Preparing General Internal Medicine Residents for the Future – Aiming to Match Training to Need – A Pilot Study in Saskatchewan

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Abstract
Health care workforce planning is difficult. It is even more so for a generalist specialty such as General Internal Medicine (GIM) as a key feature, worldwide, is the ability and desire of General Internists to adapt to the needs of their local context. Although this adaptability is an important resource for health care systems, it must be planned for in GIM educational curriculums. A pilot study in our province indicates that there are a broad range of competencies that all regions wished for in graduates of GIM programs. There were, however, many varied local needs that must be planned for in addition to ensuring all graduates have the broad skill set of GIM. Regions desired to employ true generalists with potentially an added skill. To truly ensure GIM graduates meet future societal needs will require ongoing links between health intelligence data and curriculum planning.

Key Words: workforce planning general internal residency

Résumé
La planification des ressources humaines en santé s’avère chose difficile. Ce l’est d’autant plus dans le cas d’une spécialité généraliste telle la médecine interne générale (MIG) car celle-ci se caractérise par la capacité et le désir qu’ont les internistes généralistes de s’adapter aux besoins dans leur contexte local. Cette faculté d’adaptation constitue une richesse importante au sein des systèmes de soins de santé, mais elle doit faire l’objet d’une préparation dans les programmes d’enseignement en MIG. Une étude pilote effectuée dans notre province indique que l’ensemble des régions a des besoins communs en matière de compétences des diplômés des programmes de MIG. Toutefois, les besoins sont souvent variés et locaux, et il faut prévoir que la formation offerte aux étudiants leur permettra de disposer de toutes les compétences propres à la médecine interne générale. Les régions souhaitent employer de vrais généralistes ayant potentiellement quelques compétences supplémentaires. Pour garantir que les diplômés de MIG sont en mesure de répondre aux besoins futurs de la société, il faudra entretenir des liens constants entre les renseignements disponibles sur les besoins en santé et la planification des programmes.
Introduction
Health care workforce planning is difficult and often inaccurate. Predicting the roles and numbers of physicians needed in the workforce is a difficult task, as reflected by the scarcity of data providing comprehensive predictions. Despite its challenges, correctly predicting the needs of the health care system is extremely important for medical student career planning and robust health system planning. Planning could potentially ensure that the right provider is present for the right patient at the right time.

The future health care workforce will need to evolve to meet the increasingly complicated health needs of the population. Despite alleged differences in the operationalization of General Internal Medicine in different countries, a central unifying feature of the discipline throughout the world is the adaptability of its practitioners to meet population needs. As defined in the Royal College of Physicians and Surgeons of Canada (RCPSC) Objectives of Training, GIM “embraces the values of generalism, is aligned with population needs, and promotes the practitioner’s ability to adapt their practice profile when needs change.” It is this adaptability to context that strengthens the value of GIM to the health care workforce. We submit, however, that this further constrains health care workforce planning for GIM due to the variation in practice patterns in the same geographic region, and the variation in health needs and health professional distribution between geographic regions. GIM is a discipline that like “psychiatry can continue to create an almost inexhaustible demand for psychiatric services by increasing the boundaries of its scope of practice.” To ensure a sustainable practice for individual providers, and for the system at large, GIM education must be designed to address true societal needs in collaboration with other health care providers.

Predicting Future Health Care Provider Needs
There are many features of the healthcare system that are inherently difficult to predict, making health care provider resource needs projections problematic. The ability of a geographic location to support a particular specialty or procedure depends on the amount of resources available to fund hospital beds, operating room space, and specialized equipment, which may vary from year to year as the economy fluctuates. The economy also impacts when physicians will retire.

A number of different methods have been used in an attempt to match physician supply to physician need, with variable success and many difficulties. The scope of practice of General Internists is designed and anticipated to change depending on regional variations in population health needs, and the availability of support from other specialists and health professionals. As other specialties become trained to provide services that physicians provided in the past, it creates a reduced need for physicians to fill these roles. This adaptability further complicates in the short term, but potentially enhances in the long-term health human resource planning in GIM.

Despite these limitations in physician human resource planning, there have been strong recommendations in both the United States and Canada to strengthen the generalist workforce in both countries. The end result of the ideal GIM residency training program is the production of adaptable and competent physicians that are ready to practice immediately upon completion of a GIM residency.

Future Links Between Health Human Resource Planning and Postgraduate Residency Training in GIM
If we are to train GIM residents for the reality of their future practice, we first need to develop a method to predict the demand for GIM specialists and identify the current and future scopes of practice of GIM. General Internal Medicine has evolved in terms of its operationalization across the world (primary care versus consultant; ambulatory versus inpatient) however; the values expressed by GIM are consistent across the world. Canada emphasizes generalist skills and the ability to adapt; SGIM in the United States broad scope of practice and adaptable training; ability to deal with a broad range of problems is emphasized in New Zealand and Australia. Cited from Bill Ghali: “Borrowing metaphorically from the field of biostatistics, it seems that the existing ‘within-country variance’ in GIM profiles is not all that different from the ‘between-country variance’.”

We conducted a mixed methods study to anticipate the needs for GIM throughout the province of Saskatchewan by identifying:

- Range of scope of practice of GIM (both current and perceived) to align the University of Saskatchewan GIM subspecialty training program objectives with competencies needed in practice.
- Future human resource needs within the discipline of GIM in our province.

Quantitative and qualitative data were gathered from at least one of the following in each of the 12 health regions in the province: practising General Internist; recruitment personnel; and/or administrative personnel. A total of 22 in-depth interviews were completed (12 of recruitment/administrative personnel and 10 of practising General Internists).
Hypothetical Generating Themes from Interviews

There is an anticipated need for General Internists within the next 10 years in all health regions that currently employ GIM. There was also difficulty establishing an exact number of General Internists needed in any future time frame (including within the next year) due to uncertainties in physician recruitment and retention as well as changing health region needs (example: need for expansion of GIM roles in ambulatory care). There was a consistent reactive-versus-proactive approach to planning GIM recruitment (example: unable to anticipate if current MDs would stay in a community, resulting in attempts to fill vacancies after a physician left).

As anticipated, the current scope of practice of GIM is widely variable across the province and at different practice location types. There were however areas of commonality in scope of practice across regions which are indicated in Table 1. Competency in cardiac, gastrointestinal, respiratory and cerebrovascular diseases were felt to be consistently important due to the prevalence of these disorders in the province. Particularly in regions outside of Saskatoon and Regina (urban centres), critical care skills were identified as being vital for a General Internist. The need for a broad scope of practice was also emphasized. In short, respondents perceived that General Internists must possess the full generalist scope of practice (Table 1) instead of subspecializing, with the ability to further add to this broad scope to meet the health needs of their patients.

Although a large number of essential competencies were felt to be well established for all GIM graduates (Table 1) there were also many skills that regions identified that they desired to have filled by GIM in an expanded fashion. These lists of areas of expanded skills were different in each region. Several skills (example: dialysis support, endoscopy) were only needed in one region and not in any others. For our province, the main themes of desired expanded skills were: expanded clinical skills (example: diabetes care); medical education; research; health care service delivery innovation; obstetrical medicine; and several procedural skills (example: echocardiography). All respondents, however, emphasized that it was desired that these expanded areas were in addition to the essential skills. In other words, all graduates needed to retain a broad scope of practice. Adaptability in practice was also reinforced by 78% of General Internist respondents indicating that their practice had changed over time. All regions identified a need for expansion of the role of GIM in the ambulatory care setting. This included suggestions for chronic disease clinics; multidisciplinary complex care clinics; preventive health care; diabetes; obstetrical medicine; care of persons with genetic disorders now living to adulthood; specific disease areas such as alcoholic liver disease; congestive heart failure; chronic renal insufficiency.

Despite the wide variation in the number of procedures performed by General Internists in their practices, respondents placed great emphasis on the importance of procedural skills and the need for residency training to allow sufficient opportunities to improve these skills. There were suggestions that there be a greater amount of training dedicated to the development of procedural skills during residency. This was postulated to instill confidence and competence in procedural skills that is necessary to enable new graduates to practice in rural and remote locations.

Planning Future Training

Entering the competency-based era, the overall goal of GIM programs – and thus the program outcomes -- are “graduates with multi-faceted abilities that meet the needs of those served”.

Previous studies via job task analysis and expert consensus have initiated understanding of the role of the Canadian General Internist. Our pilot study demonstrates the need for ongoing planning and matching education with societal needs.

Conclusions

A recurrent theme of the skills and attitudes that General Internists bring to the health care environment world-wide is a combination of a broad scope of practice but at the same time an adaptable set of skills unique for each practitioner for their own community. To fully understand GIM human resource planning, an understanding of the range of scope of practice in each community that a residency program serves is needed. Linking GIM training with societal needs via ongoing health intelligence would be ideal. (Figure 1) There is an urgent need for regional and national Health Intelligence to assist with postgraduate education planning nationally, regionally.

Table 1. Current and Desired Scope of Practice for ALL GIM Graduates – Essential Skills.

- Diagnosis and initial management for all Internal Medicine (IM) conditions presenting acutely.
- Inpatient care – ill patients with IM conditions either as most responsible physician or consultant.
- Ambulatory care – common IM conditions; Multisystem Disease; Risk Reduction (example hypertension, lipids).
- Common and Emergency IM conditions around the time of pregnancy.
- Perioperative Care.
- Life Saving and Diagnostic Procedures.
and for individual residents.\textsuperscript{1,2} As Canadian postgraduate training programs undergo transformation to competency-based education, there is an ideal opportunity to look at the outcomes of residency programs. For GIM, we suggest that this should include a targeting of individual residents to individual positions, while still ensuring that all have a broad base of generalist scope of practice.

**Acknowledgements**

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References

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10. The Canadian Society of Internal Medicine. CARE-FULLY: Defining a Plan for General Internal Medicine in Canada. May be viewed by contacting The Canadian Society of Internal Medicine http://csim.ca/contact-csim/
The Moncton Hospital, a facility within Horizon Health Network, is recruiting an Endocrinologist or Internal Medicine Specialist with equivalent expertise and practice. Services include an active diabetes clinic with three full time nurses including a certified insulin pump instructor, two full time dietitians, a part time social worker and a part time pharmacist. Also available is a lipid lowering clinic and thyroid nodule clinic with capacity for ultrasound guided FNA. Call will be shared with the 15 specialists in the Department of Internal Medicine.

The Moncton Hospital is a 386-bed tertiary and critical care facility within Horizon Health Network. It is a major referral hospital which serves communities throughout New Brunswick, Prince Edward Island and northern Nova Scotia. The Moncton Hospital is one of two neurosurgery centers for the province and provides pituitary surgery for PEI, western Nova Scotia and eastern New Brunswick, and has a number of ENT surgeons performing thyroid surgery. There is ample opportunity to have a rich and comprehensive practice.

The city, with adjoining municipalities, has a population of more than 138,000, and was ranked as one of the best Canadian cities for quality of community life. There is an abundance of educational, cultural and recreational opportunities including easy access to warm water beaches of the Northumberland Strait, and also the scenic Bay of Fundy area. Visit the City's website at www.moncton.ca.

Requirements:
The Department of Internal Medicine requires that its members practicing Endocrinology or Internal Medicine have passed the examinations of the Royal College of Physicians and Surgeons of Canada or the examination of la Corporation professionnelle des médecins du Québec. In circumstances where no Canadian trained applicants are available, the Department will consider physicians with American Boards who are able to obtain licensure in the State of Maine. In special circumstances, foreign graduates who qualify for licensure in the Province of New Brunswick will be considered.

Remuneration:
Standard remuneration is fee-for-service which is a direct compensation between the physician and Medicare of New Brunswick. No source deductions can be provided. However, under special circumstances, with approval from the Department of Health of New Brunswick, a salaried model may be available. This may range between a minimum of $221,078 to a maximum of $268,788 annually (excluding benefits and source deductions) based on qualifications and experience. Locums receive 10% in lieu of benefits. On call remuneration is fee for service.

Applicants are invited to forward their CV to Dr. Ken Mitton, Medical Director, 135 MacBeath Ave., Moncton, NB E1C 6Z8, fax (506) 857-5545, or email at medical.staff@horizonnb.ca.