A Curriculum Needs Assessment of the Family Medicine Residency Program at the University of Manitoba

by

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Abstract

The College of Family Physicians of Canada, responsible for accreditation of residency programs, prescribe 'The Four Principles of Family Medicine' and the 27 competencies derived from them, as the curricular framework for Canadian family medicine residencies. The literature reveals little about the development of the Four Principles of Family Medicine. This study was conducted to determine the degree to which each competency was considered relevant to clinical practice and learned by recent graduates of the University of Manitoba Family Medicine program. For the 27 competencies, the ratings of graduates were similar to those of family medicine experts as the competencies were generally viewed as moderately important and frequently used. Graduates reported being well prepared in most of the competencies. This supports the use of the Four Principles of Family Medicine as a curricular framework for family physician trainees in Canada.

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Dedication

I would like to dedicate this work to my husband Shawn and my children Conar and Madeleine. Without their support & encouragement, this endeavor would not have been possible.

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Introduction

The primary goal of medical education is to produce physicians who provide excellent patient-centred health care. In Canada, physician training is provided at 17 universities, including the University of Manitoba. Most universities offer both undergraduate (the MD degree) and postgraduate education (residency). Universities that train physicians at the residency level in Canada must be accredited by the Royal College of Physicians and Surgeons of Canada (RCPSC) and the College of Family Physicians of Canada (CFPC). These two organizations provide the medical schools with the standards for accreditation, which in turn become the curricular framework for the programs they offer. For specialist physicians these standards are identified as the CanMEDs2005 (Frank, 2005). For family physicians, these standards are termed the Four Principles of Family Medicine (described below) (College of Family Physicians of Canada, 2003). The Four Principles of Family Medicine and the CanMEDs2005 are both important components in the competency-based approach to the training of physicians in Canada. In medical education, competency is defined as important observable combinations of knowledge, skills, attitudes, and abilities (Frank, 2005). Thus, a competency-based approach represents an approach to a curriculum based on the attainment of a competency rather than the completion of a set of experiences (Bell, 1997). This move to a competency-based approach represents a paradigm shift in medical education, where traditionally, the focus has been on 'time in training' where postgraduate medical education has relied on learners rotating clinical experiences, rather than on the attainment of competencies (Bell, 1997).

Much research has been published that establishes the relevancy and validity of the CanMEDs2005 standards used in specialist training (Frank, 2005). However, a literature

search using the terms ‘four principles of family medicine’ and ‘development’ and/or ‘validation’ using Medline, EbscoHost, Psychinfo, and GoogleScholar produced no results. As well, there are no documents on the CFPC website describing how the Four Principles or were developed or their validation as a curricular framework for the practice of family medicine.

As such, this project is an important first step in assessing the relevancy of the Four Principles of Family Medicine as the basis for by the accreditation standards for family medicine in Canada and for the practice environment of family physicians in Manitoba. In this project we hope to provide initial support for the Four Priniciples as relevant to the practice environment in Manitoba, by asking practising physicians (experts and recent graduates) whether they perceive them as important and used in practice. Additionally, we will be asking recent graduates how competent they believe they are in the four principles after their training.

Literature Review

History of Medical Education

Medical education has a long history. Physician training is documented as early as the 5th century BC with the ancient Greeks and the creation of the Hippocratic Oath (Encyclopædia Britannica, 2009). At the turn of the twentieth century, medical education was conducted much like any other apprenticeship (Hiatt & Stockton, 2003). This approach to training resulted in significant variation in programs, processes, student assessment, and inevitably, outcomes. According to Snyderman (1995), in the 1800’s most medical training, with a few exceptions, occurred in unregulated, unscientific, commercial medical schools. In 1910, medical education in North America underwent a radical change after a

review of the medical education system by Abraham Flexner and the publication of Medical Education in the United States and Canada, called the Flexner Report, (Flexner, 1910). This report provided a framework for the development of the modern medical education system consisting of a university-hospital teaching partnership with teaching, structured rotations in clinical settings and clinical research programs (Sanfilippo, 2003). To begin with, the Flexner Report initiated sweeping changes to the medical education system including the closure or merger of up to 59 of the 155 existing North American medical schools. Flexner had criticized these schools because they lacked defined standards or goals and of operating primarily for financial gain (Hiatt & Stockton, 2003). The remaining schools were subsequently modeled after the German research university (Asera, 2003) and John's Hopkins Medical School, which Flexner believed were the ideal (Asera, 2003; Baum & Axtell, 2005; Bowman, 2003). This resulted in the standardization of curricula and program frameworks across North America (Hiatt & Stockton, 2003) in which medical education was structured as a period of theoretical study (pre-clerkship), followed by clinical experience (clerkship), and then a period of specialization (residency) (Asera, 2003; Baum & Axtell, 2005). Although there were many criticisms of the Flexner Report, including its affect on limiting access of blacks and women to medical training, it did result in substantial changes within the medical education system and provided the framework on which medical education is based today (Hodges, 2005).

Since the publication of the Flexner Report there have been few changes in medical education. In a review conducted by Friedman, et al. (1990) only 10 innovative curricula were identified in North America. The addition of a problem based learning (PBL) curriculum stands out as one of the two substantial changes in undergraduate

medical education that have occurred since Flexner (Baum & Axtell, 2005; Freidman et al., 1990). The problem based curriculum, pioneered by McMaster University in Hamilton, Ontario, was introduced in the 1960's (Camp, 1996). PBL is characterized by student led small groups which are assisted by a faculty coach or facilitator oriented around solving a real world clinical problem. In PBL, students assume more responsibility for their own learning and the learning task is focused not just on the content to be learned but also on developing problem solving skills (Harden & Davis, 1998).

The second significant change since Flexner was organ-based reform (Baum & Axtell, 2005). Developed in the 1950's, organ-based reform was a response to exponential growth in medical knowledge and to the decentralization of a curriculum organized around individual disciplines (surgery, radiology, etc.). Prior to the organ-based system, curricula were organized and taught through a discipline-based structure (Papa & Harasym, 1999). Within the discipline based structure, sequencing was challenging especially for the basic clinical sciences (anatomy, microbiology, etc.). In addition, each department was in complete control of both the content and the assessment of what was taught, sometimes with little regard for the desired outcome (i.e., a competent physician) (Papa & Harasym, 1999). The change to an organ-based system resulted in teaching organized around organs and organ systems rather than departments and a departmentally controlled curriculum (Baum & Axtell, 2005). This allowed for the appropriate sequence of teaching, vertical integration of clinical science into the basic sciences and more clinically relevant courses (Papa & Harasym, 1999).

Family Medicine

Family medicine can be viewed as another major innovation in medical schools since the Flexner Report, although it is not clearly identified as such in the literature. Created in the 1970's, family medicine grew out of a response to the growing specialization in medical schools (Stein, 2006). First seen as a counterculture movement with its emphasis on an integrative, holistic approach, and a biomedical model, family medicine is now one of the cornerstones of medical practice in North America (Green & Fryer, 2002; Stephens, 1998).

In Canada, the family medicine postgraduate residency is a two-year residency program following a 4 year M.D. program, consisting of clinical experience and academics/coursework culminating in the MD's writing a certification exam in family medicine (College of Family Physicians of Canada, 2003). The aim of family medicine residencies is to train medical residents to become family physicians who practice from the framework provided by "the Four Principles of Family Medicine" (College of Family Physicians of Canada, 2003). These four principles are statements that describe the knowledge, skills, attitudes, and values that are desired in a family physician, they are (College of Family Physicians of Canada, 2003):

- The doctor-patient relationship is central to the role of the family physician;
- The family physician must be a skilled clinician;
- Family Medicine is a community-based discipline; and
- The family physician is a resource to a defined practice population.

Each statement is further explained by narrative descriptions that identify the intent of the statement and the behaviours desired of a family physician in Canada as they

relate to each of the Four Principles. The Four Principles and their narrative statements form the basis for all family medicine residency curricula in Canada (Appendix A). In the accreditation process for family medicine residencies, adherence to the Four Principles is a key requirement (College of Family Physicians of Canada, 2003) but there is little written about the development of the Four Principles of Family Medicine. An interview with the Head of the Department of Family Medicine, who has been practicing medicine for almost 40 years, revealed that the principles were developed by a group of family physicians at the time this innovation was emerging in Canada (R.J. Boyd , personal communication, June 16, 2006).

The College of Family Physicians of Canada is responsible for accrediting all Canadian family medicine residency programs based on the accreditation standards published by the college. Other Canadian medical residency programs (termed specialty programs) are three to five years in length, (e.g., general internal medicine is three years, surgery is five years, and paediatrics is four years) and are governed and accredited by the Royal College of Physicians and Surgeons of Canada. These programs train specialty medical residents to become physicians who practice from the framework of the CanMEDS2005. The CanMeds2005 framework is organized around seven roles which are further articulated by key and enabling competency statements. These were developed through a public consultation process and validated across professional groups (Neufeld et al., 1998). The seven competencies areas are thought to represent the key competencies for specialty practice in Canada, which are: Medical Expert, Communicator, Collaborator, Scholar, Health Advocate, Manager, and Professional (Frank, 2005).

Despite the best efforts of accrediting bodies and medical schools to ensure quality postgraduate medical education, there are still gaps in understanding how to best facilitate learning, particularly as it relates to medical education (Bowen & Irby 2002; Norris, 1998). These gaps include a lack of understanding of the impact of the learning environment, the clinical practice itself, the learners' characteristics (and their diversity), the available learning resources (patients, curriculum, etc.), and the organizational service requirements (the need for patients to be seen and cared for within the system) (Bowen & Irby, 2002). With the significantly shorter training period for family medicine compared to specialty programs, the impact of these gaps in understanding may be magnified. As well, the instructional strategies that are documented and evaluated in the medical education literature (Dauphinee & Dauphinee, 2004; Green, Ellis, Fremont, & Batty, 1998; Metheny et al., 2005; Smith et al., 2000; Smith, Fryer-Edwards, Diekema, & Braddock, 2004; Taylor et al., 2001; Yeazel & Center, 2004; Yudkowsky, Elliot, & Shwartz, 2002) tend to be from longer specialty programs or from undergraduate medical education, which may not be generalizable to the shorter family medicine residency programs.

According to MacKean and Gutkin (2003), family medicine residencies across North America are also facing a crisis related to the recruitment of students to family medicine and the retention of same. They also suggest several reasons why fewer medical students are choosing family medicine. These reasons include family physicians being underpaid, overworked, and having inadequate supports to practice in a way that allows the balanced lifestyle that they seek (MacKean & Gutkin, 2003). Furthermore, medical students see family doctors as having lower earning potential and lower prestige both in academic health centers and in the community in which they practice. MacKean and

Gutkin (2003) propose that the problems facing family medicine resulted in the lowest match to family medicine in the 2003 Canadian Resident Matching Service (CaRMS) history, where the number of student matches to family medicine fell from around 44% in the early 1990s to about 24% in 2003. Thus, unless the above concerns are addressed, the shortage of family physicians in Canada may be exacerbated in the future as fewer medical students choose to enter family medicine training programs.

There are a number of suggestions in the literature to address the issues identified by MacKean and Gutkin (2003). Most of these include increasing the remuneration of family physicians, increasing the presence of family physicians in the undergraduate curriculum, and ensuring a central role of family physicians in primary care reform (Freisen, 2003; Green & Fryer, 2002; Gutkin, 2003; MacKean & Gutkin, 2003; Warsh, 2003). An alternative measure could be an evaluation of existing family medicine programs to determine if they are meeting the needs of stakeholders, for example, the patients and the medical students. But, an extensive review of the literature was unable to identify any such studies of this concern. If family medicine programs are training physicians who ultimately feel they do not meet patient needs as well as they could, the effect could be physician despondency due to increasing work demands and potential departure from clinical practice entirely. Further, family medicine training does not produce graduates that meet the needs of government, perhaps family physicians will not be compensated appropriately and will have difficulty improving their remuneration package. If family medicine residency programs do not address the needs of medical students, perhaps students will choose other specialties. Green and Fryer (2002) discuss the need to revise residency education to "enhance the impact of family practice" in the Canadian health care system (p. 788).

However, before engaging in any revision to address the crisis in family medicine, educators need to identify the skills and competencies that are necessary for clinical practice and the degree to which current family medicine residency curricula cover these skills and competencies. Without this information, justifying revisions to the existing residency program would be difficult and evaluating a program's success will be more problematic.

The Evaluation of Medical Education Programs

The College of Family Physicians of Canada, responsible for accrediting family medicine residency programs, and says that one purpose of its accreditation is "to attest to the educational quality of accredited programs and to ensure sufficient uniformity and portability to allow residents from across Canada to qualify for the CFPC examinations as residency eligible candidates" (College of Family Physicians of Canada, 2003, p. 3). Toward this end, the accreditation process for a family medicine program consists of a program's self-study of their family medicine residency and then expert opinion generated from an on-site accreditation visit. In this process, there is little attention given toward either the systematic collection or analysis of objective data. The quality of the program is based upon opinions derived from several sources including the results of an pre-accreditaiton self-assessment questionnaire compiled by the program director, review of selected documents and from interviews conducted during a three to four day on-site survey with learners and faculty by the on-site accrediation team appointed by the CFPC (College of Family Physicians of Canada, 2003).

An accreditation review is a process and structure oriented procedure designed to ensure that family medicine residency programs have processes and structures in place to

to meet the accreditation standards. The Four Principles of Family Medicine dictate the standards to be achieved by the programs and include areas such as care of special populations, faculty development, program evaluation, and student assessment (College of Family Physicians of Canada, 2003). Through its accreditation standards, the CFPC requires that all programs develop educational objectives and student assessment measures that reflect the Four Principles of Family Medicine because these principles represent the desired expertise for the practice of family medicine (College of Family Physicians of Canada, 2003).

Accreditation is a critical process to ensure that medical education programs meet the defined standards required to practice family medicine in Canada. One might assume that the accreditation process in medical education could serve as a valid proxy for a comprehensive program evaluation. However, accreditation does not replace a program evaluation process but rather serves to supplement or validate it. Norris (1998) supports this concern when he says “curriculum evaluation is about describing the meaning, values, and impact of a curriculum to inform curriculum decision making” (p. 208). In this respect, accreditation signifies that a program has defined acceptable outcomes, maintains conditions in which the outcomes can be met, and is producing acceptable outcomes (Millard, 1994). The use of an accreditation process for evaluation purposes in Canadian family medicine residencies is made difficult by the fact that the standards are written in a way that is open to significant differences of opinion. In fact, this is an intentional act by the CFPC when it says “These standards are sometimes deliberately stated in a fashion that is not amenable to quantification or to precise definition. This is because the nature of the evaluation is qualitative in character and can be accomplished

only through the exercise of professional judgment by qualified persons" (College of Family Physicians of Canada, 2003, p. 3). Many of the activities of the accreditation process are aimed at determining, through expert opinion, whether the program meets the CFPC's standards.

Nevertheless, the CFPC also states that:

> "A clear and systematic process for a program-wide evaluation must be in place in order to ensure that the educational objectives have been achieved. Input from, and participation by residents, must be an essential part of this system. Programs must demonstrate the ability to implement changes in any component in response to program evaluation" (College of Family Physicians of Canada, 2003, p. 11).

Thus, the CFPC deems that the evaluation of programs is a requirement of residency programs to meet their accreditation standards. Evaluation can also stimulate improvement for residency programs in family medicine.

Accountability is also a rising issue for residency programs and program evaluation can similarly be used to focus on these issues. The increasing demands for accountability include provincial governments calling on medical colleges and residency programs to demonstrate results in the areas of recruitment and retention of physicians; clinical service (i.e., hospital care) and patient care; as well as provide quality medical education, (Snell et al., 2000). Murray, Gruppen, Catton, Hays, and Woolliscroft, (2000) suggests that society expects a greater "professional accountability across the whole of medicine" (p. 871). Medical education is a very costly enterprise and society expects a return on its substantial investment. The demands for accountability from medical education's stakeholders

(patients, taxpayers and governments) reveal a growing need for programs to demonstrate that they meet the needs of patients, funders and society in general, to show that the desired outcomes of the program are being met and hence are providing value for the resources invested. Despite this, there is a lack of evidence to show that programs have begun to evaluate their activities beyond assessing individual learners and their success with various program offerings (Prytowski & Bordage, 2001). For example, a study by Edelstein, Reid, Usatine, and Wilkes (2000) compared two types of performance-based exams (computer based case simulations vs. standardized patients) and their affect on student attainment. These types of studies are important because they help us to understand how various instructional strategies affect learner outcomes. However, these types of studiesdo not provide us with an appreciation of how well the broader curriculum is performing at meeting its defined outcomes. An important first step in answering the increased calls for accountability would be a curriculum needs assessment to identify the perceived needs of its stakeholders and how well those needs are being addressed. At present, there is scant literature available regarding program evaluation activities of family medicine residencies.

In addition to the issues related to accountability, medical education, both at the undergraduate and postgraduate level, must keep pace with advancements in medical practice. Since the Flexner Report, societal expectations, medical knowledge, medical/clinical skills, and technology among other things, have changed substantially although the structure and organization of a medical school have remained essentially the same. To date, medical education has focused primarily on keeping pace with changes in medical knowledge and technology (Lawley, Saxton & Johns, 2005). According to Cohen (1995), the implications of these other societal changes for academic medicine

include the need to better understand and integrate the teaching and learning in adult learners, the use of technology in education, population and prevention based medicine and an outcomes oriented medical system. In summary, medical education systems must evolve to meet these challenges or face growing physicians will develop a growing dissatisfaction with their programs (Neufeld et al., 1998; Rees, 2000; Snell et al., 2000; Thomas, 1999).

Nonetheless, there are few, if any, published articles on program evaluations in family medicine residency programs. This may result from of a belief in the 'medical world' that the students' performance assessment and the accreditation process are sufficient for the evaluation of programs. Research into the effectiveness of educational interventions may not be valued or seen to be too difficult to undertake (Hutchinson, 1999). Compounding this lack of value for educational research is the lack of resources available for research in medical education (Thomas, 1999). In addition, the complexity of evaluative practices may explain the paucity of program evaluation for medical education in the published literature. In fact, many faculty members appear to believe that if residents complete their programs, pass their certification exams and the residency programs meet the accreditation standards, then the programs must be of high quality (Maudsley, 2001). However, the validity of this claim may be questionable because good students may still succeed even in poor quality programs. Conversely, learners may pass the certification examinations but they may still be inadequately prepared for practice because they may lack important knowledge and skills they will need as family physicians.

Many medical educational evaluation activities do occur despite the lack of comprehensive evaluation of programs in the literature. The general focus of these activities is on three main areas: evaluation of faculty performance, student assessment, and evaluation of individual educational interventions or courses. Although all of these play an important role in an evaluation of programs in medicine, taken individually, they provide only local information about the success or failure of the item or activity under study. A review by Prystowsky and Bordage (2001) found that 68.9% of all 'outcomes' research in three major medical education journals was focused on student assessment. Faculty 'outcomes' were focused on in 19.4%, provider outcomes in 8.1% and patient outcomes in 3.5% of the articles. Of these outcomes studies, performance was studied in 49.4% and satisfaction in 34.1% of the articles. They noted that medical education research was dominated primarily by assessment of trainee performance and trainee satisfaction (Prystowsky & Bordage 2001). There is no doubt research in these areas is critical to improving medical education but they do not provide an overall view of program performance. Additionally, few research articles have been published on Canadian family medicine residency competencies or their validation. Of these articles, most have focused on a particular competency domain, such as faculty evaluation, professionalism, or communication skills, rather than to general competencies for practice or have studied a particular curricular innovation (Dauphinee & Dauphinee, 2004; Green, Ellis, Fremont, & Batty, 1998; Metheny et al., 2005; Smith et al., 2000; Smith et al., 2004; Taylor et al., 2001; Yeazel and Center, 2004; Yudkowsky, Elliot, & Shwartz, 2002). Systematic evaluation studies of a family medicine residency curriculum

as a whole, or discussions regarding the development and validation of competency-based curricula are noticeably lacking.

Evaluation of Family Medicine Competencies at the University of Manitoba

The purpose of competency based family medicine residency programs is quite simply to ensure that graduate residents are competent to practice family medicine. Thus, evaluation processes within family medicine residency programs must ensure that they appropriately assess the trainees based on these competencies. Good evaluation practice would require an assessment process for learners' competence that uses a multi-method evaluation approach (Durning, Hemmer, & Pangaro, 2007). However, given that the certifying body, (College of Family Physicians of Canada), is yet to define the competencies to be achieved for graduation from a family medicine residency program, it may be that the competencies are similarly not clearly defined by the programs themselves and, therefore, appropriate authentic evaluation may be challenging. The broad competencies areas developed by the CFPC (and articulated in the Four Principles of Family Medicine) may serve as a guide for program design and delivery but they may not meet the specific needs and culture of the practice environment of Manitoba (Ury, Reznich, & Weber, 2000). Additionally, the context of the family medicine training program at the University of Manitoba includes a high proportion of international medical graduates, which substantially increases the diversity of learners within the residency program (personal communication R.J. Boyd, June 16, 2006; personal communication I.Ripstein June 16, 2006). This diversity further emphasizes the need for clearly defined competencies by which the program can assess learners' readiness for practice upon the completion of the training program.

An important first step in any program evaluation process is to clearly establish and ground the planned outcomes (or competencies) as needed for the practice setting. Ratnapalan and Hilliard (2002) define a needs assessment as "a systematic process to collect and analyze information on what a target group needs to learn" (p. 1). This information could be considered as critical for both the development and evaluation of any program, as it would provide an answer to the question 'is our training relevant or valid for the environment in which our graduates would work?'

Therefore, to develop a successful curriculum and its subsequent evaluation, it is essential to identify the desired competencies for family practice in Manitoba, which are consistent with the Four Principles of Family Medicine. Consequently, this study was designed to be a curriculum needs assessment to identify those competencies specific to family practice in Manitoba. Practicing family physicians were surveyed to assess their perceptions regarding the knowledge and skills required for family physicians in Manitoba. A survey approach was chosen as this allowed for geographically dispersed faculty to more easily participate in the process. The competencies used for the survey were based on the Four Principles of Family Medicine and were developed for a separate research project within the department of family medicine (Hamilton, 2005) (Appendix B). Participants were requested to add, delete, or clarify the competencies listed.

Recent graduates were subsequently surveyed using the same list of competency areas as the expert family physicians (Appendix B). The purpose of this survey was to check agreement with the competency model, as identified by expert family physicians, and potentially identify areas of dissonance. Recent graduates were also asked to assess their perceived level of competence in each of the competency areas as attained through

their family medicine residency training at the University of Manitoba. The purpose of the needs assessment was to identify areas of strength and weakness in the residency curriculum, including gaps, suggesting that it could also serve as the basis for re-development of the curriculum. In addition, a needs assessment could offer guidance to the department for quality improvement efforts and could also improve accountability relationships with funders and other stakeholders, by providing critical guidance to the program regarding the degree to which recent graduates and experts feel each competency is needed in terms of its importance to and frequency of use in practice

Research Questions.

- How critical are each of the 27 competencies for family medicine as rated by expert family physicans and by recent graduates?
- How frequently would each of the 27 competencies likely be used in clinical practice as rated by expert family physicians and by recent graduates?
- How do the ratings of importance and frequency compare between expert family physicians and recent graduate family physicians?
- To what degree do recent graduates of the family medicine program think they have attained each of these competencies?

Method

Subjects

For this project we surveyed two groups of family physicians, those identified as experts by leaders in the field in Manitoba, and recent graduates of the family medicine residency program at the University of Manitoba.

The expert family physicians were identified through interviews with the department head and clerkship director of the Department of Family Medicine and the medical director of the Office of Northern and Rural Health. In particular, the expert physicians included University of Manitoba Department of Family Medicine faculty members at the three teaching units (Kildonan Medical Centre, Family Medical Centre, and Parklands Residency Program), community based family physicans who were teachers, and other Manitoba family physicians. All the expert physicians identified were, of course, certified by the College of Family Physicians of Canada. Out of the 78 expert physicians invited to participate, only 26 completed the surveys. resulting in a response rate of 33%.

The recent graduates were identified via the Department of Family Medicine database. Fifty new physicians who had graduated from the 2006 and the 2007 University of Manitoba family medicine residency program were asked to participate. Of the 50 graduates identified, 13 responded, with one respondent returning an incomplete survey resulting in a usable response rate of 24%.

While the two groups were similar in terms of several demographic variables, the percentage of experts providing hosptial care and obstetrical care (deliveries) was notably higher than that of recent graduates (Table 1). Otherwise, the groups were very similar based on their gender, practice type and practice location.

Materials

As noted, twenty seven competency statements derived from the Four Principles of Family Medicine from the Accreditation Guidelines for Family Medicine (College of Family Physicians of Canada, 2003) (Appendix A) was generated from a previous

Table 1

A Comparison of Some Demographic Characteristics of Expert and Recent Graduate Family Physicians

	FM Experts/Faculty *n =26*	*FM Graduates* *N=12*
Urban	14	9
Rural	12	4
Remote	2	3
Male	18	7
Female	8	5
Office based practice	26 (100%)	10 (83%)
Obstetrics (deliveries)	20 (80%)	3 (25%)
Emergency department	14 (54%)	8 (67%)
Hospital based care	25 (96%)	6 (50%)

research project (Hamilton, 2005). For this earlier project, the narrative articulating the Four Principles of Family Medicine was used to develop competency statements (or areas) for each of the four principles. These statements were then reviewed by four family medicine leaders within the Department of Family Medicine at the University of Manitoba. Each reviewer provided feedback on the statements, regarding whether they represented the knowledge, skills and attitudes required to practice family medicine from the framework of the four principles, clarity, and to identify gaps or redundancies. The statements were revised based on this feedback, and re-distributed to the reviewers to ensure consistency

with their feedback. Through this process, 27 competency statements, closely matching the wording within the narratives supporting the Four Principles of Family Medicine, were identified. The 27 competency statements generated through this process were used for the two surveys (and are outlined in Appendix B). The Four Principles of Family Medicine are listed below (Table 2) with an illustrative competency statement for each principle.

Measures of competency statement values for the expert family physicians comprised of the participants assessment of the importance of each competency on a 5-point Likert scale ranging from 1 as “critical to practice” to 5 as “not important”. A similar 5-point Likert scale was used to measure how frequent a competency was used with 1 as “used with every patient” to 5 as “not used” was used. The definition of frequency were developed based on feedback from physician experts. A single open-ended prompt was inserted at the end of each section inviting respondents to add further comments. The expert family physician survey is attached as Appendix C.

Each reviewer provided feedback on the statements, regarding whether they represented the knowledge, skills and attitudes required to practice family medicine from the framework of the four principles, clarity, and to identify gaps or redundancies. The statements were revised based on this feedback, and re-distributed to the reviewers to ensure consistency with their feedback. Through this process, 27 competency statements, closely matching the wording within the narratives supporting the Four Principles of Family Medicine, were identified. The 27 competency statements generated through this process were used for the two surveys (and are outlined in Appendix B). The Four Principles of Family Medicine are listed below (Table 2) with an illustrative competency

Table 2

Illustrative Competency Statements for the Four Principles of Family Medicine

Principle of Family Medicine	Example competency statement
The family physician is a skilled clinician	Competence in the patient-centred clinical method
The family physician is a resource to a defined practice population.	Ability to evaluate new information and its relevance to practice
Family medicine is community based.	Ability to work as part of a community network of health care providers and skilled at collaborating as a team member or team leader
The doctor-patient relationship is central to the role of the family physician.	An understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments

statement for each principle.Measures of competency statement values for the expert family physicians comprised of the participants assessment of the importance of each competency on a 5-point Likert scale ranging from 1 as “critical to practice” to 5 as “not important”. A similar 5-point Likert scale was used to measure how frequent a competency was used with 1 as “used with every patient” to 5 as “not used” was used. The definition of frequency were developed based on feedback from physician experts. A single open-ended prompt was inserted at the end of each section inviting respondents to add further comments. The expert family physician survey is attached as Appendix C.

In the initial survey of expert family physicians, participants were asked to add other potential competency items to the questionnaire if they considered the list was

incomplete, to cross out competency statements they disagreed with, or to identify competencies that were unclear to them. A second round of the survey was planned if less than 22 (80%) of the competency statements were deemed to be clearly understood by respondents or if 20% or more expert family physicians identified additional competency statements. There were six additional competency statements identified by two (7.7%) of the respondents (Appendix D). This represents 92.3% participant agreement with the existing competency statements. Four competency statements were identified as unclear (Appendix E), which represents an 85.2% agreement with the clarity of the competency statements. The following statement was rated as unclear “ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office”. However, it was noted that participants (recent graduates and expert physicians) rated these competencies highly for both level of importance and for frequency of use. Therefore, more than 80% agreement was achieved and a second survey was not required.

Measures of competency statement values for the recent graduates were identical to that used for the expert family physicians[1]. In addition, recent graduates were also asked to rate their perceived level of attainment in the respective competency at the end of their residency program. A similar 5-point Likert scale was used to rank each competence ranging from a 5 to represent ‘no learning/novice’ in a competency to a 1 to represent ‘very competent/expert’. The recent graduate family physician survey is included as Appendix F.

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[1] An error was made in the development of the recent graduate survey that resulted in a difference of the frequency anchors for ‘used frequently’ and ‘used infrequently’ being different than that of the expert family physicians. However, it is unlikely this affected the results, as the ‘used frequently’ anchor still represented weekly use and used infrequently less often than this. Additionally very few competency statements were rated at four by respondents.

Procedures

For both groups, the participant package included a cover letter with (a) a promise that the respondents' answers would be kept confidential; (b) a statement that described why their responses were necessary for the success of the study and (c) an estimate of the time it would take to complete the survey. The University of Manitoba Research Ethics Board had approved the research prior to the distribution of the survey.

For the expert physicians, a printed version of the letter of introduction (Appendix G), consent form (Appendix H), and survey (Appendix C) with a self-addressed, pre-paid envelope were distributed via postal mail. A postcard type reminder was sent to all expert family physician participants approximately 3 weeks after the surveys were initially mailed out. A second reminder containing the consent form, survey and return envelope, was sent three weeks after the first reminder to those who had not responded. For the recent graduates, all materials (letter of introduction, consent forms, and survey – Appendix F) were distributed electronically via SurveyMonkey©, an online survey software package. After the initial electronic invitation, three follow-up reminders were sent by email, the first after two weeks following after the initial survey, the second after four weeks, and the final reminder at six weeks.

Data Analyses

For both the rating of level of importance and frequency of use, the mean value of each of the 27 competencies from expert physicians were compared to that of recent graduates with independent t-tests. For comparisons in which the variances were significantly different, Satterthwaites test was performed.

Results

Level of Importance

Only three statistically significant differences arose between the expert group and the graduate group (Table 3). In each case, experts rated the competency statement as more important than recent graduates did. However, for these competency statements (“Competency in the patient centred clinical method”, “Aware of the power imbalance between physicians and patients, and the potential for abuse of this power” and “Understand the nature of suffering and patients’ response to sickness”), the difference was only a difference in degree, with experts rating them as almost ‘critical to practice’ and recent graduates rating them as ‘very important to practice’. Additionally, when comparing each group’s top rated competency statements for level of importance, there is considerable overlap between the expert and recent graduate lists. Three competency statements appear on both lists (“Knowledge and skills realted to the wide range of common health problems and conditions of patients in the community”, “Knowledge and skills to provide continuing care to their patients”, and “Ability to manage patients with chronic disease”) (Table 4).

In the analysis of the mean ratings of importance for expert family physicians, some interesting trends were found. For ratings of importance to practice, there were no competency statements rated as less important than moderately important to practice. In fact, only one competency statement was rated as only moderately important; all others were rated at a minimum of just below very important to practice. This would seem to generally to support the importance of the competencies represented by the Four

Table 3

Mean Ratings of the Perceived Importance and the Frequencyof Use: A comparison of and Expert Family Physicans and Recent Graduates

	Importance			Frequency		
Competency Statement	Expert mean (SD)	Grad Mean (SD)	P	Expert Mean (SD)	Grad Mean (SD)	P
The Family Physician is a skilled clinician						
1. Competence in the patient-centred clinical method	1.65 (.75)	2.25 (.62)	.02*	1.42 (.58)	2.00 (.95)	.07
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	1.31 (.55)	1.42 (.51)	.57	1.35 (.56)	1.58 (.67)	.26
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups	1.81 (.80)	1.83 (.83)	.93	3.04 (1.18)	2.08 (1.00)	.02 *
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	1.42 (.58)	1.75 (.87)	.18	1.76 (.60)	1.75 (.75)	.97
5. Ability to deal with illness at an undifferentiated stage	1.27 (.45)	1.83 (.94)	.07	2.08 (.80)	1.83 (.83)	.39
6. Ability to manage patients with chronic diseases	1.38 (.50)	1.50 (.80)	.65	1.92 (.48)	2.00 (.74)	.70
7. Ability to manage patients with emotional problems	1.58 (.50)	1.92 (1.09)	.32	2.15 (.67)	2.17 (.94)	.96
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening	1.58 (.50)	1.67 (.78)	.67	1.88 (.43)	1.83 (.39)	.73
9. Ability to manage patients with complex biopsychosocial problems	1.92 (.69)	2.25 (1.06)	.26	2.38 (.70)	2.75 (1.14)	.32

10. Ability to manage patients with palliative care to people with terminal diseases	2.12 (.53)	2.58 (.90)	.12	3.15 (.67)	3.42 (.90)	.32
Family medicine is Community based						
11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs	1.88 (.65)	1.92 (.79)	.90	2.38 (.57)	2.00 (.85)	.11
12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home	1.73 (.87)	2.25 (1.06)	.12	1.57 (.59)	2.00 (.60)	.05
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders.	1.77 (.65)	1.92 (.51)	.50	2.15 (.46)	1.75 (.45)	.02 *
14. Ability to refer to specialists and community resources judiciously	1.58 (.50)	1.83 (.39)	.13	2.00 (.64)	1.83 (.72)	.47
The family physician is a resource to a defined practice population						
15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office	2.23 (.61)	2.08 (.67)	.53	2.45 (.67)	2.33 (.98)	.67
16. Ability to evaluate new information and its relevance to practice	1.62 (.70)	1.67 (.65)	.83	2.19 (.69)	2.42 (.51)	.33
17. Knowledge and skills to assess the effectiveness of care provided by the practice	2.00 (.69)	2.17 (.39)	.35	2.64 (.81)	2.33 (.65)	.26
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health	1.62 (.64)	1.67 (.49)	.81	1.69 (1.05)	2.00 (.95)	.39
19. Ability to plan and implement policies that will enhance patients' health	2.46 (.72)	2.33 (.49)	.59	3.08 (.97)	2.92 (1.24)	.66
20. Ability to develop effective strategies for self-directed, lifelong learning	1.54 (.58)	1.75 (.75)	.35	2.30 (.68)	2.50 (1.17)	.60

21. Ability to advocate public policy that promotes their patients' health	2.69 (.88)	2.50 (.67)	.51	3.58 (.90)	3.17 (1.03)	.22
22. Skills in the stewardship of scarce resources	2.13 (.61)	2.33 (.49)	.31	2.33 (.92)	2.67 (.89)	.31
The doctor-patient relationship is central to the role of the family physician						
23. Understand the nature of suffering and patients' response to sickness	1.46 (.51)	2.08 (.79)	.00*	1.61 (.50)	1.83 (1.03)	.50
24. Recognize when their own personal issues interfere with effective care	1.62 (.64)	1.75 (.45)	.52	2.46 (.86)	2.82 (1.40)	.45
25. Knowledge and skills to provide continuing care to their patients	1.35 (.49)	1.67 (.65)	.10	1.62 (.50)	1.83 (.58)	.24
26. Understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments	1.54 (.71)	2.00 (.85)	.09	2.00 (.94)	2.50 (1.38)	.20
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power	1.60 (.71)	2.17 (.72)	.03*	1.79 (.93)	2.42 (1.24)	.10

Note: In the few instances where the group variances were significantly different, the comparisons were performed using the Satterthwaites test. * Represents statistically significant difference $p<.05$.

Principles of Family Medicine for use in family practice in Manitoba. The two competency statements rated the least important were “ability to advocate public policy that promotes their patients’ health” and “ability to plan and implement policies that will enhance patients health”. Both of these competencies reflect involvement with policy development that promotes patients health.

Among the competencies rated by recent graduates, those considered most important and others considered least important were much the same as those rated by expert physicians. For example, as shown in Table 4, “Knowledge and skills related to

Table 4

The Most Relevant Competency Statements for Importance to Practice: A Comparison of Experts and Recent Graduates

Competency Statement	Mean	Rank
Experts		
5. Ability to deal with illness at an undifferentiated stage	1.27	1
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	1.31	2
25. Knowledge and skills to provide continuing care their patients	1.35	3
6. Ability to manage patients with chronic disease	1.38	4
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	1.42	5
Recent Graduates		
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	1.42	1
6. Ability to manage patients with chronic diseases	1.50	2
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening	1.67	3
18. Ability to use medical records and/or other information systems appropriately to maximize patient health	1.67	3
25. Knowledge and skills to provide continuing care to their patients	1.67	3

the wide range of common health problems and conditions of patients in the community" and "Ability to manage patients with chronic diseases" were considered by recent graduates as among the most important of the 27 competencies. As well, among the least important of the competences were "Ability to advocate public policy that promotes their

patients' health" and "Ability to plan and implement policies that will enhance patients' health". The ranked importance of all 27 competencies are listed in Appendix I.

Frequency of Use

Like the patterns of the ratings of importance, the frequency of use for most of the 27 competencies reported by the expert physicians was similar to those of the graduates (table 5). While recent graduates engaged more frequently in "Ability to work as part of a community network of health care providers…" than experts, the reverse was found the reverse was found for tasks pertaining to "Knowledge and skills related to life threatening and treatable emergencies in patients in all age groups".

Looking at the most frequently occurring competencies, as listed in Table 5, both experts and graduates reported the highest use of "Knowledge and skills related to the wide range of common health problems and conditions of patients in the community", "Competence in the patient-centered clinical method", and "Ability to develop a comprehensive approach to the management of disease and illness in patients and families". Similarly, the least used competencies reported by both groups were "Ability to advocate public policy that promotes their patients' health" and "Ability to advocate public policy that promotes their patients' health". This may reflect that idea that policy development and advocacy for healthy public policy is not a daily event or used with every patient for individual physicians at the practice level but occurs generally on a more infrequent basis. The comparative ranks of the frequency of use for each competency are listed in Appendix I.

Table 5

The Most Relevant Competency Statements for Frequency of Use: A Comparison of Experts and Recent Graduates

Competency Statement:	Mean	Rank
Experts		
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community.	1.35	1
1. Competence in the patient-centred clinical method	1.42	2
12. Ability to care for patients in the office, the hospital, including the emergency department, other health care facilities, or the home	1.57	3
23. Understand the nature of suffering and patients' response to sickness	1.61	4
25. Knowledge and skills to provide continuing care to their patients	1.62	5
Recent Graduates		
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	1.58	1
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	1.75	2
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders	1.75	3
5. Ability to deal with illness at an undifferentiated stage	1.83	4
23. Understand the nature of suffering and patients' response to sickness	1.83	4
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening	1.83	4
25. Knowledge and skills to provide continuing care to their patients	1.83	4

Recent Graduates Perceived Competence at the End of the Program

The mean rating of the graduates' own perceived level of competency in each of the 27 competency areas is listed in Table 6. On the rating scale in which a 1

meant “Extremely competent/Expert” to a 5 that meant “No competence/Novice”, the mean ratings across all 27 competencies ranged from 2.08 to 3.17, which indicates that for most of the competency areas, recent graduates reported that they felt moderately competent to very competent. For all three competency statements where recent graduates rated their competency three or above (“Ability to manage patients with complex bio- psychosocial problems”, “Ability to advocate public policy that promotes their patients' health” and “Ability to advocate public policy that promotes their patients' health”), the mean ratings of both experts and recent graduate on level of importance and frequency of use were the highest (i.e. less important and less frequently used).

In sum, these findings indicate that in general, most of the 27 competences are considered by both expert physicians and recent graduates to be important in practice and are used regularly. Moreover, recent graduates felt that by the end of their residency training, that they had acquired at least a moderate level of understanding of these competencies.

Discussion

The Four Principles of Family Medicine provides the training blueprint for family physicians in Manitoba and across Canada. This training blueprint is articulated in the standards for accreditation for family medicine as produced by the College of Family Physicians of Canada who are responsible for the accreditation of family medicine programs in Canada. Little has been published regarding the development or validation of the Four Principles in the scholarly literature. This research project explored the degree to which the competencies areas developed from the four principles were considered relevant (i.e. important for practice and frequently used) to the practice of family

Table 6

The Recent Graduates Perceived Level of Competence at the End of Their Program

	Perceived Competence	
Competency Statement	*Mean*	*SD*
The Family Physician is a skilled clinician		
1. Competence in the patient-centred clinical method	2.08	.67
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	2.42	.52
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups	2.67	.78
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	2.33	.78
5. Ability to deal with illness at an undifferentiated stage	2.58	.52
6. Ability to manage patients with chronic diseases	2.25	.87
7. Ability to manage patients with emotional problems	2.75	.75
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening	2.25	.62
9. Ability to manage patients with complex bio-psychosocial problems	3.00	.74
10. Ability to manage patients with palliative care to people with terminal diseases	2.83	.84
Family medicine is Community based		
11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs	2.33	.65
12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home	2.75	.87
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders	2.25	.75

	Perceived Competence	
Competency Statement	*Mean*	*SD*
14. Ability to refer to specialists and community resources judiciously	2.42	.67
The family physician is a resource to a defined practice population		
15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office	2.67	1.07
16. Ability to evaluate new information and its relevance to practice	2.33	.89
17. Knowledge and skills to assess the effectiveness of care provided by the practice	2.75	.87
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health	2.83	1.03
19. Ability to plan and implement policies that will enhance patients' health	3.17	.94
20. Ability to develop effective strategies for self-directed, lifelong learning	2.33	.78
21. Ability to advocate public policy that promotes their patients' health	3.08	1.09
22. Skills in the stewardship of scarce resources	2.75	1.29
The doctor-patient relationship is central to the role of the family physician		
23. Understand the nature of suffering and patients' response to sickness.	2.42	.67
24. Recognize when their own personal issues interfere with effective care	2.42	.67
25. Knowledge and skills to provide continuing care to their patients	2.42	.90
26. Understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments	2.50	.67
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power	2.42	.67

medicine in Manitoba as determined by expert family physicians with their certification in family medicine and by recent graduates of the UofM Family Medicine Residency Program.

Comparison of Expert Family Physicians and Recent Graduate Ratings

The mean ratings demonstrate a high degree of agreement between family medicine experts and recent graduates regarding the reported level of importance and frequency of most of the 27 competencies statements as they relate to the practice environment in Manitoba. For example, where a recent graduate family physician rated a competency as important then so did the expert family physician and this connection was consistent on every competency statement.

All of the differences between the mean scores arose around whether the competency statements were used with each patient rather than just daily or whether they were critical, very important, or moderately important to clinical practice. While these differences may be interesting, it is important to note that such a small number of differences between the two groups (only 5 statistically significant differences out of 54 possible comparisons) solely may be the result of random chance. Additionally, there is not a pattern among the differences (e.g., all from one of the four principles, or all related to importance or frequency), which further supports that they may be due to random chance alone. In fact, this points to a high level of concordance between the two groups.

When looking at the mean scores of the groups there were no competency statements identified below ‘moderately important’ by either expert physicians or recent graduates. Furthermore, there were no competency statements with a mean response

indicating it was infrequently not used by either group. This clearly reveals a high level of agreement between respondents regarding the competency statements.

When reviewing the frequency of use of the competency statements, only four statements were rated as used less frequently than daily by both groups. The competency statement “ability to manage patients with palliative care to patients with terminal disease” was rated as being used less frequently than 4 – 8 times per month, but more frequently than 4 times per month, as was the competency statement “knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups”. In Manitoba, most palliative care is provided by palliative care physicians (Norman, Sisler, Hack, & Harlos, 2001), and emergency care by emergency physicians, which could explain why this statement only attracted this less frequent use. Additionally, the rating of this competency as less frequently used than others may reflect the reality of family practice, with emergencies and palliative care cases seen less frequently by family physicians than chronic disease, emotional problems, complex bio-psychosocial problems or undifferentiated illness (Slade & Busing, 2002). The competency statements “ability to plan and implement policies that will enhance patients’ health” and “ability to advocate public policy that promotes their patients health” may relate to the number of opportunities individual family physicians have to engage in the development of policies, or in advocacy activities.). Little research has been published regarding individual physician involvement in policy development, although physician involvement through medical organizations is significant (Beyer & Mohideen, 2008; Laugesen & Rice, 2003).

Nonetheless, responses indicate that family physicians still engage in these activities on a regular basis, somewhere between 4 – 8 times per month and 4 times per

month. As this study did not ask 'what is the appropriate frequency that a family physician engages in a particular competency statement' one could conclude that competent family physician, working in their patients' best interest, would engage in these activities on an as needed basis, and that the frequency of use reflect the needs of the various practices (Beyer & Mohideen, 2008; Laugesen & Rice, 2003; Slade & Busing 2002).

When comparing the differences in the mean responses between the two groups, an interesting pattern emerges. For the competency statements where the difference reflected a difference in the frequency of use, recent graduate family physicians generally reported they used the competency more frequently. When the difference was in the level of importance, expert family physicians rated the competency as more important.

Two statements, "ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders" and "knowledge and skills related to life-threatening and treatable emergencies in patients at all age groups" (which both may reflect the individual physician's practice environment) all demonstrated a difference in the frequency of use. Recent graduates reported they use these competencies more frequently. These differences were further supported by the written comments of respondents (Appendices D & J) which reflected a theme that physicians who work in different practice locations rely on different skills. Recent graduates reported practice settings also which support this notion. Recent graduates reporting that they are more likely to work in locations other than in an office-based practice, where there may be many other team members, such as those associated with an emergency department or community-based clinic (College of Family Physicians of

Canada, Canadian Medical Association, & Royal College and Physicians, & Surgeons of Canada, 2007). This is reflected by the number of recent graduates reporting they provide office based care (83%), whereas 100% of expert family physicians reported providing this same service. Although this difference in reported practice setting does not represent a statistically significant difference, it is supported by other research into workload and practice characteristics. (Beaulieu , et al., 2009; College of Family Physcians of Canada et al., 2007) This may be worth noting as it suggests that some recent graduates do not provide what could be considered as the traditional practice of a family physician, which is an office-based practice (Beaulieu et al., 2009). More likely, however, is the tendency of recent graduates to work in other clinical environments such as hospitals and/or emergency shift work both which support a team environment and flexible work hours (College of Family Physicians of Canada et al., 2007). This explanation is supported by a relatively lower frequency of recent graduates reporting a use of the competency statement 'Ability to care for patients in the office, the hospital, including the emergency department, other health care facilities or in the home', as this suggest that family physicians need to be "polyvalent" or to have the skills to work competently in multiple different environments. It is also supported by the reported increased frequency of use of the competency statement 'knowledge and skills related to life threatening and treatable emergencies in patients in all age groups' which represents knowledge and skills necessary for family physician work in hospital or emergency department settings as opposed to the office setting.

For competency statements that differed based on level of importance, two of the statements "Competence in the patient centred clinical method" and "Aware of the power

imbalance between physicians and patients and of the potential for abuse of this power" seem to reflect differences in beliefs. The patient-centred clinical method is one of the fundamental principles of family medicine. The expert family physicians rated this statement of higher importance than the recent graduates. The second competency statement which differed based on level of importance related to power imbalance, which may reflect that as recent graduates grow into their professional roles, they likely become more aware of the imbalance of power between them and their patients and its potential for abuse (Barry, Cyran & Anderson, 2000). The third competency statement that demonstrated a statistically significant difference between expert and recent graduate family physicians was the statement "Understand the nature of suffering and patients' response to sickness", which may be a reflection of the number of years in practice. Further study is required to confirm this as research is scant in this area. However, it is important to reiterate that recent graduates do not rate these competencies as unimportant, but rate them as very important versus experts rating them as critical to practice.

In the ranking of 27 competencies, only one competency statement appeared as rated highly for both importance to practice and frequency of use by both graduates and experts. Both groups rated competency statement #2 as a minimum of very important and a minimum of used daily. This competency statement ("Knowledge and skills related to the wide range of common health problems and conditions in the community") would seem to reflect the core nature of the practice of family medicine, and its reported importance and frequency of use would support this.

Graduates' Perceived Competency

Graduates rated their level of competency at the end of their training program for most of the competency statements as competent or better, with not a single statement receiving a rating at the 'expert' level or at the novice level. The perception of recent graduates of their competency at the proficient or competent level, rather than the expert level is consisent with theories related to the development of expertise (Benner, 1982; Dreyfrus & Dreyfrus, 1986; & Swanson, O'Connor, & Cooney, 1990). These theories state that expertise is developed over periods of time, with increasing competence related to both education and experience with novices having little knowledge or experience, and therefore operating from taught rules, which are applied universally. Whereas experts in an area arise after years of practical experience and operate out of a tacit understanding of the situation and is able to apply their understanding to new situations through analytical problem solving. The fact that only two competency statements ("Ability to plan and implement policies that will enhance patients' health", and "Ability to advocate public policy that promotes their patients' health") were rated below somewhat competent suggests that the University of Manitoba's family medicine residency program may be adequately preparing graduates for the practice environment in Manitoba However, the response rate of the survey may be too small to make any firm conclusions. The two competency statements that recent graduates rated as 'advanced beginner' in their level of competence all resided in areas that medical residents term may the 'soft stuff', in areas of policy development and advocacy. One might infer that because medical learners tend to focus on 'hard' clinical topics within their training programs that these 'softer' areas can be neglected by learners. The fact that the three competency statements recent

graduates rated as being least competent in were also rated as less important and less frequently used in practice by both recent graduates and by expert family physicians raises some important questions. Does the fact that they are deemed less important/less frequently used by experts (including faculty members) result in less program exposure? Although ratings still suggest these are moderately important to practice and used with some regularity, further research is needed to explore the meaning of these ratings. However, studies such as this one provide validation that these curricular topics are important for clinical practice, and need to be taught. It may also provide very preliminary validation for the teaching of and exposure to these two topic areas to be more comprehensively covered in the curriculum.

Individual comments from expert (Appendix D) and recent graduates (Appendix J) were diverse; only one distinct theme arose. This theme reflected the necessity to differentiate the needs of practicing physicians based on their practice type or location and that certain skills needed by some practitioners are not needed by other practitioners. This is reflected in the following three comments:

- *"Needs to be a differentiation between rural and urban practice. You can practice in urban office practice without critical care skills needed in a rural setting".*
- *"Not all family physicians need ER skills, not all will have hospital based practice".*
- *"As an ER physician these answers are biased towards acute care".*

Other comments merely reflected remarks about individual competency statements. Only competency statement 'Ability to care for patients in the office; the

hospital, including the emergency department; other health care facilities; or the home' received more than one comment. This competency statement received three comments; one related to individual competency needs of family physicians depending on their practice type and two related to a difficulty in assessing frequency that they used this in practice. This was demonstrated by the comment:

- *"Difficulty to assess frequency to a category covering multiple facets"*.

Other comments from participants provided remarks regarding individual competency statements should be further explored. For example, the comment related to the competency statement "Ability to advocate public policy that promotes their patients health" was that it was:

- *"Important but difficult to do"*.

A follow up research study would be required to explore this statement (and other commentary provided by participants), furthering understanding the issues, promoters and barriers that are in place for family physicians implementing the four principles.

Outside of the one theme related to the necessity to differentiate the needs of practicing physicians based on their practice type or location, there were insufficient comments to generate a further thematic analysis. However, the comments provide useful context for further exploration. For example, the comment "Important but difficult to do" relates to the competency statement "Ability to advocate public policy that promotes their patients health", can help generate a framework for a further qualitative study of how various competencies are used in practice, or may help generate a hypothesis as to why a competency statement might be rated as important, but used less frequently.

To strengthen these findings, further evaluation of the competency statements, including an increased sample size, as well as a survey of colleagues and patients and a review of the clinical practice (e.g., chart audit) of graduates would add valuable information to an assessment of the family medicine residency at the University of Manitoba.

Limitations of the Study

There are limitations in this study, the most critical of all being the low response rate and resulting small sample size. Only 30% of expert family physicians and 24% of recent graduates who received questionnaires responded. This small response rate severely limits any conclusions made in this study so the findings as should be considered preliminary in nature and should be interpreted with caution. The study should be repeated with additional cohorts of recent graduates and expert family physicians to strengthen its power and allow more valid conclusions to be drawn. The survey design itself may have limited participation. The Likert scale rubric for level of importance and frequency of use was not repeated on each page for the expert/faculty survey, whereas repeating the scale may have increased the ease of completion of the survey. The survey design itself was bland, with no use of colour and in-effective use of white space. Given that the population surveyed likely receives many survey invitations, more attention to survey design, making it friendlier and easier to complete would have likely increased response rate. This could include monetary incentives, and pre-contact by the researcher (Edwards, 2002).

This study also uses self-reported data with recent graduates reporting on their own level of competency at the end of their program of study. Self reported data is

subjective in nature and may not truly reflect the graduates competence or abilities (Davis et.al., 2006). By using only self-reported competence as a single measure in program evaluation this will not give a holistic view of the effectiveness of the curriculum. Ideally, self-reported competence in combination with other methods of assessment (e.g., performance on certification exams, clinical audit of patient care, peer assessments, patient feedback). These preliminary results should be verified through additional research.

Conclusions and the Way Forward

Although the small sample size limits any generalizations to the population, the clearest finding in this study is that the competency statements derived from the Four Principles of Family Medicine seemed to be judged similarly by both the recent graduates and expert family physicians in terms of both importance to practice and frequency of use. Additionally, those graduates surveyed report being competent at the end of their residency program in all but three areas. Repeating this survey to a larger sample that includes both family medicine residency programs and family physicians, and coupling it with other program evaluation methods would provide a more complete picture of program effectiveness.

The validation of the knowledge, skills and attitudes outlined in the four principles of family medicine is an important first step in developing a competency framework for family medicine in Canada. But it is only a first step. Knowing that these competency areas are generally agreed to be important for practice and frequently used in practice, the next step would be to explore if this is true in other populations of family physicians and other important stakeholders (e.g. patients, colleagues, payors) and then to

determine what behaviours would demonstrate competence for each of the ensuing competency statements. This would enable the development of behaviourally anchored competency statements that would be useful for curricular development and assessment of learning in a competency based family medicine residency program.

References

Asera, R. (2003). Another flexner report? Education Resources Information Center, http://eric.ed.gov/PDFS/ED480298.pdf

Baum, K.D., & Axtell, S. (2005). Trends in North American medical education, *Keio Journal of Medicine*; 54(1), 22-28.

Barry, D., Cyran, E. & Anderson, R.J. (2000). Common issues in medical professionalism: room to grow, *American Journal of Medicine.* 108 (2), 136-142.

Beaulieu M.D., Dory, V., Pestiaux, D., Pouchain, D., Rioux, M., Rocher, G., Gay, B., & Boucher. L. (2009). What does it mean to be a family physician? Exploratory study with family medicine residents from 3 countries. *Canadian Family Physician,* 55(8),14-20.

Bell, H.S., Kozakowski, S.M., & Winter, R.O. (1997). Competency based education in family practice. *Family Medicine*, 29(10), 701-704.

Benner, P. (1982). From novice to expert. American Journal of Nursing, 82, 402-407.

Beyer, D.C., & Mohideen, N. (2008). The role of physicians and medical organizations in the development, analysis, and implementation of health care policy. *Seminars in Radiation Oncology*.,18(3),186-93.

Bowen, J.L., & Irby, D.M. (2002). Assessing quality and costs of education in the ambulatory setting: a review of the literature, *Academic Medicine*, 77, 621-680.

Bowman, R.C. (2003). Flexner's impact on american medicine. Retrieved from http://www.unmc.edu/Community/ruralmeded/flexner.htm.

Camp, G. (1996). Problem-based learning: A paradigm shift or a passing fad? *Medical Education Online,* 1996 (1)2. Retrieved from http://www.med-ed-online.org/f0000003.htm.

CaRMS. (2005). Canadian resident matching service programme descriptions. Retrieved from http://www.carms.ca/jsp/main.jsp.

Cohen J.J. (1995). Training health care professionals for the 21st century: shifting constructs in American medicine. Proceedings of the Duke Health Sector Conference, Duke University, http://conferences.mc.duke.edu/privatesector/dpsc1995/shift.htm.

College of Family Physicians of Canada. (2003). *Standards for accreditation for residency programs*, Ottawa, Canada**.** College of Family Physicians of Canada.

College of Family Physicians of Canada, Canadian Medical Association, & Royal College and Physicians and Surgeons of Canada. (2007). 2007 National physician survey: Second year medical resident questionnaire. Retrieved from http://www.nationalphysiciansurvey.ca/nps/2007_Survey/Results/ENG/Residents/NPS.2007.FM.Residents.Results.Binder.Final.pdf.

Davis, D.A., Mazmanian, P.E., Fordis, M.,Van Harrison, R., Thorpe, K.E., & Perrier, L.(2006). Accuracy of physician self-assessment compared with observed measures of competence: a systematic review. *Journal of the American Medical Association,* 296, 1094-1102.

Dauphinee, D., & Wood-Dauphinee, S. (2004). The need for evidence in medical education: the development of best evidence medical education as an opportunity to inform, guide, and sustain medical education research. *Academic Medicine,* 79(10) 925-930.

Department of Family Medicine. (2002). *Strategic planning document, needs assessment*, Unpublished/Internal Document. Department of Family Medicine, University of Manitoba, Winnipeg, Canada.

Dreyfus, H. L., & Dreyfus, S. E. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. New York: Free Press.

Durning, S.J., Hemmer, P., & Pangaro, L.N. (2007). The structure of program evaluation: an approach for evaluating a course, clerkship, or components of a residency or fellowship training program, *Teaching and Learning in Medicine*, 19(3) 308-318.

Edelstein, R.A., Reid, M.A., Usatine, R., & Wilkes, M.S. (2000). A comparative study of measures to evaluate medical students performance, *Academic Medicine,* 75(8) 825-832.

Edwards, P., Roberts, I., Clarke, M., DiGuiseppi, C., Pratap, S., Wentz, R., & Kwan, I. (2002). Increasing response rates to postal questionnaires: systematic review. *British Medical Journal*, 324: 1183-1191.

Encyclopædia Britannica (2009). Medical Education, In *Encyclopædia Britannica*. Retrieved June 17, 2009, from Encyclopædia Britannica Online: http://www.britannica.com/EBchecked/topic/372218/medical-education

Flexner, A. (1910). *Medical education in the United States and Canada.* Boston, MA: Merrymount Press.

Frank, J.R.(Ed).(2005).*The CanMEDS 2005 physician competency framework. Better standards. Better physicians. Better care*. Ottawa, ON: The Royal College of Physicians and Surgeons of Canada.

Friedman, C.P., de Bliek R., Greer D.S., Mennin S.P., Norman G.R., Sheps C.G., Swanson D.B., & Woodward C.A. (1990). Charting the winds of change: Evaluating innovative medical curricula, *Academic Medicine,* 65(9), S55-S59.

Friesen, H. (2003), Fewer students select family medicine, *Canadian Family Physician,* 49, 415-417.

Green, M.E., Ellis, C.L., Fremont, P., & Batty, H. (1998). Faculty evaluation in departments of family medicine: Do our universities measure up? *Medical Education*, 32, 597-606.

Green, L.A., & Fryer, G.E. (2002). Family practice in the United States: position and prospects. *Academic Medicine,* 77(8) 781-789.

Gutkin, C. (2003). Valuing family doctors, *Canadian Family Physician*, 49, 843

Hamilton, J. (2005). Relationship between faculty evaluation and program evaluation: Is student perceived learning related to student evaluation of faculty effectiveness? Unpublished manuscript, Department of Family Medicine, University of Manitoba, Winnipeg, Canada.

Harden, R.M., and Davis, M.H. (1998). The continuum of problem-based learning. *Medical Teacher*, 20(4), 317-322.

Hiatt, M.D., & Stockton, C.G. (2003). The impact of the flexner report on the fate of medical schools in North America after 1909, *Journal of American Physicians and Surgeons,* 8(2), 37-40.

Hodges, B. (2005). The many and conflicting histories of medical education in Canada and the USA: An introduction to the paradigm wars. *Medical Education,* 39, 613-621.

Hutchinson, L. (1999). Evaluating and researching the effectiveness of educational interventions, *British Medical Journal,* 318, 1267-1269.

Laugesen, M.J., & Rice, T. (2003). Is the doctor in? The evolving role of organized medicine in health policy. *Journal of Health Politics, Policy, and Law*, 28(2-3):289-316.

Lawley, T.J., Saxton, J.F., & Johns, M.M.E. (2005). Medical education: time for reform**,** *Transactions of the American Clinical and Climatological Association*; 116: 311320.

MacKean, P., & Gutkin, C. (2003). Fewer medical students selecting family medicine. Can family practice survive? (editorial). *Canadian Family Physician,* 49, 415-417.

Maudsley, G. (2001). What issues are raised by evaluating problem-based medical curricula? Making healthy connections across the literature. *Journal of Evaluation in Clinical Practice,* 7(3), 311-324.

Metheny, W.P., Espey, E.L., Bienstock, J., Cox, S.C., Erickson, S.S., Goepfert, A,R., Hammoud, M.M., Hartmann, D.M., Krueger, P.M., Neutens, J.J., & Puscheck, E. (2005). To the point: Medical education reviews evaluation in context: Assessing learners, teachers and training programs. *American Journal of Obstetrics and Gynecology,* 192, 34-37.

Millard, R.M. (1994). Accreditation. In Joan S. Stark & A. Thomas (Eds.), *Assessment and Program Evaluation* (pp.151-164). Boston, MA: Simon and Schuster.

Morrison, J, (2003). *ABCs* of learning and teaching in medicine: Evaluation. *British Medical Journal* 326, 385-387.

Murray, E., Gruppen, L., Catton, R., Hays, R., & Woolliscroft, J.O. (2000). The accountability of clinical education: Its definition and assessment. *Medical Education*, 34, 871-879.

Neufeld, V.R., Maudsley, R.F., Pickering, R.J., Turnbull, J.M., Weston, W.W., Brown, M.G., & Simpson, J.C. (1998). Educating future physicians for Ontario. *Academic Medicine,* 73(11), 1133-1148.

Norman, A., Sisler, J., Hack, T., & Harlos, M. (2001). Family physicians and cancer care. Palliative care patients' perspectives. *Canadian Family Physician*, 47:889-896.

Norris, H. (1998). Curriculum evaluation revisited. *Cambridge Journal of Education*, 28(2), 207-219.

Papa, F., & Harasym, P.H. (1999). Medical curriclum reform in North Amercia, 1765 to the present: A cognitive science perspective. *Academic Medicine*, 74(2), 154-164.

Prystowsky, J.B., & Bordage, G. (2001). An outcomes research perspective on medical education: the predominance of trainee assessment and satisfaction. *Medical Education*, 35, 331-336.

Ratnapalan, S., & Hilliard, R.I. (2002). Needs assessment in postgraduate medical education: a review *Medical Education Online* (7)8. Retrieved from http://www.med-ed-online.org

Rees, L.H. (2000). Medical education in the new millennium. *Internal Medicine in the 21st Century*, 248, 95-101.

Sanfilippo, F. (2003). Training our future physicians: what's at stake. Retrieved from http://medicine.osu.edu/about/vision.cfm.

Slade, S. & Busing, N. (2002). "Weekly work hours and clinical activities of Canadian family physicians: Results of the 1997/98 national family physician survey of the college of family physicians of canada." *Canadian Medical Association Journal,* 166 (11), 1407-1411.

Smith, C.A., Ganschow, P.A., Reily, B.M., Evans, A.T., McNutt, R.A., Osei, A., Saquib, M., Surabhi, S., & Uadav, S. (2000). Teaching residents evidence-based medicine skills: A controlled trial of effectiveness and assessment of durability. *Journal of General Internal Medicine*, 15, 710-715.

Smith, S., Fryer-Edwards, K., Diekema, D.S., & Braddock, C.H. (2004). Finding effective strategies for teaching ethics: A comparison trial of two interventions. *Academic Medicine,* 79(3), 265-271.

Snell, L., Tallet, S., Haist, S., Hays, R., Norcini, J., Prince, K., Rothman, R., & Rowe, R. (2000). A review of the evaluation of clinical teaching: New perspectives and challenges. *Medical Education*, 34(10), 862-870.

Snyderman, R. (1995). The academic health center in the 21st century: *Proceedings of the 1995 Duke Health Sector Conference, Duke University.* Retrieved from http://conferences.mc.duke.edu/privatesector/dpsc1995/prolog.htm#prol.

Stern, D.T., & Papadakis, M. (2006).The developing physician — becoming a professional. *New England Journal of Medicine,* 355, 1794-1799.

Stein, H. (2006). Family medicine's identity: Being generalists in a specialist culture. *Annals of Family Medicine* 4(5), 455-459.

Stephens, G. (1998). Family medicine as counterculture. *Family Medicine,* 30(9), 629-636.

Swanson, H.L., O'Connor, J.E. and Cooney, J.B. (1990). "An information processing analysis of expert and novice teachers' problem solving", *American Educational Research Journal,* 27(3), 533-556.

Taylor, R., Reeves, B., Mears, R., Keast, J., Binns, S., Ewings, P., & Khan K. (2001). Development and validation of a questionnaire to evaluate the effectiveness of evidence-based practice teaching. *Medical Education,* 35, 544-547.

Thomas, P. (1999). Medical education curricula. Where's the beef? *Journal of General Internal Medicine,* 14(7), 449-450.

Ury, W., Reznich, C., & Weber, C. (2000). A needs assessment for a palliative care curriculum. *Journal of Pain and Symptom Management* 20(6) 408-416.

Warsh, F. (2003). Family Medicine Alert. *Canadian Family Physician*, 49, 737.

Yeazel, M.W., & Center, BA. (2004). Demonstration of the effectiveness and acceptability of self-study module use in residency education. *Medical Teacher*, 26(1),57-62.

Yudkowsky, R., Elliot, R., & Schwartz, A. (2002). Two perspectives on the indicators of quality in psychiatry residencies: program directors' and residents'. *Academic Medicine*, 77(1), 57-64.

Appendix A

The Four Principles of Family Medicine

The effective family physician brings a unique set of qualities and skills to a unique practice setting, keeps these up to date, and applies them by using the patient-centred clinical method to maintain and promote the health of patients in his or her practice. The standards of accreditation of training programs in family medicine are based on the effective teaching of the following four principles of family medicine:

The family physician is a skilled clinician

Family physicians demonstrate competence in the patient-centred clinical method: they integrate a sensitive, skillful, and appropriate search for disease. They demonstrate an understanding of patients' experience of illness (particularly their ideas, feelings, and expectations) and of the impact of illness on patients' lives.

Family physicians have expert knowledge and skills related to the wide range of common health problems and conditions of patients in the community, and of less common but life-threatening and treatable emergencies in patients in all age groups. Their approach to health care is based on the best scientific evidence available. Family physicians use their understanding of human development and family and other social systems to develop a comprehensive approach to the management of disease and illness in patients and their families.

Family physicians are also adept at working with patients to reach common ground on the definition of the problems, goals of treatment, and roles of physician and patient in management. They are skilled at providing information to patients in a manner that respects their autonomy and empowers them to "take charge" of their own health care and make decisions in their best interests.

Clinical problems presenting to a community-based family physician are not preselected and are commonly encountered at an undifferentiated stage. Family physicians are skilled at dealing with ambiguity and uncertainty. The family physician will see patients with chronic diseases; emotional problems; acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening; and complex biopsychosocial problems. Finally, the family physician may provide palliative care to people with terminal diseases.

Family Medicine is community-based

Family medicine is based in the community and is significantly influenced by community factors. As a member of the community, the family physician is able to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs. The family physician may care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home. Family physicians see themselves as part of a community network of health care providers and are skilled at collaborating as team members or team leaders. They use referral to specialists and community resources judiciously.

The family physician is a resource to a defined practice population

The family physician views his or her practice as a "population at risk," and organizes the practice to ensure that patients' health is maintained whether or not they are visiting the office. Such organization requires the ability to evaluate new information and its relevance to practice, knowledge and skills to assess the effectiveness of care provided by the practice, the appropriate use of medical records and/or other information systems, and the ability to plan and implement policies that will enhance patients' health.Family physicians have effective strategies for self-directed, lifelong learning. Family physicians have the responsibility to advocate public policy that promotes their patients' health. Family physicians accept their responsibility in the health care system for wise stewardship of scarce resources. They consider the needs of both the individual and the community.

The doctor-patient relationship is central to the role of the family physician

Family physicians understand and appreciate the human condition, especially the nature of suffering and patients' response to sickness. Family physicians are aware of their strengths and limitations, and recognize when their own personal issues interfere with effective care.

Family physicians respect the primacy of the person. The relationship has the qualities of a covenant—a promise, by physicians, to be faithful to their commitment to the wellbeing of patients, whether or not patients are able to follow through on their commitments. Family physicians are cognizant of the power imbalance between physicians and patients, and of the potential for abuse of this power. Family physicians provide continuing care to their patients. They use repeated contacts with patients to build on their relationship and to promote the healing power of their interactions. Over time, the relationship takes on special importance to patients, their families, and the physician. As a result, the family physician becomes an advocate for the patient.
(College of Family Physicians, 2003, p 6-8)

Appendix B

The 27 Competency Statements

The Family Physician is a skilled clinician.

1. Competence in the patient-centred clinical method.
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community.
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups.
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families.
5. Ability to deal with illness at an undifferentiated stage.
6. Ability to manage patients with chronic diseases.
7. Ability to manage patients with emotional problems.
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening.
9. Ability to manage patients with complex biopsychosocial problems.
10. Ability to manage patients with palliative care to people with terminal diseases.

The Family Physician is community based.

11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs.
12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home.
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders.
14. Ability to refer to specialists and community resources judiciously.

The Family Physician is a resource to a defined practice population.

15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office.
16. Ability to evaluate new information and its relevance to practice.

17. Knowledge and skills to assess the effectiveness of care provided by the practice.
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health.
19. Ability to plan and implement policies that will enhance patients' health.
20. Ability to develop effective strategies for self-directed, lifelong learning.
21. Ability to advocate public policy that promotes their patients' health.
22. Skills in the stewardship of scarce resources.

The doctor-patient relationship is central to the role of the family physician.

23. Understand the nature of suffering and patients' response to sickness.
24. Recognize when their own personal issues interfere with effective care.
25. Knowledge and skills to provide continuing care to their patients
26. Understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments.
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power.

Appendix C

Expert Family Physician Survey

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Family Medicine Curriculum Needs Assessment

Family Physician Expert Survey Tool

Purpose of Study: To determine the competencies deemed necessary for the practice of family medicine in Manitoba from the perspective of faculty in the department of Family Medicine University of Manitoba and known experts in family medicine. Using those competencies identified by faculty and experts determine which are deemed relevant to practice by recent graduates and which recent graduates of the family medicine programme feel competent in at the end of the family medicine training programme. This is a student project being completed in partial fulfillment of the requirements of a master's degree in education

This survey consists of 27 competency statements reflecting the Four Principles of Family Medicine. These competency statements were generated from the accreditation standards for family medicine developed by the College of Family Physicians of Canada. The purpose of this survey is determine the accuracy of these competencies for the practice of family medicine in Manitoba, and to determine if any additional competencies exist given the practice environment in Manitoba.
Please rate each statement according to level of importance to practice as a family physician and the frequency of use in your family medicine practice by putting a check in the appropriate box.

Level of importance is defined as:

1. **Critical**: without this skill you could not practice family medicine
2. **Very** important:
3. **Moderately** important
4. **Somewhat** important
5. **Not** important at all. Not needed for the practice of family medicine.

Frequency of use is defined as:

1. Used with **every patient** visit
2. Used **daily**
3. Used **frequently** (4 – 8/month)
4. Used **infrequently** (less than 4/month)
5. **Not used**

Please put an "X" on competencies statements which you disagree with or competencies which are not clear to you. If you wish to clarify a competency please do so by writing next to the competency or in the comments section. Write any additional competencies on the survey tool in the space provided. (You may use write on the back of the survey or use extra sheets of paper if you wish, but please attach these to the original survey document and indicate the competency number you are referring to). Once completed please place the survey in the self addressed stamped envelope and return to the researcher.

	Level of Importance					Frequency of Use				
The Family Physician is a skilled clinician	1	2	3	4	5	1	2	3	4	5
1. Competence in the patient-centred clinical method:										
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community										
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups.										
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families										
5. Ability to deal with illness at an undifferentiated stage										
6. Ability to manage patients with chronic diseases										
7. Ability to manage patients with emotional problems										
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening										
9. Ability to manage patients with complex biopsychosocial problems										

10. Ability to manage patients with palliative care to people with terminal diseases.										
Others:										

Comments re: skilled clinician competencies: (if commenting on a specific competency statement please indicate number)

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____

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____

____

	Level of Importance					Frequency of Use				
Family medicine is Community based	1	2	3	4	5	1	2	3	4	5
11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs.										
12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home										
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders.										
14. Ability to refer to specialists and community resources judiciously.										
Others:										

Comments: (if commenting on a specific competency statement please indicate number)

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____

____

	Level of importance					Frequency of Use				
The family physician is a resource to a defined practice population	1	2	3	4	5	1	2	3	4	5
15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office										
16. ability to evaluate new information and its relevance to practice										
17. knowledge and skills to assess the effectiveness of care provided by the practice										
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health										
19. Ability to plan and implement policies that will enhance patients' health										
20. Ability to develop effective strategies for self-directed, lifelong learning										
21. Ability to advocate public policy that promotes their patients' health										
22. Skills in the stewardship of scarce resources										
Others:										

Comments: (if commenting on a specific competency statement please indicate number)

___

___

___

	Level of Importance					Frequency of Use				
The doctor-patient relationship is central to the role of the family physician	1	2	3	4	5	1	2	3	4	5
23. Understand the nature of suffering and patients' response to sickness										
24. Recognize when their own personal issues interfere with effective care.										
25. Knowledge and skills to provide continuing care to their patients										
26. Understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments.										
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power.										
Others:										

Comments: (if commenting on a specific competency statement please indicate number)

____

____

Demographic Information:

1. I work in a (check all that apply):

- ☐ Urban setting
- ☐ Rural setting
- ☐ Remote setting

2. I am:

- ☐ Female
- ☐ Male

3. I provide (check all that apply):

- ☐ Hospital care
- ☐ Obstetrics (deliveries)
- ☐ Emergency Room
- ☐ Office based practice

Thank you for participating in this research project. If you would like a copy of the results, please call Joanne Hamilton, Principal Investigator, at 977.5614

Appendix D

Comments of Expert Family Physicians

Unclear competency statements:

1. Competency statement marked as unclear for the level of importance "Ability to organize the practice to ensure that patients health is maintained whether or not they are visiting the office"
2. This same competency statement was marked unclear by a second respondent for both level of importance and frequency of use.
3. Competency statement marked by an individual as unclear "Ability to care for patients in the office, the hospital, including the emergency department; other health care facilities; or in the home" for frequency of use.
4. Competency statement marked unclear ("nebulous") "Ability to plan and implement policies that will enhance patients health" for both level of importance and frequency of use.
5. Competency statement marked as unclear: "Ability to plan and implement policies that will enhance patients health" the question raised by the respondent "policies at what level? In the office? In the community?" for both level of importance and frequency of use.
6. Competency statement marked unclear: "Ability to manage patients with palliative care to people with terminal diseases" for level of importance.

Competency statements added:

1. *"For rural medicine, a wide variety of procedural skills are important"*
2. Another respondent added a similar competency *"Ability to perform minor surgical procedures". This same respondent added all of the competency statements following.*
3. *"Comfort with ambiguity*
4. *"Ability to respond to a community's changing needs to adapt quickly….etc. as in to address a community's needs"*
5. *"Act as a client advocate within the health system.*
6. *"Practices with and promotes a client centred philosophy"*
7. *"Practices effective communication through skilled interviewing and listening"*

Other Comments

(Participants comments are indicated in italics)

1. *"Frequency of use difficult to interpret with #15 – 27"*
2. "*Needs to be a differentiation between rural and urban practice.You can practice in urban office practice without critical care skills needed in a rural setting"*
3. "*I think there's a difference between urban and rural.In a rural setting I would change a number of answers to critical, i.e. 1"*

4. One respondent indicated that that he was *"not crystal clear of what this means"* referring to competency #1 ("Competence in the patient-centred clinical method") although a rating was given for both level of importance and frequency of use.
5. "*Needs a team approach" – and that several items require collaboration in a team for best results therefore 'manage' should assume – to function effectively in a team with leadership role*" referring the competency statement "ability to manage patients with complex biopsychosocial problems"
6. Comment regarding "Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home" *"difficult to assess frequency to a category covering multiple facets"*.
7. Comment regarding "Understanding to the commitment to the wellbeing of patients, whether or not patients are able to follow through on their commitments" - *"you can lead a horse to water….If I have done an adequate job of informing a patient of the ramifications of a decision, but they do so anyway, I lose no sleep!"*
8. Comment regarding "Aware of the imbalance of power between physicians and patients, and of the potential for abuse for this power" …for frequency of use."*Always aware of it – comes up as an issue rarely"*.
9. Comment based on statement "Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home" - *"not all family physicians need ER skills, not all will have hospital based practice"*.
10. Comment related to competency statement #18 ("Ability to use medical records and/or other information systems appropriately to maximize patient health") *"almost impossible without an EMR system"*.
11. Comment related to competency #21 ("Ability to advocate public policy that promotes their patients' health") *"important but difficult to do"*.

Appendix E

Competency Statements Perceived as Unclear by Expert Family Physicians

Competency statement	*Area of non-clarity (# of responses)*
• Ability to organize the practice to ensure that patient's health is maintained whether or not they are visiting the office.	LOI (1) LOI and FOU (1)
• Ability to care for patients in the office, the hospital, including the emergency department; other health care facilities; or in the home.	LOI and FOU (1)
• Ability to plan and implement policies that will enhance patients health.	LOI and FOU (2)
• Ability to manage patients with palliative care to people with terminal diseases.	LOI (1)

Note: LOI = level of importance; FOU = frequency of use

Appendix F

Recent Graduate Family Physician Survey and Participant Information Letter

1. Consent Form: Family Medicine Programme Graduates

Research Project Title: A Family Medicine Curriculum Needs Assessment

Researcher(s): Joanne Hamilton
Sponsor: Department of Family Medicine, University of Manitoba

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Description of research project:

Purpose: To determine the competencies deemed necessary for the practice of Family Medicine in Manitoba, and which of those competencies graduates of the University of Manitoba's Family Medicine Residency program deem relevant to their practice and competent in at the end of their training program.

Methods: You will be asked to complete the following survey indicating which of the competencies are important to your practice as a family physician, how frequently these competencies are used in practice, and which you felt competent in at the completion of your family medicine residency program.

The survey may take up to 30 minutes to complete. You will also be asked to complete a brief demographic profile so we can compare the results between different practice locations. We anticipate that approximately 60 recent graduates will participate in the survey over the life of the project.

There is no risk of harm to those who decide to participate in the research

The names and contact information of family medicine graduates in Manitoba have been obtained from the Department of Family Medicine, University of Manitoba.

There is no cost for participants in the research and participants will receive no re-imbursement.

Confidentiality:
The following steps will be taken to help ensure the confidentiality of participant responses on the survey:
1. Electronic mail outs originating from the researchers will only include the name and email address of the family medicine graduates, obtained from the Department of Family Medicine. A reminder will be sent to all residents 3 weeks after the original mailing.
2. Participant responses to the survey questions are anonymous, and respondents are asked to NOT place their name anywhere on the survey. At any point, it is not possible for researchers to link survey responses to the individual respondent.

Information gathered in this research study may be published or presented in public forums in aggregate form. However identifying information will not be used or revealed. Despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law. No individual responses will be released.

Individuals who participate in this research, will receive a synopsis of the survey results in aggregate form. This will occur at the completion of this study.

There may or may not be a direct benefit to family medicine residents if you choose to participate in this study. We hope that the knowledge gained from this research will help improve family medicine residency programs and meet the needs of residents in preparing them for practice.

Your completion of the survey instrument indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Joanne Hamilton, 632.3452, and
Robert Renaud, 474.6786

This research has been approved by the Education/Nursing Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. Please print a copy of this consent form to keep for your records and reference.

2. Family Medicine Curriculum Needs Assessment

Family Medicine Curriculum Needs Assessment

Purpose of Study: Within the Four Principles of Family Medicine determine those competencies deemed necessary for the practice of Family Medicine in Manitoba from the perspective of faculty members in the Department of Family Medicine, University of Manitoba and known experts in Family Medicine.

Again using the Four Principles of Family Medicine identify those competencies which are deemed necessary to practice by recent graduates and which recent graduates of the Family Medicine Program feel competent in at the end of the Family Medicine Residency Program at the University of Manitoba.

This is a student project being completed in partial fulfillment of the requirements of a master's degree in education

This survey consists of 27 competency statements reflecting the Four Principles of Family Medicine. These competency statements were generated from the accreditation standards for family medicine developed by the College of Family Physicians of Canada.

3. A Family Physician is a Skilled Clinician

For the principle "A Family Physician is a Skilled Clinician", rate each competency statement using the scale provided.

*** 1. The Family Physician is a skilled clinician. Please rate each competence statement on it's importance to the practice of family medicine.**

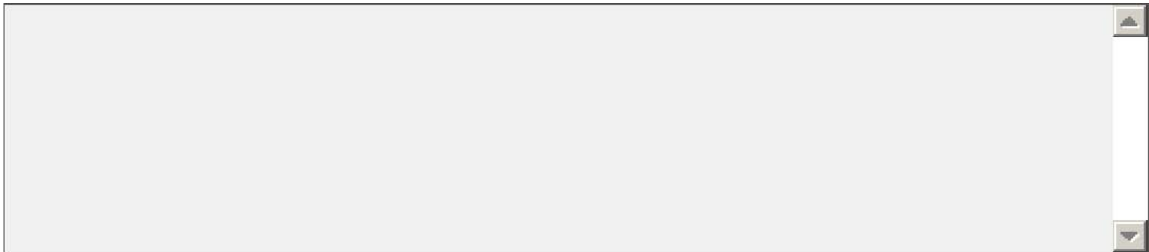
	1. Critical: without this skill you could not practice family medicine	2. Very important:	3. Moderately important	4. Somewhat important	5. Not important at all. Not needed for the practice of family medicine.
1. Competence in the patient-centred clinical method:	○	○	○	○	○
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	○	○	○	○	○
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups.	○	○	○	○	○
Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	○	○	○	○	○
Ability to deal with illness at an undifferentiated stage.	○	○	○	○	○
Ability to manage patients with chronic diseases;	○	○	○	○	○
Ability to manage patients with emotional problems;	○	○	○	○	○
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening;	○	○	○	○	○
9. Ability to manage patients with complex	○	○	○	○	○

biopsychosocial problems;					
10. Ability to manage patients with palliative care to people with terminal diseases.	O	O	O	O	O

*** 2. The Family Physician is a skilled clinician.**
Please rate each competency statement on the frequency you use it in practice.

	1. Used with every patient visit	2. Used daily	3. Used frequently (2 - 8/month)	4. Used infrequently (less than 2/month)	5. Not used
1. Competence in the patient-centred clinical method:	O	O	O	O	O
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	O	O	O	O	O
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups.	O	O	O	O	O
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	O	O	O	O	O
5. Ability to deal with illness at an undifferentiated stage.	O	O	O	O	O
6. Ability to manage patients with chronic diseases;	O	O	O	O	O
7. Ability to manage patients with emotional problems;	O	O	O	O	O
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening;	O	O	O	O	O
9. Ability to manage patients with complex biopsychosocial problems;	O	O	O	O	O
10. Ability to manage patients with palliative care to people with terminal diseases.	O	O	O	O	O

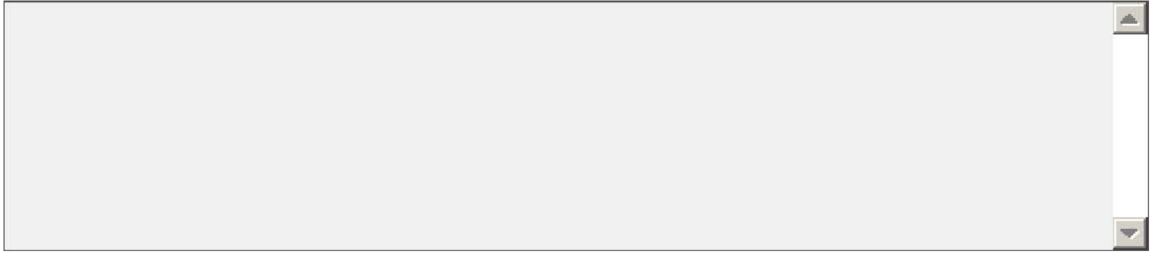
4. Comments re: skilled clinician competencies: (if commenting on a specific competency statement please indicate number)



Copy of Family Medicine Curriculum Survey

*** 3. The Family Physician is a skilled clinician.**
Please rate each competence statement on how competent you felt at the end of your residency program.

	1. Extremely competent/Expert	2. Very Competent/Proficient	3. Somewhat competent	4. Not Very Competent/Advanced beginner	5. No competence/Novice
1. Competence in the patient-centred clinical method:	○	○	○	○	○
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	○	○	○	○	○
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups.	○	○	○	○	○
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	○	○	○	○	○
5. Ability to deal with illness at an undifferentiated stage.	○	○	○	○	○
6. Ability to manage patients with chronic diseases;	○	○	○	○	○
7. Ability to manage patients with emotional problems;	○	○	○	○	○
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening;	○	○	○	○	○
9. Ability to manage patients with complex biopsychosocial problems;	○	○	○	○	○
10. Ability to manage patients with palliative care to people with terminal diseases.	○	○	○	○	○



4. A Family Physician is Community Based

For the principle "A Family Physician is Community Based", rate each competency statement using the scale provided.

*** 1. Family medicine is Community based.**
Please rate each competence statement on it's importance to the practice of family medicine.

	1. Critical: without this skill you could not practice family medicine	2. Very important:	3. Moderately important	4. Somewhat important	5. Not important at all. Not needed for the practice of family medicine.
11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs.	○	○	○	○	○
12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home	○	○	○	○	○
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders.	○	○	○	○	○
14. Ability to refer to specialists and community resources judiciously.	○	○	○	○	○

*** 2. Family medicine is Community based.**
Please rate each competency statement on the frequency you use it in practice.

	1. Used with every patient visit	2. Used daily	3. Used frequently (2 - 8/month)	4. Used infrequently (less than 2/month)	5. Not used
11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs.	○	○	○	○	○
12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home	○	○	○	○	○
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders.	○	○	○	○	○
14. Ability to refer to specialists and community resources judiciously.	○	○	○	○	○

*** 3. Family medicine is Community based.**
Please rate each competence statement on how competent you felt at the end of your residency program.

	1. Extremely competent/Expert	2. Very Competent/Proficient	3. Somewhat competent	4. Not Very Competent/Advanced beginner	5. No competence/Novice
11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs.	○	○	○	○	○
12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home	○	○	○	○	○
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders.	○	○	○	○	○
14. Ability to refer to specialists and community resources judiciously.	○	○	○	○	○

4. Comments: (if commenting on a specific competency statement please indicate number)

5. A Family Physician is a Resource to a Defined Practice Population

For the principle "A Family Physician is a Resource to a Defined Practice Population", rate each competency statement using the scale provided.

*** 1. The family physician is a resource to a defined practice population. Please rate each competence statement on it's importance to the practice of family medicine.**

	1. Critical: without this skill you could not practice family medicine	2. Very important:	3. Moderately important	4. Somewhat important	5. Not important at all. Not needed for the practice of family medicine.
15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office	○	○	○	○	○
16. ability to evaluate new information and its relevance to practice	○	○	○	○	○
17. knowledge and skills to assess the effectiveness of care provided by the practice,	○	○	○	○	○
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health	○	○	○	○	○
19. Ability to plan and implement policies that will enhance patients' health.	○	○	○	○	○
20. Ability to develop effective strategies for self-directed, lifelong learning.	○	○	○	○	○
21. Ability to advocate public policy that promotes their patients' health.	○	○	○	○	○
22. Skills in the stewardship of scarce resources.	○	○	○	○	○

*** 2. The family physician is a resource to a defined practice population. Please rate each competency statement on the frequency you use it in practice.**

	1. Used with every patient visit	2. Used daily	3. Used frequently (2 - 8/month)	4. Used infrequently (less than 2/month)	5. Not used
15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office	○	○	○	○	○
16. ability to evaluate new information and its relevance to practice	○	○	○	○	○
17. knowledge and skills to assess the effectiveness of care provided by the practice,	○	○	○	○	○
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health	○	○	○	○	○
19. Ability to plan and implement policies that will enhance patients' health.	○	○	○	○	○
20. Ability to develop effective strategies for self-directed, lifelong learning.	○	○	○	○	○
21. Ability to advocate public policy that promotes their patients' health.	○	○	○	○	○
22. Skills in the stewardship of scarce resources.	○	○	○	○	○

*** 3. The family physician is a resource to a defined practice population. Please rate each competence statement on how competent you felt at the end of your residency program.**

	1. Extremely competent/Expert	2. Very Competent/Proficient	3. Somewhat competent	4. Not Very Competent/Advanced beginner	5. No competence/Novice
15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office	○	○	○	○	○
16. ability to evaluate new information and its relevance to practice	○	○	○	○	○
17. knowledge and skills to assess the effectiveness of care provided by the practice,	○	○	○	○	○
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health	○	○	○	○	○
19. Ability to plan and implement policies that will enhance patients' health.	○	○	○	○	○
20. Ability to develop effective strategies for self-directed, lifelong learning.	○	○	○	○	○
21. Ability to advocate public policy that promotes their patients' health.	○	○	○	○	○
22. Skills in the stewardship of scarce resources.	○	○	○	○	○

4. Comments: (if commenting on a specific competency statement please indicate number)

6. The Doctor-Patient Relationship is Central to the Role of the Family Physic...

For the principle "The Doctor-Patient Relationship is Central to the Role of the Family Physician", rate each competency statement using the scale provided.

*** 1. The doctor-patient relationship is central to the role of the family physician.**
Please rate each competence statement on it's importance to the practice of family medicine.

	1. Critical: without this skill you could not practice family medicine	2. Very important:	3. Moderately important	4. Somewhat important	5. Not important at all. Not needed for the practice of family medicine.
23. Understand the nature of suffering and patients' response to sickness	○	○	○	○	○
24. Recognize when their own personal issues interfere with effective care.	○	○	○	○	○
25. Knowledge and skills to provide continuing care to their patients	○	○	○	○	○
26. Understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments.	○	○	○	○	○
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power.	○	○	○	○	○

*** 2. The doctor-patient relationship is central to the role of the family physician.**
Please rate each competency statement on the frequency you use it in practice.

	1. Used with every patient visit	2. Used daily	3. Used frequently (2 - 8/month)	4. Used infrequently (less than 2/month)	5. Not used
23. Understand the nature of suffering and patients' response to sickness	◯	◯	◯	◯	◯
24. Recognize when their own personal issues interfere with effective care.	◯	◯	◯	◯	◯
25. Knowledge and skills to provide continuing care to their patients	◯	◯	◯	◯	◯
26. Understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments.	◯	◯	◯	◯	◯
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power.	◯	◯	◯	◯	◯

*** 3. The doctor-patient relationship is central to the role of the family physician.**
Please rate each competence statement on how competent you felt at the end of your residency program.

	1. Extremely competent/Expert	2. Very Competent/Proficient	3. Somewhat competent	4. Not Very Competent/Advanced beginner	5. No competence/Novice
23. Understand the nature of suffering and patients' response to sickness	○	○	○	○	○
24. Recognize when their own personal issues interfere with effective care.	○	○	○	○	○
25. Knowledge and skills to provide continuing care to their patients	○	○	○	○	○
26. Understanding of the commitment to the well-being of patients, whether or not patients are able to follow through on their commitments.	○	○	○	○	○
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power.	○	○	○	○	○

4. Comments: (if commenting on a specific competency statement please indicate number)

7. Demographics

*** 1. I work in a (check all that apply):**

- [ ] Urban setting
- [ ] Rural setting
- [ ] Remote setting

*** 2. I am:**

- ○ Female
- ○ Male

3. I provide(check all that apply):

- [ ] Hospital care
- [ ] Obstetrics (deliveries)
- [ ] Emergency Room
- [ ] Office based practice

Thank you for participating in this research project. If you would like a copy of the results, please call Joanne Hamilton, Principle Investigator, at 977.5614

Appendix G

Expert Family Physician Letter of Introduction

Office of Medical Education
260 Brodie Centre
727 McDermot Avenue
Winnipeg, MB R3E 3P5
Canada
Phone: (204)789-3207
Fax: (204)789-3929

Letter of Introduction
Joanne Hamilton

Dear Dr. <Insert Name>

I am a graduate student working on my Master's of Education at The University of Manitoba. I am conducting this research as a part of the requirements for my degree. I would like to invite your participation in my research in the Department of Family Medicine at The University of Manitoba.The title of my project is: A Family Medicine Curriculum Needs Assessment.

This research project is being completed to assist in strengthening the curriculum of the department of family medicine, by clearly linking it to the needs of the practice environment of Manitoba. In this study you will be completing a survey asking you to validate the competencies needed to practice family medicine, as well as to indicate the level of importance, and frequency of use for the identified competencies.

If you choose to participate, please read and complete the enclosed consent form, keep the second copy for your records, and complete the enclosed survey.Return your consent and the survey in the envelope provided.Once received, the consent form will be separated from the survey.

Thank you for considering my request.With your participation, we will build a better understanding of the educational needs of family medicine learners for practice in Manitoba.

Sincerely,

Joanne Hamilton, BHumEc, RD, CDE
Graduate Student
Faculty of Education
University of Manitoba.

Appendix H

Expert Family Physician Consent Form

Office of Medical Education
260 Brodie Centre
727 McDermot Avenue
Winnipeg, MB R3E 3P5
Canada
Phone: (204)789-3207
Fax: (204)789-3929

Consent Form: Family Physician Faculty and Experts

Research Project Title: A Family Medicine Curriculum Needs Assessment
Researcher(s): Joanne Hamilton, Graduate Student, Faculty of Education
Supervisor: Rob Renaud, Assistant Professor, Faculty of Education
Sponsor: Department of Family Medicine, University of Manitoba

This consent form, a copy of which is sent to for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Description of research project:
Purpose: This project is part of an evaluation process at the Family Medicine residency programme, University of Manitoba; it is a student project being completed in partial fulfillment of the requirements of a Master's Degree in Education. Its aim is to determine the competencies deemed necessary for the practice of family medicine in Manitoba, and which of those competencies graduates of the University of Manitoba's family medicine training programme deem relevant to their practice and competent in at the end of their training programme.

Methods: You will be asked to complete this acknowledgement of consent form, indicating that you consent to participate in the research. You will be then asked to participate in the identification of key competencies for the practice of family medicine. To do this you will be asked to participate in a Delphi process using family physician experts from across Manitoba as well as physician faculty members in the U of M's Department of Family Medicine. Following this you will be asked to return the survey in the self addressed stamped envelope included in this package

For the Delphi process, participants will be asked to rank the importance of each competency and its frequency of use on a 5-point Likert scale. You will be asked to mark

an “X” on items that you do not understand and add items as you deem need to be included. When all raters have completed round one of item ranking, the mean items ratings and rankings will be calculated. The results will be returned to the raters for a second Delphi round. The analysis will be completed again and returned to the raters for a third and final round. These competencies will then be used to survey recent graduates of the family medicine program to determine their relevance to practice and their perceived level of competence in them after completing the family medicine programme. The researchers anticipate that approximately 60 family physician faculty and ‘experts’ will participate in the survey over the life of the project.

It is estimated that each round of the Delphi process will take 20 minutes, for a total time commitment of 60 minutes (three rounds of the Delphi process).

There is no risk of harm to those who decide to participate in the research

The names and contact information of Faculty and Family Medicine Experts in Manitoba have been generated by the Department of Family Medicine, University of Manitoba, and the Office of Rural and Northern Health.

You may withdraw from the survey at any time, by notifying the researcher of your desire to do so. As data gathered from respondents is anonymous, it may not be possible to remove from the study any responses you may have already submitted.

Costs: There is no cost for participants in the research.

Payment for participation: Study participants will receive no payment or reimbursement for their participation in this study.

Confidentiality:
The following steps will be taken to help ensure the confidentiality of participant responses on the survey:
1. All mail outs originating from the researchers will include the name and address of the participants on the mailing envelope from the Department of Family Medicine or the Office of Rural and Northern Health. A reminder will be sent to all participants 3 weeks after the original mailing.
2. Participant responses to the survey questions are anonymous, and respondents are asked to NOT place their name on the survey. At any point, it is not possible for researchers to link survey responses to the individual respondent.
3. Upon receipt of the completed survey, researchers will separate the consent form from the actual survey content, and store these documents in two separate locations. At this point, it will not feasible for researchers to re-link survey responses to the consent form.
4. All individual survey results will be kept in a locked secure area and only researchers identified in this consent form (Joanne Hamilton, Rob Renaud) will have access to these records.

Individuals, who participate in this research, can request a synopsis of the survey results in aggregate form from the researcher. This will occur at the completion of this study, in September of 2008. A synopsis will also be posted on the department of family medicine website.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Joanne Hamilton, 977.5614, and
Robert Renaud, 474.6786

This research has been approved by the Education/Nursing Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

-- ---

____

Participant's Signature Date

____

Researcher and/or Delegate's Signature Date

Appendix I

Ranking of Competency Statements: Expert Family Physicians and Recent Graduates

Competency Statement	Importance Rank		Frequency Rank	
	Expert	Grad	Expert	Grad
The Family Physician is a skilled clinician				
1. Competence in the patient-centred clinical method	16	21	2	2
2. Knowledge and skills related to the wide range of common health problems and conditions of patients in the community	2	1	1	3
3. Knowledge and skills related to life-threatening and treatable emergencies in patients in all age groups.	19	10	24	14
4. Ability to develop a comprehensive approach to the management of disease and illness in patients and their families	5	7	3	1
5. Ability to deal with illness at an undifferentiated stage	1	10	13	5
6. Ability to manage patients with chronic diseases	4	2	10	10
7. Ability to manage patients with emotional problems	9	13	14	15
8. Ability to manage patients with acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening	9	3	9	5
9. Ability to manage patients with complex biopsychosocial problems	21	21	19	23
10. Ability to manage patients with palliative care to people with terminal diseases	23	27	26	27
Family medicine is Community based				
11. Ability to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize appropriate resources to address patients' needs	20	13	19	10

12. Ability to care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home	17	21	4	10
13. Ability to work as part of a community network of health care providers and are skilled at collaborating as team members or team leaders	18	13	14	4
14. Ability to refer to specialists and community resources judiciously	9	12	11	9
The family physician is a resource to a defined practice population				
15. Ability to organize the practice to ensure that patients' health is maintained whether or not they are visiting the office	25	17	22	16
16. Ability to evaluate new information and its relevance to practice	13	3	16	18
17. Knowledge and skills to assess the effectiveness of care provided by the practice	22	19	23	16
18. Ability to use of medical records and/or other information systems appropriately to maximize patient health	13	3	7	10
19. Ability to plan and implement policies that will enhance patients' health	26	24	25	25
20. Ability to develop effective strategies for self-directed, lifelong learning	7	7	17	20
21. Ability to advocate public policy that promotes their patients' health	27	26	27	26
22. Skills in the stewardship of scarce resources	23	24	18	22
The doctor-patient relationship is central to the role of the family physician				
23. Understand the nature of suffering and patients' response to sickness	6	17	5	5
24. Recognize when their own personal issues interfere with effective care	13	7	21	24
25. Knowledge and skills to provide continuing care to their patients	3	3	6	5
26. Understanding of the commitment to the	7	16	11	20

well-being of patients, whether or not patients are able to follow through on their commitments				
27. Aware of the power imbalance between physicians and patients, and of the potential for abuse of this power	12	19	8	18

Appendix J

Comments of Recent Graduate Family Physicians

1. *"As an ER physician, these answers will be biased towards acute care"*
2. *"*Regarding competency statement 12 *"Question 12 must vary differently depending on deliberate experiences sought out by residents. For example, I sought out a lot of ER experience and am therefore more competent in that regard while others are more comfortable with palliative care"*.
3. "Regarding competency statement 12 –*" clinic work daily, hospital work weekly, ER work on occasion for straight admissions"*
4. *"The major shortcomings of the program as demonstrated by my answers 15, 17, 18, 19 and 21 refer to the relative lack of training regarding:*
   - skills/techniques for managing chronic disease efficiently and to ensure proper follow-up. Factors contributing to this:
   - not enough receptionists and not enough receptionist support - residents often did the work of the receptionists i.e. calling patients back for repeat appointments, and we thus didn't learn how to utilize front staff efficiently
   - lack of EMR, which I am using now, and which most new grads will likely want to use. Thus didn't learn how to use an EMR to organize chronic pain management, ensure proper follow-up. It was a steep learning curve for me once I got out of practice, to learn to do this.
   - There was not a focus on organizing the chart and maximizing the efficiency of data collecting to ensure ease of data recall.
   -re: #18, we did do chart audits to evaluate our success in correctly managing patients, *but it was exceedingly time consuming, and not something I would consider doing in practice because I just do not have the time"*.