense, we assess learners and faculty as a means to ensure the best quality health care to meet the needs of Canadians. As a self-regulating profession, we have made a commitment to the Canadian public to be expert, professional and patient-centered. With social accountability as a driver, all stakeholders in the Canadian PGME system must shift the culture of medical education to value assessment as a tool for continual quality improvement of individuals learners, faculty and as well as the learning environment.

4: Develop, Support and Recognize Clinical Teachers

RECOMMENDATION

Support clinical teachers to provide excellent instruction, responsible role-modelling and effective feedback and assessment, through targeted faculty/professional development and by the recognition of their contributions.

Actions:

1. Develop an accessible, comprehensive, national, continuing professional development strategy that supports the spectrum of clinical teaching activities, including the teaching of CanMEDS and CanMEDS-FM roles, with added emphasis on responsible role-modelling. *Leadership and Accountability: ACAHO, CFPC, CMA, CMQ, medical schools (PGME, Faculty Development and CPD offices), RCPSC.*
2. Recognize the issues of clinical teachers in all settings including community-based, non-tertiary care settings and provide them with the means to carry out their many roles, including caring for their patients and taking on increasing clinical teaching responsibilities. *Leadership and Accountability: Medical schools (UGME, PGME, CPD offices).*
3. Identify effective incentives to encourage the continuous professional development of physicians in their roles as teachers through systemic mechanisms such as licensing, certification, granting of hospital privileges and funding models. *Leadership and Accountability: ACAHO, CFPC, CMQ, (Federation of Medical Regulatory Authorities of Canada) FMRAC, P/T governments, RCPSC.*
4. Develop valid, fair and reliable assessment tools with which residents can safely provide formative feedback to clinical teachers to support their ongoing professional development. *Leadership and Accountability: Medical schools (PGME offices).*
5. Recognize clinical teachers through various mechanisms including remuneration, academic merit/promotion and awards. *Leadership and Accountability: ACAHO, AFMC, CMA, medical schools (PGME offices), P/T governments.*

Rationale:

Quality teaching is the *sine qua non* of resident training, and yet the development and recognition of teaching excellence has not been prioritized accordingly. Greater support for professional development of clinical teachers is required to enable excellent teaching and responsible role-modelling. The limited financial resources allocated to professional development, coupled with the scarcity of medical education mentors, presents challenges in developing the necessary skills in instruction, leadership and role-modelling for those

who teach. While several institutions across the country offer best practices in professional development for clinical teachers, the lack of a national level partnership or dialogue means that these best practices are not well shared, creating variability across residency programs.

The CanMEDS and CanMEDS-FM frameworks offer useful structures and a range of resources that can be adapted and implemented by teaching sites and universities for targeted faculty development. Through further partnership with the AFMC, CFPC, CMQ and RCPSC, a national competency-based curriculum and standardized assessment mechanism for teaching faculty might be developed, leveraging the tools built through CanMEDS and CanMEDS-FM. Teaching and assessing the competencies of the collaborator, advocate, and manager, CanMEDS and CanMEDS-FM roles require attention through faculty development. Faculty must be supported to incorporate the latest technologies, such as simulation and web-based media, alongside more traditional teaching practices, that together enhance resident learning. Clinical teachers outside the academic tertiary care environment must also be supported to deliver the curriculum through effective role-modelling, which reflects and influences behavioural and practice norms.

Assessment provides a valuable method to encourage excellence in teaching. To fully embrace this dual role of teacher and learner, all clinical teachers must be evaluated on their competencies in teaching and role-modelling. Faculty assessment should be conducted in the spirit of continuous quality improvement, aimed at the professional development of the individual faculty member as well as supporting improvement of the learning environment as a whole. As is the case with assessing residents, assessment of faculty must be valid, fair and reliable, affording both formative and summative feedback to clinical teachers.

To excel at teaching goes beyond natural talent and intellect; it also requires a dedication of time and effort, patience, self-awareness, empathy and leadership. Excellence in teaching is a valuable contribution to the development of emerging physicians, and, in turn, their patients and our communities, and should be acknowledged. To provide recognition for teaching is especially important considering the volunteerism of many clinical teachers, who teach because of their commitment to developing the next generation of doctors and clinical educators. With this in mind, proportionate recognition of faculty contributions should be further explored, locally and nationally, as a means of encouraging and rewarding teaching excellence.

5: Ensure Effective Transitions along the Educational Continuum

RECOMMENDATION

The Canadian PGME system must prepare physicians for practice. This requires development of increasing responsibility throughout the medical education continuum and effective transitions from MD education to PGME, within PGME, and from PGME into practice.

Actions:

1. Review current practices and systems, e.g. including the CaRMS match⁷ process leading to entry into residency, and the timing of national examinations, to develop smoother and more effective transitions. *Leadership and Accountability: ACAHO, CaRMS, CFPC, CMQ, MCC, medical schools (UGME, PGME offices), RCPSC.*
2. Insist on the collaboration of PGME and MD education programs to ensure that MD programs appropriately prepare students for entry into residency by, e.g., a rigorous and flexible use of the final year of medical school with emphasis on the acquisition of the skills needed for residency. *Leadership and Accountability: Medical schools (UGME, PGME offices).*
3. Develop a pan-Canadian approach to resident orientation, which includes assessment and supplementary learning modules for IMGs as needed, to ensure readiness to begin postgraduate medical education. *Leadership and Accountability: Medical schools (PGME offices).*
4. Review and determine the ideal length and content of PGME training, based on competencies required for readiness to practice, including the skills needed to maintain competency in the breath of the specialty, rather than traditional time-based models. *Leadership and Accountability: CFPC, CMQ, medical schools (PGME offices), RCPSC.*
5. Ensure training programs are redesigned to facilitate a smoother transition from PGME into clinical practice by emphasizing that residents' experiences in PGME training must reflect their future practice and the ability to be competent in the various areas of the specialty. *Leadership and Accountability: CFPC, CMQ, medical schools (PGME offices), RCPSC.*

Rationale:

⁷ The Canadian Resident Matching Service (CaRMS) is a not-for-profit organization that works in close cooperation with the medical education community, medical schools and students, to provide an electronic application service and a computer match for entry into postgraduate medical training throughout Canada. Canadian Resident Matching Service. About CaRMS. (<http://carms.ca/eng/index.shtml>). Published 2012. Accessed January 5, 2012.

The overarching mandate of postgraduate medical education is to prepare physicians – intellectually, technically, and emotionally – for professional practice as members of interprofessional teams. Residents’ development, however, begins before and continues beyond postgraduate education. PGME plays an integral role in supporting residents’ progress along this developmental path, a role that involves collaborative planning with other leaders in medical education to facilitate more effective and smooth transitions. To improve transitions there are a number of focal areas, at the systemic and programmatic levels, that deserve attention.

Collaborative planning among medical education stakeholders is a prerequisite to more effective transitioning to and from residency. Length of training and timing of national examinations are critical factors for medical schools, the MCC, CFPC, CMQ, and RCPSC and others to review. National examinations, which are but one tool for assessing competence, must be considered within the entire context of an assessment process. The MD Education and PGME systems must also collaborate to devise a plan whereby graduating MD students are optimally prepared for residency. Similarly, dedicated resources and attention must be applied to the development of effective assessment tools and ensure the effective integration of IMGs into Canadian residency programs. The development of a national orientation program for all graduating MDs and IMGs could provide the necessary infrastructure for standardizing the entry process into residency training. The Canadian PGME system must also improve its sign-off process indicating residents are ready to practice, such that the exit ramp for graduating trainees ensures both competency in the breadth of the specialty and accountability.

6: Align Standards of Training and Accreditation through Effective Governance

RECOMMENDATION

Governance, standards of training and accreditation should be aligned across the learning continuum - beginning with the MD education program through residency and continuing into professional practice - designed within a social accountability framework and focused on meeting the healthcare needs of Canadians.

Actions:

1. Create a national think tank with a mandate to ensure that the Canadian PGME system becomes more flexible and responsive to societal needs. *Leadership and Accountability: ACAHO, AFMC, CFPC, CMQ, F/T/P Governments, RCPSC.*
2. Facilitate and enable a more integrated medical education governance system by aligning accreditation processes across the continuum of learning in undergraduate, postgraduate and continuing medical education environments. *Leadership and Accountability: AFMC, accrediting agencies of UGME, PGME, CPD.*
3. Perform an in-depth review of PGME governance to assign primary and secondary levels of responsibility. *Leadership and Accountability:*

Rationale:

Effective governance is essential to the administration of the Canadian PGME system, in which standards of training and accreditation are foundational structures. “Governance” in the context of PGME includes the institutions, policies and processes that support the administration and delivery of resident training. The PGME system is a complex array of players (from education, government, health authorities, etc.) with multidirectional accountabilities. Within this complexity lies a profound challenge of finding the clarity and collaboration required for effective governance; it has to date resulted in a lack of alignment towards a common vision for resident training. To ensure *effective* governance within PGME, clarity of roles and responsibilities among the many stakeholders *and* a practice of collaborative dialogue must be in place.

Partners in the Canadian PGME system must assume a leadership role in beginning a dialogue with other medical education stakeholders to articulate a common vision, interests, responsibilities and various accountabilities in meeting Canadians’ identified health and wellness needs. If sustainable health care in Canada is to be achieved, effective governance must be put into practice to enable careful forecasting of numbers and types of physicians required in our system to make effective health and human resources decisions. With forecasting data as targets, PGME partners can then implement standards and accreditation that align to a common vision.

7: Foster Residents' Leadership Development

RECOMMENDATION

Foster the development of leadership in future physicians so they may work collaboratively and effectively with other healthcare professionals and help shape our complex healthcare system to better serve society.

Actions:

1. Develop, in close collaboration with undergraduate medical education programs, a national core leadership curriculum for all residents with a focus on self-awareness, providing and receiving feedback, conflict resolution, change management and working as part of a team as leader, facilitator or team member. *Leadership and Accountability: CMA, medical schools (UGME, PGME offices).*
2. Tailor leadership development to personal needs, with opportunities available for higher education in leadership through formal degree programs, for those who wish to pursue this. *Leadership and Accountability:*
3. Encourage that all residents be given the opportunity to participate in administrative leadership during training. *Leadership and Accountability: accreditation agencies of CAIR, CFMS, CMA, medical schools (UGME, PGME offices), P/T Professional Housestaff Organizations (PHO).*
4. Working with national CPD initiatives, develop programs to enhance MD teaching of leadership in MD education and PGME and build upon the leadership curriculum for those in practice. *Leadership and Accountability:*

Rationale:

There are various perspectives on leadership and the common thread among different definitions includes a process of intentional influence between the leaders and followers to work towards a shared goal(s). In our society, physicians are perceived as leaders. Every resident must understand that leadership is an enabling component for all CanMEDS and CanMEDS-FM roles and is relevant to patient care, education, research and administration. Leadership curriculum must be a part of core learning for every resident. Today's leadership training must be focused on the current environment in which physicians work as part of interprofessional teams as facilitators, team members or team leaders. Residents should learn to exercise leadership choices in their daily work, irrespective of whether they have a formal leadership position. Residents must have the opportunity to receive feedback regarding their performance on teams. All residents should become engaged in improving the health care of patients and populations and the healthcare system in general. To this end, residents must be supported to develop their leadership skills during training and have the opportunity to create positive change in our complex healthcare system.

8: Create a Positive, Safe Learning and Work Environment

RECOMMENDATION

Teaching and learning must occur in a collaborative system that is centred on the patient, based in safety and quality of care and directed towards teaching and assessing the competencies necessary for completion of training. The learning and work environment needs to be supportive of residents, guide their choice of future practice and respond to future developments in health care.

Actions:

1. Provide resident training that models and reflects patient-centred care and ensures quality, safety and accountability. *Leadership and Accountability: ACAHO, medical schools (PGME offices).*
2. Provide residents with adequate opportunities to work as part of a healthcare team, in which they are exposed to the competencies and roles of other disciplines in medicine and other allied health professionals. *Leadership and Accountability: ACAHO, medical schools (PGME offices).*
3. Provide all residents with diverse learning environments that include varied patient groups with additional emphasis on ambulatory care, community-based practice and generalist environments. *Leadership and Accountability: ACAHO, medical schools (PGME offices).*
4. Provide and support resident-led learning experiences, service opportunities and projects for all residents to both improve the health and health care of underserved and disadvantaged populations; develop residents' understanding of variations in health, well-being and needs of differing patients and communities and expose them to a range of service delivery models. *Leadership and Accountability: Medical schools (PGME offices).*
5. Research the positive and negative effects of resident work hours and sleep deprivation on patient safety, resident learning and resident health. *Leadership and Accountability: ACAHO, Canadian Association of Internes and Residents (CAIR), (Canadian Federation of Medical Students) CFMS, CFPC, CMQ, Fédération médicale étudiante du Québec (FMEQ), Fédération des médecins résidents du Québec (FMRQ), RCPSC.*
6. Develop residency training models that are inclusive of different modes of learning (beyond direct patient care) such as simulation, to address issues of resident health and wellness. *Leadership and Accountability: CFPC, CMQ, medical schools (PGME offices), RCPSC.*

7. Identify and address both positive and negative aspects of the hidden curriculum on the learning and work environment. *Leadership and Accountability: CFPC, CMQ, RCPSC, medical schools.*
8. Develop career planning resources and supports including mentors. *Leadership and Accountability: CFPC, CMQ, medical schools (PGME offices), RCPSC.*
9. Encourage the integration of interprofessional education (IPE) opportunities in PGME environments to support team skills and teaching across disciplines. *Leadership and Accountability:*

Rationale:

The main learning and work environment for residents is the complex healthcare system. While providing important patient care, residents' service or experiential based learning provides foundational education for their developing roles as tomorrow's doctors. Patient-centred care that ensures quality, safety and accountability is vitally important for both patient care and resident preparation for practice.

Twenty-first century health care is becoming increasingly ambulatory and community-based in nature and can only be effectively delivered by well-functioning multi-professional teams. Residents will need to experience diverse learning environments that reflect changing realities, including the need for more generalists.

Disadvantaged populations require special attention from the healthcare system and provide a focus for training residents to better understand the determinants of health and the differing needs of patients, communities and health service delivery models. The involvement of residents in projects to improve the health and health care of underserved and disadvantaged populations can have an immediate impact on health care as well as inspiring residents to future service.

While patient care is a core service provided by residents and is foundational to their learning, resident fatigue is a significant phenomenon that can negatively impact patient safety, resident learning and resident health. More research is needed to inform the development of training programs that balance duty hours with other learning modalities, including simulation, that are needed to develop competence.

The hidden curriculum is defined in Recommendation 5 of the FMEC MD Education Project Collective Vision as a "set of influences that function at the level of organizational structure and culture, affecting the nature of learning, professional interactions, and clinical practice." Role-modelling, attitudes and conversations all affect daily working conditions and also have an important long-term influence in shaping young professionals' approach to life, practice and career choices. A critical examination of the impact of the hidden curriculum on residents' learning and work environment is a first step in addressing this.

Given the complexities and uncertainties in predicting Canada's future needs for particular types of physicians, career planning is daunting not only for residents but also for medical educators and health system planners. This is an area in need of more collective planning and analysis in order to provide more appropriate resources and supports including mentoring to residents as they make their choices in terms of training for what type of practice to meet Canada's future needs.

A positive learning and work environment will contribute to better learning and patient care.

DRAFT

CONCLUSIONS AND NEXT STEPS

This action-oriented mandate for change in postgraduate medical education has been derived from extensive dialogue and engagement with the many stakeholders in the PGME system and builds on much of the work already being undertaken in the postgraduate medical education environment. Our collective challenge moving forward is to ensure that we are able to implement the recommendations of this report to further improve our healthcare system while retaining its many strengths.

Leadership for implementation of these recommendations will be taken by the Association of Faculties of Medicine of Canada, the Collège des Médecins du Québec, the College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada. However, for each of our recommendations, there are many stakeholders that need to participate in implementation, including learners, teachers, governments and the public, among others. As an example, implementation of many of these recommendations will be contingent upon the active participation of our provincial governments. We need to be cognizant of the today's fiscal realities, looking to make changes collectively, while minimizing any increased financial responsibilities for our government, medical schools, the certifying bodies or learners.

In addition to implementation of the FMEC PG recommendations included in this report, it is hoped that the completion of this initiative will lead to the next step in what is increasing referred to as 'the FMEC process' - a comprehensive examination of the continuing medical education environment of practising physicians. Together with the recent reviews of the MD and PGME contexts, this will round out an analysis of the entire medical education continuum and lend an overarching perspective to these highly-interrelated learning environments. It is by reforming the entire continuum of medical education that we will continue to assure the capacity of our physicians to meet the needs of Canadians.

METHODOLOGY

The Future of Medical Education in Canada Postgraduate Project encompassed many inputs to form the basis of evidence from which the recommendations were developed.

Environmental Scan Consulting (ESC) Group

The ESC Group was directed to gather evidence in two ways: preparing commissioned papers on an approved list of topics and conducting interviews with key informants. The project methodology was guided by a Scientific Advisory Committee (SAC) that included educational research scientists who provided both content and process expertise. Research ethics board approval for the interviews was sought and received at the three participating universities (McGill University, University of British Columbia and the University of Toronto).

The initial inventory of research themes that eventually led to commissioned papers was developed through an iterative consultation process that included a literature review, consultation with the Postgraduate Deans Advisory Committee and the FMEC PG Steering Committee, document analysis of FMEC MD literature reviews, and review by the ESC Group and the SAC.

Following an analysis for key themes in PGME, 24 papers were commissioned. Each paper included a review and analysis of relevant literature from the past decade. In addition to reviewing the literature, many of the papers included multiple methodological approaches (e.g., interviews, feedback from stakeholders, focus groups) to capture the current issues in PGME, evidence and information about best practices, and innovations and options for the future of PGME in Canada.

The ESC Group used a Towards Unity for Health (TUFH) framework and purposeful sampling to ensure input from multiple viewpoints. Interviewers used a common interview protocol including consent forms, questions, audio recording, submission of a brief summary field report, review of transcripts and verification of transcripts with key informants.

For both the 24 commissioned papers and the 27 key informant interviews, the research team analyzed the results using grounded theory methods over the course of two separate two-day structured workshops. For each research theme, a broad group of researchers, including representatives from the FMEC PG Steering Committee, developed a consensus view of the key messages from each of the commissioned papers and the themes across the papers and the key informant interviews.

A final report was submitted to the FMEC PG Secretariat in May 2011. The commissioned papers and synthesis report are available on the project website.

Liaison and Engagement Consultant (LEC) Group

During the first round of consultations (undertaken between August and December 2010), the LEC Group conducted over 100 in-person and teleconference consultations with a broad range of stakeholders in the PGME community. The purpose of these consultations was to raise awareness of the project and solicit opinions and ideas for the FMEC PG Steering Committee's consideration in formulating its recommendations. All stakeholders were asked to describe the strengths, vulnerabilities, risks and opportunities within PGME, and suggest ideas to innovate or strengthen the current PGME system. In total, 108 consultations were completed. The LEC Group developed a standardized process to ensure consistent messaging and common processes were used for all consultations, including a step-by-step guide, an invitation to the target stakeholder(s), and a reporting template for stakeholder feedback.

The second round of consultations took place in August and September of 2011 in response to the first version of draft recommendations released on July 28, 2011. The FMEC PG Management Committee directed the LEC Group to solicit feedback on this first draft from 13 national stakeholders, at town hall meetings at 17 medical schools and through a web-based survey. All individuals and organizations who participated in the first round of the consultations were invited to submit their feedback on the draft recommendations using a web-based survey.

The website provided a copy of the LEC Group's first report and a copy of the draft recommendations. A total of 107 individuals participated in the national consultations, and 579 in the town hall meetings, for a total of almost 700 participants. (This total underestimates the number of people involved, as many of the participants were providing feedback on behalf of their entire executive or membership.) An additional 18 submissions were received through the web-based survey or directly to the LEC Group.

Reports were submitted to the Project Secretariat after both rounds of consultations and are available on the project website.

Public Opinion Poll

EKOS Research Associates conducted a study that examined a number of important issues pertaining to health care and the medical education system in Canada, particularly public confidence in the healthcare system, public priorities, public literacy of the healthcare system, confidence in the medical education system, and the growing role of technology. This survey was conducted January 24 - February 4, 2011 using EKOS' unique hybrid online-offline research panel, *Probit*. A random sample of 1,720 Canadians aged 18 and over responded to the survey (1,502 online, 218 by self-administered mail-out surveys). A sample of this size provides a margin of error of +/- 2.4 percentage points, 19 times out of 20.

National Survey of Program Directors

An online survey was distributed to all 807 Specialty and Family Physician Program Directors across Canada in December 2010. Recipients were asked to provide ratings on the importance of a number of issues and challenges that they faced that can be impacted by the postgraduate system. Both qualitative and quantitative data were collected and analyzed collectively and according to Specialty/Family Physician program. An overall response rate of 33% was achieved (56% Family Physician and 32% Specialty).

International Consultations

Site visits and key stakeholder interviews were conducted in the United States, United Kingdom and France in the spring of 2011. The Steering Committee identified international institutions, locations and individuals able to contribute relevant information and examples of innovative PGME programming and processes. Many environments outside of the Canadian context were included as a method to facilitate an understanding of the following: the PGME response to societal shifts in different but comparable contexts; identification of international trends and drivers; and evidence of exemplary practices in PGME.

Public Panel

This panel was comprised of members of the 'informed lay public' - community members who possess an understanding of and have some experience with medical education but are not MDs or directly involved in the PGME environment. Many Public Panel participants are public members from the boards of those organizations represented on the Steering Committee. The Public Panel met twice, initially in January 2011 to discuss their priorities for PGME, and again in November 2011, to provide feedback on the second version of the draft recommendations.

Reviewing the Inputs

All of the inputs were considered in the formulation of draft recommendations. Members of the Steering Committee and Advisory Committee of PGME Deans met in early February 2011 to consider the majority of the inputs in developing preliminary themes. The Management Committee then met in late March 2011 to review the evidence and preliminary themes developed at the February meeting and formulate a list of key thematic areas. A meeting in June 2011 marked the final time all committee members met before the first version of the recommendations were drafted. The first draft of the recommendations was distributed in July 2011, which was reviewed through the LEC Group process and by committee members. Deans of Medicine provided feedback on the draft via webinar. A refined version was distributed in early November for continued feedback. The Advisory Committee on Health Delivery and Human Resources (ACHDHR) provided feedback on this refined version, as did the Deans of Medicine and Public Panel. Following a meeting in early December of all committee members, a third version was drafted to be reviewed at the National Forum on January 30-31, 2012.

ACKNOWLEDGEMENTS

Thanks are due to many for their roles in the success of the FMEC PG Project, which was truly collaborative in nature and far-reaching in breadth.

First and foremost, we extend a sincere thank you to Health Canada for its generous funding over 25 months. We send a special thank you to Ms. Margo Craig Garrison, for her presence and participation as a member of the project Steering Committee. We similarly acknowledge staff administrators at Health Canada for their patience and collegial support throughout.

The FMEC PG Project was truly a pan-Canadian initiative – it would not have been possible without the dedication and commitment of many medical educators across the country. We formally acknowledge the four consortium partner organizations, the Association of Faculties of Medicine of Canada, the College of Family Physicians of Canada, le Collège des Médecins du Québec and the Royal College of Physicians and Surgeons of Canada, which each provided significant in-kind support through our participation as the lead representatives and that of other colleagues who served as members of the Steering Committee and Strategic Implementation Group and otherwise engaged in the project in many ways. This in-kind contribution in the form of time of senior leadership is not insignificant.

Several key groups carried this work forward. Members of a 33-person Steering Committee, with representatives of national medical education associations; decanal teams of Canadian medical education programs; government; learner and resident groups; national and provincial certifying colleges; and, regulatory authorities, all contributed their time and ideas through participation in multiple in-person meetings. The Advisory Committee of PGME Deans, comprised of all of the PGME Deans from the 17 medical education programs across the country, worked in close collaboration with the Steering Committee throughout the project to bring both philosophical and frontline perspectives to this work. Our Management Committee, we four signatories along with Drs Pierre Leblanc, Geneviève Moineau and James Rourke, guided the day-to-day work of the project, working closely with Secretariat staff. This group also worked closely with our consulting writer Lori Charvat to shape the draft recommendations based upon feedback from the medical education community and their own wisdom and expertise. This was a major commitment involving monthly teleconferences, chairing of meetings, extensive online collaborative writing and editing of multiple drafts of this report. A Strategic Implementation Group, comprised of members of the Management Committee as well as Drs Mathieu Dufour, Tom Feasby, Kevin Imrie, Cathy MacLean, Jay Rosenfield and Mark Walton, helped to edit later versions of this report and lent their strategic thinking as the project shifted into its implementation phase. A 20-member Public Panel met twice over the duration of this 25-month initiative; their high level of engagement and critical feedback in reviewing draft work from a public/patient perspective was imperative to this project. The Deans of Medicine and many other national key stakeholder groups held several focused discussions

on this project and the draft recommendations as they emerged. Thank you for your consideration and input.

International consultations revealed key innovations and shed light on how people do PGME in comparable environments. We recognize Steering Committee members Drs Mathieu Dufour and Joshua Tepper, who undertook consultations in France and Drs Maureen Topps and Jerry Maniate who visited multiple sites in both the U.S. and U.K. Thanks, too, to the numerous medical educators with whom they met, who took the time to share their wisdom and experience for the benefit of our project.

The FMEC PG Project has benefitted tremendously from the involvement of a number of highly-skilled consultants, whose contributions served to greatly enrich this work and facilitate the development of this report. A tri-institutional environmental scan team from the University of British Columbia, University of Toronto and McGill University provided a comprehensive and academically rigorous evidence base for this work. These leading thinkers in medical education collaboratively completed a thorough review of the literature, 27 national key informant interviews and a synthesis report, which substantially contributed to the solid evidence base for the recommendations. The project owes a debt of gratitude to Drs Sarita Verma, Sarkis Meterissian, Salvatore Spadafora, Joanna Bates, Kamal Rungta, Jean Jamieson and Susan Glover Takahashi and colleagues for their exhaustive efforts in producing the high quality research that helps inform this project.

A Liaison and Engagement Consulting Group from the same three abovementioned universities, led by Dr. Sarita Verma, completed two rounds of exhaustive national consultation on the draft recommendations as they emerged. This role was critical in that it served to keep the Canadian PGME community well-apprised of developments in the project and provide opportunities for all project stakeholders to voice their opinions and provide feedback on work to date.

We thank Frank Graves and colleagues at EKOS, who collected and analysed highly relevant national public opinion data which informed this report.

Bernard Gauthier and associates from Delta Media coordinated e-newsletters and updates to the FMEC PG Project website to keep all stakeholders and the general public updated. They also helped with the creation of the FMEC PG Project video and provided advice and professional services on communications leading up to the National Launch of the project report in March 2012.

Lori Charvat of Sandbox Consulting did a wonderful job of integrating input and feedback from multiple voices into a coherent whole as the consulting writer. Working closely with the Management Committee through three seasons, Lori drafted the first three iterations of this report, which were pivotal to its successful and timely completion.

Two comprehensive evaluations of the project, prepared by Blair Stevenson and colleagues of Silta Associates, were each very helpful to our process.

The highly professional team at Strachan-Tomlinson provided overarching process design advice in this complex project as well as superior meeting design and facilitation skill and liaison work with project staff, consultants and stakeholders. It is a true pleasure to work with Dorothy Strachan. Leslie Jones documented the entire project with her outstanding note-taking and report-writing skills at the many meetings of the FMEC PG Project. We thank Geneviève Denis, who provided superior translation services from all the way over in Harare, Zimbabwe.

Lastly we extend a sincere thank you to Secretariat staffers Claire de Lucovich, Project Assistant, and Catherine Moffatt, Project Manager, at AFMC, for their efforts in administering this multifaceted project. Claire and Catherine have been the backbone of this team effort and it is they who really ensured that we have been able to deliver a quality product. AFMC senior management team members Mr. Irving Gold, Dr. Geneviève Moineau and Mr. Steve Slade also contributed their time and unique talents to this initiative and for this we are very grateful.

It is our sincere hope that the multiple parties who participated in this collaborative initiative will continue to carry forward this collective vision in the implementation of its recommendations.

Warm regards,



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Commissioned Papers:

1. *Health Disparities, Social Accountability and Postgraduate Medical Education:*

Author(s): Jean Jamieson*, David Snadden*, Sarah Dobson, Heather Frost, Stephane Voyer. *Contributor(s):* Joanna Bates, Jeannine Banack, Jane Buxton, Jean Parboosingh, Wayne Weston, Bob Woollard.

2. *Generalism in Postgraduate Medical Education:* *Author(s):* Kevin Imrie*, Wayne Weston*, Melissa Kennedy.

Contributor(s): Bonnie Granata.

3. *Trends and issues in Postgraduate Medical Education: inputs, outputs & outcomes.* *Author(s):* Caroline Abrahams*, Jean Bacon*. *Contributor(s):* Lawrence Loh, Danielle Frechette, James Ayles, Mariela Ruetalo.

4. *Training residents to address the needs of a socially diverse population:* *Author(s):* Saleem Razack*, Farhan Bhanji*. Lilian Ardenghi, Marie- Renée Lajoie.

Contributor(s): Jeffrey Wiseman

5. *International Medical Graduates - Current Issues:* *Author(s):* Allyn Walsh*, Sandra Banner*, Inge Schabort, Heather Armson, Ian Bowmer, Bonnie Granata.

Contributor(s): Luciana Ribeiro, Dale Dauphinee, Krista Breithaupt, Robert Lee, Steve Slade.

6. *Future Of Health Care Trends: Impact On Postgraduate Medical Education:*

Author(s): Jean Jamieson*, Angela Towle*.

Contributor(s): Carol Herbert, Dean Giustini.

7. *Integrating Patient Safety and Quality Improvement with Postgraduate Medical Education:* *Author(s):* Brian Wong*, Kaveh Shojania*, Elisa Hollenberg, Edward Etchells, Ayelet Kuper, Wendy Levinson.

8. *Governance in Postgraduate Medical Education in Canada:* *Author(s):* Nathalie Saad*, Alim Pardhan*. *Contributor(s):* Bonnie Granata, Melissa Kennedy, Loreta Muharuma, Sharon Cameron.

9. *Issues related to Residents as Workers and Learners:* *Author(s):* Patricia Houston*, Robert Conn*, Roona Sinha*, Maya Rajan. *Contributor(s):* Susan Glover Takahashi, Erika Abner, Dawn Marin.

10. *Length of training in Postgraduate Medical Education in Canada:* *Author(s):* Sarkis Meterissian*, Mathieu Rousseau*, Joyce Maman Dogma, Marion Dove, Charo Rodriguez.

11. *Accreditation of Postgraduate Medical Education:* *Author(s):* Margaret Kennedy*, Paul Rainsberry*, Melissa Kennedy, Erika Abner.

12. *Distributed Education And Distance Learning In PGME:* *Author(s):* Joanna Bates*, Heather Frost, Brett Schrewe, Jean Jamieson, Rachel Ellaway. *Contributor(s):* Doug Schaad, Roy Schwarz.

13. *Assessment in PGME: Trends and issues in assessment in the workplace:* *Author(s):* Glenn Regehr*, Kevin Eva, Shiphra Ginsburg, Yasmin Halwani, Ravi Sidhu.

14. *Information and educational technology in Postgraduate Medical Education:* *Author(s):* Rachel Ellaway*, Maureen Topps, Tamara Bahr.

15. *Integration of CanMEDS expectations & outcomes:* *Author(s):* Cynthia Whitehead*, Andrée Boucher*, Dawn Martin, Nicolas Fernandez, Marika Younker, Remi Kouz, Jason Frank.

16. *Innovations in teaching and learning, in the clinical setting for Postgraduate Medical Education:* *Author(s):* Lucas Murnaghan*, Milena Forte*, Ian Choy, Erika Abner.

17. *Inter and Intra-Professional Collaborative Patient-Centred Care in Postgraduate Medical Education:* *Author(s):* Lesley Bainbridge*, Louise Nasmith*. *Contributor(s):* Andrea Burton, Valerie Ball, Karen Ho.

18. *Simulation in Postgraduate Medical Education:* *Author(s):* Vicki LeBlanc*, Dylan Bould*, Nancy McNaughton, Ryan

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19. *Innovations, Integration And Implementation Issues In Competency-Based Training In PGME: Author(s):* Susan Glover Takahashi*, Brian Hodges*, Andrea Waddell, Melissa Kennedy.

20. *Teaching, Learning and Assessing Professionalism at the Post Graduate Level: Author(s):* Richard Cruess*, Sylvia Cruess*, Linda Snell*, Shiphra Ginsburg, Ramona Kearney, Valerie Ruhe, Simon Ducharme, Robert Sternszus.

21. *Faculty Development – the Road Ahead: Author(s):* Yvonne Steinert*.

22. *The Career Decision-Making Process Of Medical Students And Residents And The Choice Of Specialty And Practice Location: How Does Postgraduate Medical Education Fit In?: Author(s):* Nicole Leduc*, Alain Vanasse*, Ian Scott, Sarah Scott, Maria Gabriela Orzanco, Joyce Maman Dogma, Sabina Abou Malham. *Contributor(s):* Kelly Dore.

23. *Resident Wellness and Work/Life Balance in Postgraduate Medical Education: Author(s):* *Susan Edwards. *Contributor(s):* Derek Puddester*, Erin Maclean, Bonnie Granata, Mariela Ruetalo.

24. *Supporting the Development of Residents as Teachers: Current Practices*

and Emerging Trends: Author(s): Sandra Jarvis Selinger*, Yasmin Halwani, Karen Joughin, Dan Pratt, Tracy Scott, Linda Snell, Kile Brokop, Yolanda Liman.

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GLOSSARY

ACAHO	Association of Canadian Academic Healthcare Organizations
ACHDHR	Advisory Committee on Health Delivery and Human Resources
AFMC	Association of Faculties of Medicine of Canada
CAIR	Canadian Association of Internes and Residents
CACME	Committee on Accreditation of Continuing Medical Education
CACMS	Committee on Accreditation of Canadian Medical Schools
CAME	Canadian Association for Medical Education
CaRMS	Canadian Resident Matching Service
CFMS	Canadian Federation of Medical Students
CFPC	College of Family Physicians of Canada
CMA	Canadian Medical Association
CMQ	Collège des médecins du Québec
CPD	Continuing Professional Development
FMEC	Future of Medical Education in Canada
FMEQ	Fédération médicale étudiante du Québec
FMRAC	Federation of Medical Regulatory Authorities of Canada
FMRQ	Fédération des médecins résidents du Québec
F/T/P	Federal/Territorial/Provincial
HHR	Health Human Resources
IMG	International Medical Graduate
MCC	Medical Council of Canada
PGME	Postgraduate Medical Education
PHO	Professional Housestaff Organizations
RCPSC	Royal College of Physicians and Surgeons of Canada
UGME	Undergraduate Medical Education