What’s really behind Canada’s unemployed specialists?

Too many, too few doctors?

Findings from the Royal College’s employment study - 2013
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Report Authors:

Danielle Fréchette, MPA¹,²
Executive Director

Daniel Hollenberg, Ph.D.¹,²
Research Associate

Arun Shrichand, BA¹,²
Senior Analyst, Health System and Policies

Carole Jacob, MCS¹,²
Manager, Health Policy Program Development

Indraneel Datta, MD, MSc (HEPM), FRCSC³
Clinical Assistant Professor
General Surgeon, Alberta Health Services

Research Team:

Danielle Fréchette, MPA¹,²
Principal Investigator
Executive Director

Daniel Hollenberg, Ph.D.¹,²
Co-Principal Investigator
Research Associate

Carole Jacob, MCS¹,²
Manager, Health Policy Program Development

Arun Shrichand, BA¹,²
Senior Analyst, Health System and Policies

Galina Babitskaya, BSc¹,²
Database Analyst

Jonathan Dupré, BSc¹
Data and Research Analyst,
Educational Research Unit

Indraneel Datta, MD, MSc (HEPM), FRCSC³
Clinical Assistant Professor
General Surgeon, Alberta Health Services


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¹ Royal College of Physicians and Surgeons of Canada
² Office of Health Systems Innovation and External Relations
³ Department of Surgery, University of Calgary
Executive summary

A first in health system research

In 2010, several of Canada’s national medical specialty societies reported to the Royal College that a growing number of specialist physicians were unemployed or under-employed. The Royal College undertook research into this highly complex problem, seeking to determine if unemployment and under-employment are the simple and inevitable byproducts of an oversupply of physicians — or if other, more subtle factors come into play.

This report presents the findings of our research to date — most notably the state of employment of new specialists and subspecialists certified in 2011 and 2012 and the key drivers and influencers behind their employment challenges. (The report delves into the employment issues of specialist physicians only and does not delve into any employment issue that may affect family physicians.)

The Royal College has unique access to specialist physicians in Canada and, as such, was able to collect a unique set of data to inform this report. The Royal College surveyed newly certified specialists and subspecialists online for this study, and interviewed more than 50 persons with first-hand, in-depth knowledge of the issues who provided important new insights. It is our hope that this study will spark additional research and data collection into the phenomenon of specialist unemployment and under-employment so that health care stakeholders can work together to identify and address the countless factors that contribute to this growing challenge.

What our research revealed

Sixteen percent of new specialist and subspecialist physicians said they cannot find work; 31 percent pursue further training to become more employable.

Data from the Royal College’s 2011 and 2012 employment surveys reveal that employment issues extend across multiple medical specialties. Among those who responded to the surveys of new specialists and subspecialists, 208 (16%) reported being unable to secure employment, compared to 7.1% of all Canadians as of August 2013. Of these, 122 stated they were or would be pursuing further training and 86 reported that they were unemployed and without a training post. Also of note is the significant number of new specialists and subspecialists — 414 (31.2%) — who chose not to enter the job market but instead pursued further subspecialty or fellowship training because they believed such training would make them more employable.
Employment challenges are increasing.

Comparison by year shows that employment challenges increased in 2012 over 2011. Those reporting employment issues increased by four percentage points (from 13% to 17%) for specialists and by six percentage points (from 15% to 21%) for subspecialists. Findings also show potential provincial variances, which merit further investigation.

Locum and part-time positions are often a default option to unemployment.

Almost 22% of new graduates reported they are staying employed by combining multiple locum positions (assuming another physician’s duties temporarily) or various part-time positions. Forty percent stated they were not satisfied with their locum placement.

Employment issues are most pronounced in resource-intensive disciplines.

The survey revealed that a substantial proportion of new physicians experiencing employment issues were from surgical and resource-intensive disciplines, including but not limited to: critical care, gastroenterology, general surgery, hematology, medical microbiology, neurosurgery, nuclear medicine, ophthalmology, radiation oncology and urology.

Three key drivers contribute to employment issues.

The online surveys and interviews revealed new findings and confirmed hearsay. We have clustered our findings under the following three drivers: the economy, the health system and personal factors.

1. The economy is the main factor driving new medical and surgical specialist under- and unemployment in Canada.

   More physicians are competing for fewer resources

   Much of specialty medical care depends on institutional health care facilities such as hospitals and their resources, including operating rooms and hospitals beds. Access to these resources directly impacts physician employment. While the health care needs of patients increase and the number of physicians and surgeons continues to grow, hospital funding growth continues to slow. To control costs, resources such as operating room time are cut. Physicians are competing for fewer resources.
Weak stock markets delay retirements

The stock market’s relatively weak performance in recent years means many medical specialists are delaying their retirements. Long-held positions are not free up as expected and will not likely free up until markets improve.

2. The way in which the health care system is organized contributes to under- and unemployment of new medical and surgical specialists.

The role of interprofessional care models

Interprofessional collaborative practice—in which multiple health workers from different professional backgrounds provide care to patients—is increasingly taking root in Canadian healthcare. With this development comes a new range of health professional roles and responsibilities that affect how Canadians interact with medical services and physicians. Here is what we learned:

- **Interprofessional models reduce reliance on physicians, slow job growth.**

  These new roles associated with interprofessional care models complement and in some cases substitute physician services, making it possible to increase the amount of specialty medical care that physicians and surgeons provide without increasing the number of jobs.

- **Interprofessional models are reducing reliance on residents for service, enabling the potential to better align supply of new physicians with longer-term patient needs.**

  Our research reveals a promising trend that some teaching facilities are adapting models of care to include health professionals that complement or substitute for physicians. Residency programs in these locales are therefore relying less on residents to fill service gaps and not taking in as many residents. They are adjusting resident intake with what they believe will be future needs. This is good news because the educational system will be more likely to produce the number of specialist physicians needed rather than taking in additional residents as “boots on the ground”. Unfortunately, this is not yet the case everywhere. This is an area that requires further research.

Workforce planning

- **Determining and allocating the number of residency positions is complex and may not always take into account societal health needs and available resources.**

  Approaches for allocating residency positions can vary greatly among the provinces and territories and decisions are broadly based on scant information about longer-term societal health needs and health care resources. In addition, new medical graduates may not remain in the jurisdiction where they trained, creating further imbalances in the medical supply.
• **Increasing reliance on residents can lead to overproduction.**

Academic health facilities must often balance their immediate service requirements (which are often met by residents) with the number of physicians they will need in the future. Put another way, when additional residency positions are created to meet immediate needs, the number of new specialists and subspecialists eventually certified may exceed the number of positions needed and available over the long term. This can happen despite the potential of better balancing service needs through interprofessional care models (see above).

**Culture of practice influences physicians’ willingness to share resources**

Most health professions develop a personal culture of practice, which is motivated by both altruism and self-interest. Given that the availability of clinical and practice resources is generally fixed (this is especially true of operating room time) established specialists can be reluctant to share resources. This is because they wish to protect their access to clinical resources for their patients and their incomes. Income protection is especially important for those whose retirement portfolios have been negatively affected by the recent economic downturn.

3. **Personal and context-specific factors drive employment challenges among new graduates.**

**Residents report a lack of adequate career counseling and information about jobs**

The importance of career counseling for specialists cannot be overemphasized; career choices are key to these physicians’ futures and to how they are distributed across the country. More than half of new specialists in our study said they had not received any career counseling and more than one third without jobs and who were not continuing training in 2012 reported that poor access to job postings hampered their ability find a job. Lack of transparency about available jobs also hindered their ability to find suitable work.

Research findings reveal that a more systematic and comprehensive approach to career counseling and job advertising than currently exists in Canada is needed to meet the needs and objectives of individual physicians as well as the system.

**Personal preferences influence choices**

Personal factors influence the choices that physicians make about the type and location of practice they will pursue. This is a byproduct of many influencers, including:

• the relatively late age at which new medical specialist graduates enter independent practice. Many new graduates have family responsibilities that might make it harder to move to available job opportunities (sandwich generation, spousal employment, etc.)

• individual career preferences such as practice location or type.
Employment challenges are creating a new type of specialist, and contributing to “brain waste” and “brain drain”.

New specialists who lack access to hospital suitable resources, or who cannot find jobs in the settings they require, are developing ‘tailored’ or ‘morphed’ practices that allow them to work within the resources available to them. These new practices do not embrace the full spectrum of specialists’ abilities, resulting in skill loss and under-employment (such as when a surgeon cannot operate). This condition is called “brain waste”.

Just under 20% of recently certified medical and surgical specialists who have not found positions reported they would look for work outside Canada. The predicted physician shortages in the US may become a market for Canada's unemployed specialists, prompting a “brain drain”.

We need to think in new ways about medical workforce planning.

While our research has revealed many specific factors that contribute to specialist unemployment and under-employment, a single, overarching message has also emerged: that a significant gap appears to exist in medical workforce planning in Canada. Most planning approaches attempt to produce the right mix and number of physicians based on society’s health needs. But that is only part of the picture. Many specialty medical and surgical disciplines require specific resources such as operating room time and hospital beds to function efficiently. With health care spending challenges, specialists often have limited access to such resources, which affects the number able to practice as well as how much work each specialist can undertake.

It has become clear that medical workforce planning must consider the availability of practice resources as well as the health needs of the population. Such an approach will help physicians do the work they have been trained to do; to do otherwise will perpetuate physician unemployment. It will also worsen physician brain waste and under-employment since physicians will be able to apply only a portion of their knowledge and skills based on the resources available to them.
Glossary of acronyms

AA Anesthesia assistant
AAMC Association of American Medical College
AFMC Association of Faculties of Medicine of Canada
CAIR Canadian Association of Internes and Residents
CAPA Canadian Association of Physician Assistants
CIHI Canadian Institute for Health information
CNS Clinical nurse specialist
FTE Full-time equivalent
FMEC-PG Future Medical Education in Canada – Postgraduate Project
HRH Human resources for health
NSS National specialty societies
NP Nurse practitioner
OR Operating room
PA Physician assistant
PGME Postgraduate medical education

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After many years of talk of physician shortages, pockets of evidence have emerged in recent years demonstrating that some medical specialists and subspecialists in some disciplines are experiencing difficulties finding employment in Canada. First experienced by cardiac and orthopedic surgeons, this trend has been expanding to other disciplines in various jurisdictions. With this comes talk that there may be an oversupply or surplus of physicians.

We must all avoid knee jerk reactions and quick fixes. It is important to understand the facts and to create meaningful solutions, not a different set of problems for Canadians.

Given the absence of any discussion of this new trend in the peer reviewed and grey literature, the Royal College undertook and continues its comprehensive research to begin unpeeling the complex layers around this troubling trend.

This report reflects findings from two years of research. It does not recommend solutions. These will need to be developed by a broad group of stakeholders, including those directly affected and those who can effect change.

Hopefully, the findings presented in this report will spark others to dig deeper and to work toward solutions.

Danielle Fréchette, MPA
Executive Director, Office of Health Systems Innovation and External Relations
Principal Investigator, Royal College Employment Study
Introduction

As part of its preparation for the Royal College's annual human resources for health (HRH) conference with Canada’s national medical specialty societies (NSS) in 2010, the Royal College’s Office of Health Policy conducted an exploratory inquiry with the NSS to tease out HRH issues and concerns. During the inquiry phase, a number of societies, without prompting, identified issues around physician employment (Royal College, 2010, p. 3). This led to a consensus during that year’s conference that the Royal College should examine this issue further given the absence of any discussion of this new trend in the peer reviewed and grey literature (Royal College 2010 (2), p.10; Feindel 2010).

Economists theorize that a workforce surplus exists when the quantity of labour is greater than the quantity demanded (Hall & Lieberman 2007, page 354). From this, the logical conclusion could be that Canada’s medical schools are producing too many new specialists given that a number of them have recently been unable to find work. Yet, wait times for medical, diagnostic and surgical services persist (Harrington 2013; Wai et al. 2012; Tomlinson, Wong, Au & Schiller 2012, Discussion section, para. 5; CIHI 2013). Given these hard realities, the notion that the physician labour supply exceeds the quantity demanded is difficult to reconcile. So, the question is do we have too many physicians or are there other factors in play?

The state of physician employment and what lies behind it is a complex matter that could be examined in a number of ways. To keep the research agenda manageable, the research undertaken to date and presented in this report focuses on a high level, national picture of specialists who are newly certified by the Royal College of Physicians and Surgeons of Canada. As such, family physicians are not addressed in our research. We understand that additional research and analysis – which is not restricted to new practitioners and depicts the medical workforce at large – is needed to develop a more comprehensive picture of the physician employment situation. This must include granular investigations at the age, sex, specialty/subspecialty, and jurisdiction-specific levels. We will continue our work and encourage others to delve into the subject matter.

For now, we have a much clearer picture of the state of employment of new specialists and subspecialists, and the main drivers behind the employment challenges experienced by new medical specialty certificants – the economy, the system, and their personal context – which are explored in greater detail in the next sections of this report. These main drivers and associated factors are often interconnected. We are exploring them separately so as not to overly complicate what is already complex.
Research methodology

Background

The impetus for this study stems from an exploratory inquiry conducted by the Royal College in 2010 with the national specialty societies (NSS)*, as part of preparations for its annual human resources for health conference. The inquiry consisted of an online survey and semi-structured interviews of 39 NSS, and was aimed at gaining general insights on the workforce challenges facing specialty medicine. One of the findings of this inquiry was that select specialties were experiencing difficulties finding employment in Canada, including those in: neurosurgery, cardiac surgery, plastic surgery, public health and preventive medicine (previously community medicine), otolaryngology, nephrology, and radiation oncology (Royal College 2010, p. 3).

These findings were subsequently presented to NSS at the 2010 Royal College/NSS human resources for health conference. During the course of the conference, participants encouraged the Royal College to examine the issue of physician employment in a more systematic way (Royal College, 2010 (2), p. 10).

Research questions

Given the complexity of systems research, an attempt at identifying perceived barriers to physician employment is foundational to any further research. Therefore, the following central question and subquestions (Creswell & Plano Clark 2010) were proposed:

What factors contribute to new specialist physicians having difficulties finding employment in Canada?

- Are there too many physicians in their specialty to meet population health care needs (oversupply or overproduction)?
- Are employment difficulties a byproduct of other factors (e.g., social construct, economics or policy driven)?

* Professional groups of physicians organized around a particular medical, surgical, or laboratory specialty or subspecialty.
Study design

This study utilized a mixed-method research approach that combined key informant interviews and an online survey. This research design was thought to be most appropriate given the exploratory nature of the work and the lack of available data pertaining to the area of inquiry (Creswell 1994; Greene, Caracelli & Graham 1989).

In terms of pacing and implementation of the qualitative (key informant interviews) and quantitative (online survey) strands of the study, a multiphase combination timing approach was adopted (Creswell et al. 2010). As illustrated in Figure 1 below, an initial phase of key informant interviews was first conducted to help identify key themes that would inform the development of the online survey. Following the development and dissemination of the first iteration of the online survey (in 2011), the two data instruments have been implemented concurrently. Findings from the online survey and key informant interviews were compared, integrated and interpreted – as presented in this report.

![FIGURE 1
Royal College Employment Study Phases](image-url)
Data collection

Interviews with key informants

Semi-structured, face-to-face and telephone interviews were conducted in a sample of individuals perceived as ‘insiders’ (those with first-hand, in-depth knowledge of the subject matter). The first phase of interviews was conducted with the Royal College’s specialty committee chairs (which helped inform the online survey) and the subsequent second phase of interviews included other specialty committee chairs, select program directors, resident associations, senior hospital administrators, postgraduate deans, residents and other representative groups.

An interview guide was developed a priori and outlined questions intended to prompt discussion and reflection. Interviews ranged from 30 to 45 minutes, and delved into areas of inquiry that included (but were not limited to) exploring the

- National picture at specialty-specific level,
- Post-certification training trends,
- Employment patterns among new graduates,
- Enablers, barriers, future plans related to employment, and
- Perceived system issues

Under the guidance of The Ottawa Hospital Research Ethics Board, participants were approached and asked to confirm consent to participate in the study. All participants were informed of their rights (voluntary participation) and clear explanations were provided on study risks, benefits, confidentiality, anonymity and conservation of data.

In all, 50 interviews were carried out. It is important to note that only trends and factors that had been reported by a notable number of key informants and on-line survey respondents or that could be verified in the peer or grey literature are described in this report. Isolated impressions and opinions have not been included. Although they may signal issues or trends worthy of further attention, additional validation was deemed necessary to ensure that these are simply not a reflection of individual issues or personal opinion.

Online survey of new Royal College certificants

In 2011 and 2012, the Royal College Employment Survey was forwarded to successful candidates of the specialty and subspecialty Royal College certification exams, which are held in the spring and fall respectively.

The short online survey was designed based on a branching technique, where skip patterns were utilized to ensure that respondents answered questions relevant to them. Therefore, depending on the respondent, questions ranged from five to 18 questions. All questions are comprised of pre-categorized answers, along with select questions that provide the option for write-ins.
As highlighted above, the first phase of key informant interviews with Royal College specialty committee chairs assisted content development of the survey. These interviews provided intimate knowledge of the employment situation of residents within Canadian specialty training programs, which helped formulate survey questions that would gauge what new physicians’ plans are post certification.

Employment-related questions were directed to 1) those seeking or have secured employment and 2) those pursuing further training (subspecialty/fellowship). Other areas of inquiry included the following:

- Province of post-graduate training
- Career counseling provided during training
- Reasons for continuing training (e.g., no jobs available, passion for discipline etc.)
- Perceived reasons for why they may not have had a job placement (e.g., waiting to hear back, no positions, unwilling to relocate, etc.)
- Type of job placement (e.g., full time, part-time, locum) and level of satisfaction.

Invitations to participate in the online survey were sent via e-mail to new certificants between 10-12 weeks following the final Royal College certification examination. Over two years of examinations, this invitation was sent to a total 4233 specialty and subspecialty certificants, of whom 1371 certificants (32.4%) volunteered to participate in the survey. In 2012, a survey invitation was not forwarded to one certificant because a valid email address was not available in the Royal College’s database at the time. Additionally, there were 44 incomplete surveys over two years of the study that have been excluded from the analysis.

Under the guidance of the Ottawa Hospital Research Ethics Board, protecting participant confidentiality is considered tantamount. In keeping with standard ethical procedures the authors have ensured all study information, including survey responses and transcripts of interviews, are kept in a securely locked location onsite at the Royal College. Access to the electronic survey data and key informant interview transcripts is password protected and only accessible by the authors at the Royal College. Following publication, all hard copy data will be securely kept for five years, after which time they will be destroyed. Electronic data collected from the online survey will be maintained indefinitely and used for both comparative and time trend analysis.
Findings

This report primarily seeks to identify high level, national factors around the state of employment among new specialty physicians in the country and what lies behind their inability to find work. It is understood from the outset that the findings from the first phase of our research only scratches the surface of this complex topic. Our key informants and survey results however are beginning to paint a clearer picture to fuel further research and discussions.

4.1. The current landscape

How many are securing employment after medical specialty certification?

Key findings

The survey data reveals that employment issues are not isolated to a few individuals in a few specialties. Out of the 1325 new certificants from 2011 and 2012 (31% of the cohort), 208 (16%) reported being unable to secure employment, compared to 7.1% of all Canadians as of August 2013.

New graduates reported they are combining multiple locum positions rather than longer-term types of employment. Based on currently available data on the topic, it is not possible to determine if this is a result of the job market or individual job preference. More research will be needed to get a clearer picture. That said, four out of ten respondents stated they were not satisfied with their locum placement. This finding is important given that job satisfaction can affect retention as well as physician wellbeing and performance.

Employment challenges appeared to increase over 2011 and 2012. Those who reported having employment issues increased by 4% points (from 13% to 17%) for specialists from 2011 to 2012 and by 6% points for subspecialists (from 15% to 21%).

The survey did reveal that a substantial proportion of new physicians experiencing employment issues were from surgical and resource-intensive disciplines.

There may be indications of provincial variances which merit further investigation.
It has been long established that new medical specialty certificants who chose not to pursue additional training had a secure job prospect pending successful completion of their specialty certification requirements, including the certification exams. So, once certified, new medical and surgical specialists could seamlessly move from being residents to independent consultants if that was their chosen career path.

Early signs that the notion of secured employment prospects was crumbling became evident with disconcerting developments in orthopedic and cardiac surgery. A survey of orthopedic surgeons who graduated from 2006 to 2011 conducted by the Canadian Orthopedic Residents’ Association showed grim prospects for orthopedic surgeons trying to enter practice. The survey revealed that 56% of the 176 Canadian respondents had secured employment, 35% were completing a fellowship or graduate degree and 9% had not found a job. Of those who had not been able to secure a position, 69% were taking on-call shifts and 31% had no work at all. Slightly fewer than half of the new orthopedic specialists had full-time work (Taggart 2012). A study of cardiac surgeons who graduated between 2002 and 2008 also revealed employment difficulties with 98% of the estimated 62 recent graduates stating that finding employment for a new graduate in cardiac surgery was difficult or extremely difficult. The study also revealed that 27% reported they had extended their training because of a lack of jobs and 34% considered themselves underemployed (Ouzounian et al 2010).

To get a more comprehensive picture of this new trend and its effects on other disciplines, an on-line survey was sent to new Royal College certificants who were successful at the specialty and subspecialty Royal College exams during 2011 and 2012. Overall response rates are summarized in Table 1 and at the provincial level in Table 2.

### TABLE 1
Royal College Employment Survey 2011 and 2012 combined
Population and sample data, by response rates, age and gender

<table>
<thead>
<tr>
<th></th>
<th>Population N</th>
<th>Responses n (Rate = n/N%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialists</td>
<td>3363</td>
<td>1116 (33.2%)</td>
</tr>
<tr>
<td>Subspecialists</td>
<td>870</td>
<td>255 (29.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>4233</td>
<td>1371 (32.4%)</td>
</tr>
</tbody>
</table>

<p>| Population (N) and Sample (n) Characteristics |</p>
<table>
<thead>
<tr>
<th>Population N</th>
<th>Sample n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialists</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td></td>
</tr>
<tr>
<td>&lt;35</td>
<td>2448 (72.8%)</td>
</tr>
<tr>
<td>35-39</td>
<td>554 (16.5%)</td>
</tr>
<tr>
<td>40-44</td>
<td>205 (6.1%)</td>
</tr>
<tr>
<td>45+</td>
<td>120 (3.6%)</td>
</tr>
<tr>
<td>Missing</td>
<td>36 (1.0%)</td>
</tr>
<tr>
<td>GENDER</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1712 (51.0%)</td>
</tr>
<tr>
<td>Female</td>
<td>1650 (49.07%)</td>
</tr>
<tr>
<td>Missing</td>
<td>1 (0.03%)</td>
</tr>
<tr>
<td>Subspecialists</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td></td>
</tr>
<tr>
<td>&lt;35</td>
<td>628 (72.2%)</td>
</tr>
<tr>
<td>35-39</td>
<td>170 (19.5%)</td>
</tr>
<tr>
<td>40-44</td>
<td>53 (6.1%)</td>
</tr>
<tr>
<td>45+</td>
<td>15 (1.7%)</td>
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<tr>
<td>Missing</td>
<td>4 (0.5%)</td>
</tr>
<tr>
<td>GENDER</td>
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</tr>
<tr>
<td>Male</td>
<td>430 (49.4%)</td>
</tr>
<tr>
<td>Female</td>
<td>440 (50.6%)</td>
</tr>
<tr>
<td>Missing</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>
As outlined in Figure 2, two years of survey data reveal that employment issues are not isolated to a few individuals in a few specialties. From 2011 and 2012, 208 new certificants or 16% of respondents reported being unable to secure employment at the time they completed the survey from among the 1325 new certificants who provided responses, compared to 7.1% of all Canadians as of August 2013 (Statistics Canada 2013). Of the 208 respondents who reported not finding a job placement, 122 new physicians stated they will pursue further training whereas 86 reported that they were unemployed and without a training post.

Experts from the Canadian Institute of Health Information noted that these findings are certainly not an over-estimate and likely an under-estimate among the cohort of new certificants who received the survey since non-responders may also be experiencing employment challenges (Personal communication, January 15, 2013).
Not everyone was in the active job market at the time of the surveys in 2011 and 2012. Of the 1325 new specialty physicians who participated in the survey, 656 (49%) stated they planned to continue training post-certification. Of these 656, 414 indicated that they believed that pursuing further subspecialty or fellowship training would make them more employable. As such, they had not intended to enter the job market, favoring additional training instead. That said, additional write-ins by respondents and key informants added the perspective that some individuals were continuing training without attempting to enter the job market, although eligible to do so, given their perception of lack of employment opportunities. Additionally, 51 (4%) respondents stated they had not applied for a position at the time of the survey for varying reasons including needing time to rest after the rigours of training and certification process.

Given the focus of our study, the remainder of this section will focus on the cohort of new specialists and subspecialists who were unable to find a job placement (208 in total) and those able to secure employment (410 respondents in total).

Two year trends

While further iterations of the survey will certainly strengthen longitudinal analysis, it is noteworthy that findings by year shows that employment challenges appeared to increase in 2012 over 2011.

As illustrated in the Figures 3 and 4, there were, overall, more new specialists and subspecialists in 2012 compared to 2011 who reported they did not have a job, up 4% points for specialists (from 13% to 17%) and 6% points for subspecialists (from 15% to 21%). Furthermore:

- There was a notable increase among new specialists who reported continuing training because they could not find a job, with 39 in 2011, rising to 64 in 2012.
- In contrast, the number of subspecialists unable to find a job stating they were continuing training remained relatively unchanged between 2011 and 2012 (9 and 10 respectively), but there were many more stating they had no job placement and at the end point of their training, rising from 10 in 2011 to 16 in 2012. It is not possible to determine from available data if this is owing to a lack of fellowship and other subspecialization training opportunities or because respondents chose not to pursue further training.

These findings will warrant special, ongoing monitoring to better determine if these are developing trends or more isolated phenomena.
Provincial trends

Given the fact that employment challenges of specialists and subspecialists is a relatively new phenomenon in many jurisdictions, and specialties and subspecialties, our survey also collected provincial level data from new certificants on what their intentions are in regards to employment, ongoing education and their job search status.

However, readers need to be conscious of the data limitations in both iterations of the survey. For instance:

- The data below reports provincial counts based on the location of the educational institution where certificants reported they had completed their postgraduate (residency) training. It should not be assumed that certificants are seeking employment in the same province.
- There were significant differences in the response rate of certificants based on their province of postgraduate training (Table 2).
- Due to the smaller response sample, it is not possible to determine what kind of statistical bias exists in these results since “participants and non-participants are systematically different, … validity may be compromised” (Wisom, Orme & Combs-Orme 2004, page 19).
- Canada’s 17 medical schools are situated in eight provinces, but provide the supply of physicians for all 10 provinces and three territories in the country.
These findings must not only be reviewed with the limitations outlined above but also recognize that other factors, such as personal preferences described further in this report, may also be in play. For instance, there were no respondents from Saskatchewan, and Newfoundland and Labrador reporting employment challenges compared to Alberta where 23.2% stated they had experienced problems.

Therefore, the data below should not be read as a precise reflection of the job market in each province, but instead as an indication of the status of the respondents when they participated in the study; although self-reported, some variations may merit further regional-level investigation. Not only must we develop better data, we must also gain a better understanding of the conditions and measures instituted at the jurisdictional level that may enable or hinder employment so that we can better interpret variations observed between provinces.

![Figure 5](image1.png)

**FIGURE 5**
Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists, by province of residency training, Alberta

![Figure 6](image2.png)

**FIGURE 6**
Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists, by province of residency training, British Columbia
FIGURE 7
Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists, by province of residency training, Manitoba

- Additional training already planned: 4 (40%)
- Did not apply for job: 6 (60%)
- Found employment: 10 (54%)
- No job placement - End Point of training: 19 (30.2%)
- No job placement - Pursuing further training: 34 (15.8%)

Response rate: 37% (63 of 172)


FIGURE 8
Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists, by province of residency training, Newfoundland & Labrador (Specialists only*)

- Additional training already planned: 10 (60%)
- Did not apply for job: 3 (30%)
- Found employment: 15 (49.1%)
- No job placement - End Point of training: 17 (29.8%)
- No job placement - Pursuing further training: 2 (3.5%)

Response rate: 40% (25 of 63)

* Subspecialty population missing


FIGURE 9
Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists, by province of residency training, Nova Scotia

- Additional training already planned: 3 (30%)
- Did not apply for job: 10 (17.6%)
- Found employment: 28 (49.1%)
- No job placement - End Point of training: 2 (3.5%)
- No job placement - Pursuing further training: 7 (17.6%)

Response rate: 35% (57 of 161)

FIGURE 10 Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists,
by province of residency training, Ontario

Response rate: 30% (472 of 1561)


FIGURE 11 Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists,
by province of residency training, Québec

Response rate: 30% (311 of 1043)


FIGURE 12 Royal College Employment Survey, 2011 and 2012
Employment status reported by new specialists and subspecialists,
by province of residency training, Saskatchewan

Response rate: 31% (19 of 61)

Reliance on locum and part-time work

Over two years of the survey, 410 (30.9%) out of 1325 specialists and subspecialists who responded to the surveys indicated that they have, or will soon have, a job placement.

Breaking down the data further, 225 (75.0%) of specialists and 91 (82.7%) of subspecialists indicated they had secured full time employment. Conversely during the same period, 70 new specialists (23.3%) and 18 new subspecialists (16.4%) revealed they were working on a locum (assuming another physician’s duties temporarily) or part-time basis (refer to Figure 13).

The dependency on locum work and part-time work has been recently highlighted in the media as well, where Priest (2011) noted many orthopedic surgeons are working primarily as “locums” as they cannot gain permanent fulltime work.

The survey’s findings may be pertinent in a number of ways. For instance, it may be an indicator of:

- **Type of job placements reported by respondents, by province**: As explained in the section titled “Provincial Trends,” significant variances in the response rate of certificants based on their province of postgraduate training (Table 2) limits the Employment Survey’s validity as statistical indicator of provincial job markets. It also remains to be determined if a physician’s province of postgraduate training is an indicator of future retention given the paucity of pan-Canadian information in this regard.
These issues notwithstanding, as Figure 14 shows, new specialists who reported they had a job placement did record interesting provincial variations that likely merit further examination. Just under half of new specialists who completed their postgraduate training in British Columbia and half of those in Manitoba indicated their job placement would consist of locum or part time work – higher proportions than those reported by specialist certificants graduating from other parts of the country.

- **Personal preference of physicians:** Our research has collected differing perspectives from new physicians on whether locum work is a reflection of their perception of jobs that are currently available, or a matter of personal preference.

  **For some, locum work has been pursued out of pressure. For instance,**

  - A new certificant in pediatrics stated: “I am] hoping for a full time permanent position. But there are no local clinics hiring full time.” (Royal College Employment Survey 2012)
  
  - A new anesthesiologist stated “I’m forced to travel the province for short term locums with no guarantee for the coming month and regularity provided the assignments no one else wants both in terms lower pay and lower clinical interests [and] complexity.” (Royal College Employment Survey 2012)

  **Conversely, some certificants favored locum work. For instance:**

  - A certificant in obstetrics and gynecology stated: “My husband is a … resident, and there aren’t any jobs in the area. I’ve got locum positions lined up and we plan to look for permanent jobs together when he is finished.” (Royal College Employment Survey 2012)
- a plastic surgeon observed that the “locum position is a transition phase over the summer months.” (Royal College Employment Survey 2011)

- an anesthesiologist pointed out plans to “locum for a few months and try to decide which province I want to practice in, Ontario or BC.” (Royal College Employment Survey 2012)

While our research does not provide a clear indication as to whether or not locum positions are the ultimate career choice or simply any available position, four of ten respondents stated they were not satisfied with their current locum placement (see Figure 15 below). Lack of job satisfaction can have wide-sweeping effects beyond retaining workers; it can also impact performance and wellbeing, among other elements (Judge & Bono 2001).

The realities of the job market and the evolving nature of physician work preferences are two of many different factors that may correlate with the employment study’s data on new certificants attaining locum positions.

The lack of comprehensive information and reporting about part-time and locum work carried out in Canada has been found to muddle the country’s medical workforce data. This limitation provoked a public reaction in January 2013 by Prince Edward Island’s Health Minister who took issue with full-time equivalency data published by CIHI given their omission of locums who are an integral part of the contingent of front line physicians in the province (Wright 2013).

Concrete data would assist provincial workforce planners further and additionally, this knowledge would help inform career seekers on the types of placements currently available.

Despite limited data, our findings to date are beginning to paint an early picture of how successful new specialists and subspecialists have been at securing a job. The bottom line remains, however, that there is great uncertainty among Canada’s future doctors about their job prospects.

**FIGURE 15**
Royal College Employment Survey, 2011 and 2012
“Is your locum placement satisfactory to you at this time?”, percent response of specialists and subspecialists, Canada

![Figure showing survey results](source: Royal College Employment Survey, 2011 and 2012)

"Although new graduates reported they are taking on locum positions, at times as an alternative to unemployment, 38% of respondents stated they were not satisfied with their placement. This can impact physician performance and wellbeing among other factors."
4.2. Key drivers and influencers

Depicted here is the list of key drivers and influencers behind the employment challenges of new medical specialists. They are grouped under three broad themes including some of the effects resulting from these drivers. The following sections will examine each of these in more detail.
4.2.1. **Economy**: Why is the state of the economy the main factor driving new medical and surgical specialist under/unemployment in Canada?

**Economy**

- **Hospital funding**
  - Reduced resources = more physicians competing for fewer resources (e.g., OR time, staff, beds)
  - Reduced hiring

- **Stock market**
  - Delayed retirements or semi-retirements

**Employment problem main drivers**

There was widespread consensus among key informants that economic constraint was chief among the many drivers behind under-employment and unemployment of new medical and surgical specialists in Canada. This view was also echoed in the work done by the Future of Medical Education in Canada – Postgraduate Project: "The long-term nature of physician planning cycles creates vulnerabilities for governments and medical schools, such as sudden changes in the economy or in technology" (Glover et al. 2011, page 26).

**Key finding**

Since delivery of much of specialty medical care is dependent on institutional health care facilities, including hospitals with their associated resources such as operating rooms and hospitals beds, availability of and access to these resources directly impacts physician employment.
Hospital funding

Key findings

Given decreased hospital funding growth in recent years and continuously increasing patient health care needs, OR time and other hospital resources are constrained to control costs. As such, there are more physicians competing for fewer resources, contributing to physician under-employment and unemployment.

Given budgetary pressures, health care facilities are often reducing or slowing the number of recruits they bring on board to control costs and, in so doing, reducing employment opportunities for new graduates.

Longer-term economic forecasts and policies are not routinely taken into account by those who determine intake into residency programs. This is particularly important since:

- access to many resources, which are required to practice and impact employment prospects, are susceptible to changes with ever-shifting financial allocations and economic policies
- it takes at least eight years from the time a trainee starts medical school before achieving medical specialty certification.

Since much of the work of medical and surgical specialists occurs in hospital settings, which make up the largest component of all health care spending, it follows that changes in hospital resourcing levels and demand for services will impact the medical workforce. In 2012, hospital expenditures accounted for 29.2% of total health care spending in Canada, including both public and private spending. The Canadian Institute for Health Information (CIHI) forecasts that public sector spending on hospitals will see the lowest rates of growth since the late 1990s, increasing by 4% and 2.9% in 2011 and 2012 respectively (CIHI, 2012a).

FIGURE 16  Public sector health expenditure growth, Canada, 2002-2012

Slowed hospital budget growth is not surprising. A 2001 parliamentary committee report observes that “…without a new vision of what the future health care system should be, there is a risk that new money will be reinvested only in traditional, publicly funded, sectors of health care (e.g. hospitals and institutional care)” (Parliament of Canada, 2001, p. 96).
That needed vision is still evolving while Canada’s population continues to grow and physicians report increasing complexity of their patients’ needs (National Physician Survey 2010, question 23). The 2008 global economic crisis has also prompted some rethinking about government spending overall (Fowlie, 2013).

Commenting on the impact of the lack of available health care resources, key informants explained that new graduates struggled to find employment across Canada despite ongoing and growing patient need. Key informants also reported two factors associated with hospital budgetary constraints driving both unemployment and under-employment:

- Fewer positions being advertised and filled.
- Reduced access to needed resources such as beds, operating room (OR) time and associated hospital personnel.

Physicians are “primarily responsible for determining the number of patients who require care in hospital and further diagnostic tests” (CIHI 2011, page vii). According to the most recent CIHI data, the volume of physician services continues to increase. For example, surgical services and diagnostic/therapeutic services by surgeons increased by 26.8 and 28.4% respectively between 1998-1999 and 2008-2009 (CIHI 2012b, Figure 18). Yet, key informant interviews and survey findings reveal that the surgical and more resource intensive specialties and subspecialties, which are highly dependent on OR and other hospital resources for their clinical practice, were those where there are the greatest employment challenges, as shown in Table 3 below.

### Table 3

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Unable to find a job placement</th>
<th>Number (and %) of new certificants who responded to the survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Care</td>
<td>5/22 (22.7%)</td>
<td>23/84 (27.4%)</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>9/27 (33.3%)</td>
<td>27/92 (29.4%)</td>
</tr>
<tr>
<td>General Surgery</td>
<td>13/46 (28.3%)</td>
<td>50/197 (25.4%)</td>
</tr>
<tr>
<td>Hematology</td>
<td>7/24 (29.2%)</td>
<td>25/68 (36.8%)</td>
</tr>
<tr>
<td>Medical Microbiology</td>
<td>3/13 (23.1%)</td>
<td>14/29 (48%)</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>8/21 (38.1%)</td>
<td>22/50 (44%)</td>
</tr>
<tr>
<td>Nuclear Medicine</td>
<td>4/7 (57.1%)</td>
<td>7/21 (33.3%)</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>13/30 (43.3%)</td>
<td>30/84 (35.7%)</td>
</tr>
<tr>
<td>Orthopedic Surgery</td>
<td>15/60 (25%)</td>
<td>61/168 (36.3%)</td>
</tr>
<tr>
<td>Otolaryngology</td>
<td>5/17 (29.4%)</td>
<td>17/55 (30.9%)</td>
</tr>
<tr>
<td>Radiation Oncology</td>
<td>14/27 (51.9%)</td>
<td>29/60 (48.3%)</td>
</tr>
<tr>
<td>Urology</td>
<td>6/15 (40%)</td>
<td>16/61 (26.2%)</td>
</tr>
<tr>
<td>** Cardiac surgery</td>
<td>5/5 (100%)</td>
<td>5/16 (31.2%)</td>
</tr>
</tbody>
</table>

* includes those who stated they had not secured a position when they responded to the survey and were either continuing training or were not in a training program.

** cardiac surgeons who responded to the 2011 and 2012 surveys reported that they had not tried to apply for a position and were continuing training because they believe it will make them more employable.
Key informants commented that, because of the high cost of running operating rooms, one of the first areas that Canadian hospitals will “cut” when experiencing budget constraints is available OR time.

Within the lay press, it has been suggested that funding restrictions in Alberta have had many effects on hospitals, including: limiting amount of overtime worked by nurses and access to certain services, and closure of operating rooms and hospital beds (CBCnews 2013). It was also reported that ORs were closed or decreased in order to stay within hospital operating budgets, which resulted in delaying or reducing surgeries and having a direct effect on specialist services (CBCnews). Between January and March 2013, one hospital closed 20 OR days to accommodate budget constraints and another was reported as having cancelled eight surgeries at the end of January 2013 because of lack of access to the OR (CBCnews).

Recent reports in Ontario also note frozen funding, impending cuts and lower annual increases to hospital operating budgets, impacting specialty medicine (Boyle 2013). To avoid deficits, hospitals are considering or implementing measures similar to those implemented in Alberta, such as: closing operating rooms, hospital wings and outpatient clinics (Boyle). Other jurisdictions such as New Brunswick are also implementing measures to contain health expenditures. In this jurisdiction, however, plans are to seek findings by cuts to non-clinical staff and services (Government of New Brunswick 2013). Despite these reassurances, there remains some disagreement and uncertainty that cuts will not impact care or the public (Bisset 2013; New Brunswick Medical Society 2013).

A key informant from the discipline of otolaryngology further explained how, in Canada, surgical specialties, including otolaryngology are, in essence, viewed as a liability to the hospital because surgeons are “taking money away” from the capital budget of the hospital when patients are brought in for surgeries.

“\textbf{For, ... five or six cardiac surgeons, you’d require a ten-bed intensive care, three operating rooms, about 40 in-hospital floor beds ... So last year, we had 20% to 25% of our cases cancelled due to a lack of beds. ... the biggest cost to the system is when I operate .... The first couple days of that patient’s stay are hugely expensive. So if ... [hospitals] can get us to do less work, they save money.}” [KII-29]
Findings from the Royal College employment surveys clearly corroborate with these observations – over two iterations of the survey, further subspecialisation due to a lack of employment was particularly prevalent among new surgical certificants.

“... even though there's a huge need for ... [otolaryngologists], there ... [are] really no resources being offered to the point where our new graduates are struggling to get jobs and, as a result, many of them are going off and doing fellowships in subspecialties instead of starting a practice, hoping that that will give them a leg up or an ability to get a job after they're finished ... ” [KII-1]

New graduates also perceived that economic constraint was impacting the job market. In both the 2011 and 2012 employment surveys, respondents identified “too few available positions for my specialty in Canada” and “not enough funding for my position” among the most important reasons why they did not have a job. Both new graduates continuing training and those who were at the endpoint of training held this view (see Table 5 below).
Survey findings reveal that all new physicians and surgeons who had not found a job, whether they were continuing training or not, increasingly believe that there are too few available positions for their specialty in Canada.

The feeling that there was not enough funding for their position varied in terms of relative importance among new physicians and surgeons without a job, ranging from 18.9% to 44% in 2011, and 12.9% to 50% in 2012.

**Stock market performance – delayed retirements**

**Key finding**

The stock market’s relatively weak performance in recent years has reduced many physicians’ retirement savings and delaying their retirement plans. Long-held positions are not freeing up as expected and will not likely free up until markets improve.

Most physicians in Canada are generally viewed as “self-employed entrepreneurs” (Canadian Foundation for Health Improvement 2010). As such, they are usually responsible for planning and providing for their retirement and, much like many other Canadians, the stock market plays prominently in retirement financial plans. The stock market crashes of 2001 (Mishkin & White 2002) and 2008 (Barro & Ursúa 2009) certainly left their mark on the wealth of Canadians.

Key informants explained that the decline in investment portfolios affected physicians’ retirement patterns and by default, not freeing up anticipated openings for new specialty graduates in Canada. Delayed retirements owing to poor performance of physicians’ investment portfolios is not a new phenomenon. A 2009 article in the publication “Benefits Canada”, for example, discussed the effects of the 2008 market crash on retirement patterns, including how physicians were delaying their plans to exit the workforce (Sylvain 2009). The article also refers to shifting work patterns toward semi-retirement compared to full retirement to protect investment holdings until the market’s performance improves.

Anticipated retirement patterns were quite different not that long ago. In 2007, for example, there were references of “raised ... anxiety level about mass physician retirement” that would further exacerbate physician shortages (Pong, Lemire & Tepper 2007). These predictions have clearly not materialized. An analysis of the 2007 and 2010 National Physician Survey results showed that although 6-7% of all physician respondents stated they planned to retire from clinical practice within the next two years, that same analysis observed that, despite methodological challenges and data limitations, it was possible to conclude that far fewer had followed through on their stated intentions (Buske 2012).
Much more work needs to be done to measure the impact of physician retirement patterns on the medical workforce, including newly certified physicians and surgeons. This will not be an easy task. To begin, there is “not a universally accepted officially sanctioned definition of retirement in Canada”, which for example can range from complete removal from the labour market to reductions in income or time worked (Pong 2011, page 5). In his detailed study, Pong also notes that little is known about physician retirements, adding that The World Health Report 2006 recognizes that “information about the retirement rate of health workers is very scarce” (5). Thus, not only do we have scarce information about the medical workforce in Canada, little can be gleaned from international sources as well.

4.2.2. System: What elements in the health system contribute to the under-employment and unemployment of new medical and surgical specialists?

- Interprofessional practice
  - < reliance on physicians
  - < reliance on residents to cover service
- Workforce planning
  - Variable across Canada
  - Insensitive to workforce movement
  - Resident core to short-term service needs vs. longer-term needs
- Culture of practice
  - Hospital resources (e.g., OR) not shared with new specialists to protect own wait times and income

Information about the retirement rate of health workers is very scarce” (WHO Report, 2006)

As such, it is very difficult to systematically measure and assess the impact of retirement patterns on the medical job market. For now, we must rely on verbal reports of job opportunities that have not opened up because of delayed retirements prompted by the economic downturn.
Interprofessional care models

Key finding

Interprofessional collaborative practice is increasingly taking root in Canadian health care. With this development come new health professional roles and responsibilities that directly impact reliance on medical services and physician employment. Yet, there is little data and research on how these changes in health care organization and delivery impact medical workforce requirements.

Delivery of modern health care is complex, labour intensive and increasingly relies on inter-professional, collaborative teams. Health care managers and policy makers alike strive to develop and implement the most efficient and effective staff mixes, based on available local priorities and resources (Buchan & Dal Poz 2002; Macdonald-Rencz & Bard 2010). There are many drivers underlying the development of new roles and interprofessional teams such as physician shortages, rising chronic illness and economic constraints (MacDonald-Rencz & Bard 2010). “New ways of delivering care are required, and the expansion of interprofessional teams” may help meet increased patient needs (Ducharme, Adler, Pelletier, Murray & Tepper 2009, Discussion section). As such, the role and types of various health professionals is constantly evolving.

Modern health care is increasingly complex and delivered in teams, where roles are constantly evolving, with some substituting physicians’ services, others complementing or doing both.

The changing roles of health professionals can either substitute and/or be complementary to those of physicians and surgeons.

Advanced practice nurses, which encompass nurse practitioners (NPs) and clinical nurse specialists (CNSs), have existed in Canada since about the early 1970s (DiCenso et al. 2010). A blended CNS/NP role that emerged in the late 1980s was first introduced in Ontario in tertiary-level neonatal intensive care units to help offset cutbacks in pediatric residents (Hunsberger et al. 1992; Pringle 2007). Other categories of NPs were also soon after introduced into other specialty areas within hospitals because of the perceived shortage of medical residents and an observed lack of continuity of care for seriously ill patients (Pringle 2007; Kaasalainen et al. 2010).

Physician assistants (PA), which complement the work of physicians, have formally been a part of Canada’s military health care system since 1984. They were first legislated in the Canadian public system in Manitoba in 1999 under the name ‘clinical assistant’ and subsequently renamed PA in 2009 (CAPA 2013a; Government of Manitoba 2013). Since then, this new health profession has been integrated into many provinces including Ontario, New Brunswick, Alberta and Nova Scotia (CAPA 2013a; CPSNS 2013).
Interprofessional models reducing reliance on physicians – slowing need for job growth

Key finding

With the increasing prevalence of interprofessional care models comes a corresponding evolution of health professional roles. These new roles complement and in some cases substitute physician services, making it possible to increase the amount of specialty medical care that physicians and surgeons provide without necessarily increasing the number of medical jobs.

The new advanced practice nurses’ roles that have emerged, which substitute and complement the work of physicians, address various types of health care needs such as (MacDonald-Renz & Bard 2010; DiCenso et al. 2010; Fulton & Baldwin 2004; Alcock 1996):

- Nurse practitioners who, in addition to various primary care roles, are practicing in acute care settings in hospitals or in specialized outpatient settings and assuming a wide range of roles such as providing care for acutely, critically or chronically ill patients with complex conditions.
- Clinical nurse specialists, who also work in hospitals, are conducting research, providing leadership and also promoting high standards of care and patient safety, have been associated with reductions in hospital length of stay, readmissions, emergency room visits, costs as well as patient satisfaction among other factors.
- Advanced practice nurses can also specialize their focus within a particular disease or medical subspecialty and coordinate the care of high-need patients who often have complex co-morbidities, alongside other medical specialists, in areas such as neonatology, nephrology, cardiology, psychiatry, gerontology, palliative care and oncology.

Unlike other health professionals, the PA’s scope of practice not only depends on their own training, it is also directly related to the tasks that the supervising physician chooses to delegate within their own approved scope of practice (Mikael, Ozon & Rhule 2007). Since PAs can undertake any number of clinical activities delegated by their supervising physician, their scope of practice can be wide-ranging, such as (McMaster University 2013; Alberta Health Services 2013; CAPA 2013b):

- Taking medical histories, conducting comprehensive physical assessments and interpreting findings, ordering and interpreting tests, and performing selected diagnostic and therapeutic interventions or procedures including assisting in surgery.
- They are trained in many aspects of general clinical medicine in all systems, including: cardiovascular, endocrine, musculoskeletal, pulmonary, gastrointestinal, eye, ear, nose, throat, reproductive, neurological, psychiatry/behavioral science, genitourinary (GU), dermatology, hematology, infectious disease.
- A PA’s scope of practice may also include patient education, research and administrative services.
The following examples are not intended to be a comprehensive review but rather to illustrate some of studies and reports demonstrating the benefits of the changing roles of other health professionals in interprofessional collaborative health care teams, which complement and substitute physicians:

- A 2010 study on the effect of PAs working with orthopedic surgeons in an arthroplasty (joint repair/replacement) practice in Winnipeg revealed that they were not only considered as important members of the health care team by surgeons, nurses, orthopedic residents and patients, they also helped reduce wait times and increase the number of surgeries orthopedic surgeons could do (Bohm, Dunbar, Pitman, Rhule and Araneta 2010). PAs were found to save their supervising physician, on average, 204 hours per year (2010). The number of primary joint procedures also increased by 42 per cent because orthopedic surgeons were able to implement a double operating room model facilitated by PAs which reduced average wait times from 44 weeks to 30 weeks compared with the preceding year (2010).

- In a 2009 study on the effects of PAs and NPs in six Ontario emergency departments, it was found that they had a direct role in reducing wait times for patients, how long they stayed in the emergency departments and the rate of patients who left without being seen (Ducharme, et al. 2009). This study showed that PAs will help increase the output of emergency physicians without necessarily having to increase the number of physicians, to help better meet patient health care needs.

- A study released in 2006 examined the use of PAs and anesthesia assistants (AA) in operating rooms in Halifax to determine, among other objectives, the types of clinical activities that could be delegated to PAs and AAs. The study also sought to determine the effect on physicians’ time, revealing that they decreased reliance on physicians while increasing surgical output (Sigurdson 2006):
  - Of the 806 patients seen in 13 clinics for rechecks, which accounted for 69.5% of patient volume, it was concluded that 53.5% could have safely been addressed by a PA (pages 43-44).
  - In the operating room, a detailed review of 979 events showed that PAs could reduce reliance on surgeons’ time by carrying out activities that do not tap into the skill sets unique to surgeons (e.g., preparing/draping patients, sewing and applying dressings). As such, it was concluded that PAs could safely perform 48.8% of minor procedures, 28.6% of elective procedures and 20.5% of waitlist procedures (pages 44-47).
  - “Considering the weekly mix of activities, a PA could increase surgical productivity by 36.7%” (page iv).
  - It was also observed that addition of PAs could allow two operating rooms to run simultaneously thereby greatly increasing surgical productivity (page 50).
- AAs permitted “individual anesthetists to run two ophthalmology rooms simultaneously. Thus far, the rooms involve low acuity cases under conscious sedation only. With further experience, it may be possible to run two general anesthesia rooms under the supervision of a single anesthetist” (page 36).

- NPs have long demonstrated benefits for patient outcomes, reduced length of stay in hospital and optimal use of health professionals in interprofessional teams. A 1999 program introducing acute care NPs to improve outcomes of hip fracture care in a tertiary teaching hospital in British Columbia clearly shows how NPs contribute to interprofessional collaborative practice (Faith 2012). In this program, “the NP collaborated with the hospital Clinical Path Consultant and the multidisciplinary team to plan and develop a hip fracture clinical pathway. Through this collaboration an approach to hip fracture care evolved which incorporated the NP as a key caregiver for hip fracture patients” (page 217). This study concludes that care by NPs for hip fracture patients:
  - “is well suited to the needs of hip fracture patients since it originates from an expanded scope of nursing practice that blends medical, behavioral and social science expertise into a systematic process of patient care” (page 216).
  - “is contingent on the NP forming collaborative practices with members of the multidisciplinary team including a strong NP/physician collaborative that ensures the comprehensive care required by hip fracture patients” (page 216).

Despite being viewed by some as a more progressive approach to a balanced health care system in Canada, key informants did acknowledge new interprofessional care models and evolving scopes of practice of other health professionals could have a deleterious effect on the availability of specialist positions.

One hospital leader commented about how other health professionals were “poised” to assume significant aspects of medical specialty scopes of practice. This particular hospital leader indicated that, in his opinion, certain non-physician providers such as advanced practice nurses, physician assistants, respiratory therapists, anesthesia assistants and physiotherapists were at “the brink” of assuming significant portions of specialty scopes of practice.

“… we have advanced practice nurses in virtually every specialty now who can run a clinic, who can do a lot under the direction of a consultant. We have hospitalists, … physician assistants, … and physiotherapists picking up what orthopedic surgeons used to do. … You can’t look at a profession that hasn’t increased its credentials and increased its training and has spread out. … Our hospital is paying for 16 anesthesia assistants. …and anesthesia specialists want more [anesthesia assistants]. … So even if I just put one anesthesiologist with two anesthesia assistants, I now need half as many anesthesiologists. That’s huge! ” [KII C58, emphasis added]
Interprofessional models reducing reliance on residents for service – potential to better align new physician supply with longer-term needs

Key finding

Teaching programs that include a mix of health professionals, who complement or substitute physicians, can be less reliant on residents to fill patient care requirements. This development is promising on two fronts:

- residents can pursue higher-value learning in their areas of specialty because they do less work that can be done by others
- residency positions are not simply created to generate more “boots on the ground” to fill service needs. This may help mitigate the likelihood that new specialists will be under- or unemployed when they graduate because the educational system is not producing more specialists than needed.

Certain key informants believed that new interprofessional collaborative models, many of which have proven to be a more progressive approach to health care in Canada, could reduce the need for a growing number of medical specialist positions. Others also observed that such new models could have the potential to improve the job situation for unemployed specialists in the longer term by more appropriately matching the available mix of health professions, including physicians, to service needs within hospitals.

Since residents or “physicians in training have a dual role of a learner and clinical care provider” (National Steering Committee on Resident Duty Hours 2013, page 10), they are an integral component of the team providing care to patients in teaching sites. The challenge in most teaching facilities is to ensure that residents’ education is a proper balance between: “The act of professional and clinical interactions with patients, and the provision of clinical care, including indirect care, … [and] the application of knowledge, collaboration, and discovery leading to the development of skills and attitudes necessary for residents to become caring, competent physicians capable of serving patients and the society in which they function” (page 25).

Key informants confirmed that the integration of PAs, APNs and other health professionals into new interprofessional practice models not only improved patient care, they also had a positive impact on the residency education by reducing reliance of residents as service providers.
Neurosurgery, which is among the disciplines experiencing the greatest employment challenges, was a prime example of the encouraging development of integrating other health professionals to reduce reliance on residents. Key informants in two different provincial jurisdictions described how neurosurgery, for example, was integrating NPs and PAs to create new inter-professional care models. These new models were believed to have a potential positive counter-effect on the increasing need for high numbers of residents by creating a “buffer zone” that could impact the saturated job market of new graduates. One program director for neurosurgery explained how PAs are drawn upon to assist neurosurgery residents, which was significantly changing and modifying both the educational and clinical service models of neurosurgery within that jurisdiction. It was reported that PAs may perform similar duties as of neurosurgery residents, such as patient care on the ward and in intensive care units, or emergency room calls and related consults during the night. Although PAs were not directly filling the extensive role of a neurosurgeon, it was thought that the subtle changes that the addition of PAs were making to neurosurgical practice could ultimately lead to the requirement for less residents within the hospital to fill service needs that might otherwise not be met.

Changing neurosurgical models of care were not only restricted to the inclusion of PAs within a single provincial jurisdiction, but were also occurring elsewhere with NPs. This development was similarly thought to be contributing to a new model of care where NPs decreased the reliance on residents that, in turn, enhances both patient care and the resident learning experience.

One new neurosurgery graduate observed that, with the role of NPs and PAs within new interprofessional models:

“the nurse practitioners really take care of a lot of … the day-to-day. This did free up residents to spend less time doing … the day-to-day work that had to be done that didn’t have as much educational value perhaps but still needed to be done. They [residents] had to do much less of that so they were really free to go to the operating room and focus on more specific neurosurgical issues as opposed to looking after some of the general medical issues, You would actually end up training fewer neurosurgeons which may allow you [residency programs] to match the number of graduating neurosurgeons to the number of jobs available.” [KII NG, emphasis added]
Medical workforce planning

Supply and organization: How is workforce planning and organization affecting residency program intake and, ultimately, the number of new specialty graduates produced against the job market?

Key findings

Approaches for allocating residency positions generally vary greatly from one province and medical school to the next. In most cases, there are many organizations and stakeholders involved in determining the number of residency positions that will be allocated. Often, these decision-makers have competing priorities. Also, their decisions are broadly based on scant readily available information about longer-term societal health needs and health care resources.

Further, because decisions around the number of residency positions are generally based on “local” needs, the fact that new medical graduates may not necessarily stay in the jurisdiction where they trained further contributes to imbalances in the medical supply.

Canada’s postgraduate medical education (PGME) system “is an essential component of physician supply in this country” (Glover Takahashi et al. 2011, page 25). Almost all interviewees consulted in the preparation of the Governance Paper for the Future Medical Education in Canada – Postgraduate Project (FMEC-PG) stated that “one area of concern was the number of stakeholder organizations involved in PGME” (Pardhan & Saad 2011, page 11), which “include regulatory authorities, governments, affiliated university programs, and certification bodies” (Glover Takahashiet al., page 29).

The FMEG-PG governance paper further observes that, in addition to there being a number of stakeholders, each may have different responsibilities such as “… an individual postgraduate office has a number of lines of accountability which include: … [a]s most academic hospitals require residents to function, PG offices and individual programs must ensure adequate staffing by housestaff to provide clinical service functions” (Pardhan & Saad 2011, page 12). Finally, this paper observes that: “One of the larger challenges that faces PGME in Canada is the current state of governance. The multiple organizations and stakeholders result in different agendas and priorities with no clear overarching strategy or plan” (page 14). Canada, in effect, does not have one single health care system. It is “a mosaic of 14 systems, comprised of the federal government, and the country’s ten provinces and three territories” (Fréchette & Shrichand 2011, page 1).

Thus, the process to determine the number and type of residency positions allocated in Canadian medical schools varies greatly across the country. It is also somewhat of a mystery given the lack of public transparency, despite informal mechanisms that might be developing. In fact, in preparing a background paper on health workforce planning approaches in Canada for the 2011 International Health Workforce Collaborative Conference, the authors were required to conduct key informant interviews with various members of the Committee on Health Workforce (previously named Advisory Committee on Health Delivery and Human Resources) given lack of comprehensive information readily available in the public domain (Fréchette & Shrichand 2011, page 11).
Some jurisdictions such as “Alberta and British Columbia have adopted shared/network planning models between a unit with responsibility for HRH planning and a wide network of collaborators… other provinces, such as New Brunswick and Ontario have established predominantly centralized planning models in a dedicated unit or division within their respective ministries of health” (Fréchette & Shrichand 2011, page 11). The units contributing to health workforce planning within the various ministries of health “vary in size, from a handful of persons to more than 70 and have been in existence for varying periods of time, from a few years to decades” (page 11).

The variability of methods becomes more obvious by briefly reviewing a few jurisdictions.

- Québec’s Ministry of Health and Social Services plays a greater role in determining the number of training positions available in each specialty. The province has established a plan that sets out targets for the types of doctors and specialists needed in that province, and follows regional physicians resource plans known as “PREMS” and physician resource plans commonly referred to as “PEMs” (Fédération des médecins résidents du Québec 2013). These health workforce plans are reviewed each year in light of discrepancies observed between available resources and hospital and regional health system needs. The Quebec model also takes into account attrition of practicing physicians and anticipated numbers of new doctors (2013).

- In the neighboring province of Ontario, the Ministry of Health and Long-Term Care provides funds for an overall number of training positions, but it plays a much smaller role in determining specifically how these positions are allocated among the various specialties and training programs. These are determined in consultation with the medical schools and their Council of Faculties of Medicine of Ontario with further insights gleaned from various sources notably the province’s “Population Needs-Based Physician Model” (Born & Dhalla 2012; Fréchette & Shrichand 2011).

- British Columbia’s health workforce planning is based on a complex network. While the province has also developed its own modeling/forecasting tool, it is held in the ministry’s Health System Strategic Planning Division, separate from the Health Human Resources Planning branch. Planning involves a number of areas within the ministry and various committees. Based on the last information collected in 2011, this network includes: the Strategic Policy, Information Management and Data Stewardship area which provides data, the HHR Strategy Council which is comprised of vice-presidents of the province’s health authorities, and the BC Academic Health Council which is the intersection of health delivery and education. The network also includes the Medical Health Human Resources Planning Task Force comprised of vice-presidents of medicine of the health authorities, academic leads, and representatives from the public, the Ministry of Health and the Ministry of Education. The Task Force
finds the allocation of residency positions by maintaining a current understanding of population health needs. The recommendations from the network within the Ministry of Health are discussed between the ministries of health and advanced education to match the desired slate of positions with available educational capacity. The ultimate decisions on the number of training positions to be funded rest with the Ministry of Advanced Education, the fund holding agency for health professions' education (Fréchette and Shrichand 2011, pages 11-12).

These approaches are generally insensitive to the fact that residents do not always stay in the area where they trained. This may increasingly be the case as the physician job market becomes more difficult. This factor will need to be further investigated to determine how important it will be in the future.

**Increased reliance on residents:** Despite the promise of interprofessional care models, is the practice in many programs to increase reliance on residents for service leading to potential overproduction compared to the number of available jobs?

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**Key finding**

The promise of reduced reliance on residents for service with the introduction of interprofessional models has not been realized in all residency programs. As such, many clinical departments are still very reliant on residents to cover required services. Thus, the number of new specialists and subspecialists produced from Canada’s faculties of medicine may exceed the number needed in the future and available positions.

There are many reasons why medical training programs continue to rely or have increased their reliance on residence for service coverage, regardless of future needs and jobs, such as:

- Academic health facilities are often faced with the challenge of balancing more immediate service requirements, the number of physicians that will be needed in the future, the number of physicians working in the facility and their work patterns. The tension between teaching institutions’ short-term service needs - often supported by residents – frequently results in the creation of additional residency positions irrespective of predictions of future needs and jobs.

- Despite the benefits of interprofessional care models, additional residency positions are needed to fill gaps in patient care because of the existing supply of physicians and surgeons in teaching hospitals, and residents provide certain services that other health professionals cannot offer.

- Some academic physicians stipulate that they need residents to maintain their current levels of activity. These additional residents are often used to alleviate call requirements and patient care needs.
The reason that a residency program will increase the number of spots is typically because … they can, because they have the money and because they need the extra service to help look after their inpatient population.” [KII 15, emphasis added]

Concerns about producing more specialists than available jobs was also reported in neurosurgery where covering service needs by residents is increasingly required when interprofessional models have not properly taken root:

“… some of the programs are taking residents not so much because they need to train that many residents, as they need to fill spots on the call schedule. And I understand that, but at the end of the day that means we have, …, X number of residents being trained and not necessarily enough jobs for them when they finish.” [KII 28, emphasis added]

Our study also documented the first “live observations” of residents actually noting during their residency training increasing numbers of residents on the clinic floor. As one senior resident from otolaryngology aptly observed:

“The difficulty is that in the training centres [hospitals] we’re now used to having so many recruits [residents] a year to help out with the activities that occur in the hospital to support our staff, and that’s something that’s driving more training but it’s not necessarily helpful for us when we get to the end of this training cycle … I have directly observed increasing numbers of residents required to perform call service in the hospital. In addition, there’s the requirement for post-operative care of patients, and also, just looking after the patients who are already operated on by our faculty. They [our faculty] need certain support so that they can continue on with their level of activity, and we are it.” [KII 41, emphasis added]

The tension between teaching institutions’ shorter-term service needs and properly planning medical resources to meet longer-term societal health needs is an important driver behind new specialists’ job challenges. This is particularly problematic since a shorter-term view does not take into consideration that it currently takes at least four years to produce a specialist after completion of the MD degree. Our research has revealed, especially in certain specialties, a concerning mismatch between the supply of new graduates and available jobs because of the misalignment between models of health workforce planning, health care delivery models and residency intake quotas.
A “culture of professional practice” refers to how health professions create and implement certain socio-cultural norms that are part of the context or setting from which professions interact. “Each healthcare profession has a different culture, including values, beliefs, attitudes, customs and behaviours” (Hall 2005, page 188). A culture of professional practice also delineates and/or sets forth boundaries for how professional practice patterns will emerge, alongside the technical aspects or patterns occurring within a clinical health care setting. Put differently, the practice of any profession, including medicine, has long been known to be shaped and informed by the socio-cultural context (Ginsburg & Tregunno 2005; Hall 2005). Within the health professions literature, professions have been recognized to exhibit and demonstrate various aspects of “closure” whereby a given health profession “limits the number and type of entrants into its fold, thus enhancing the market value of the service” (Hall 2005, page 189; Witz 1992).

Several ways were identified from the research in which a culture of professional practice influenced and defined professional practice patterns amongst specialists and, ultimately, had a significant effect on employment opportunities for new graduates. Key informants commented that, in addition to other driving factors influencing physician employment, specialists themselves within certain hospital divisions were implementing a culture of practice akin to “turf protectionism” (Gieryn 1983), where there was a distinct unwillingness to share hospital resources such as OR with other incoming specialists.

One senior hospital leader described scenarios within his hospital units where specialist physicians appeared unwilling to share OR time that became available when a specialist position was vacated. Instead of allowing for a new specialist to join the clinical team, the available OR time was absorbed by the remaining group of specialists. Referred to repeatedly as “sharing the pie”, this senior hospital leader stated:

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**Key finding**

Most professions develop their own culture, which is motivated by both a greater altruistic purpose for patients and self-interest.

Given that the availability of clinical and practice resources is generally fixed, (this is especially the case for OR time) established physicians and surgeons are reluctant to share resources to protect:

- their access to clinical resources to avoid cancelled surgeries that would further increase their patients’ wait times
- their income as many wish to continue to practice at the same or increased level of intensity. Income protection is particularly important for those whose retirement portfolios have been negatively affected by the recent economic downturn.

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\[Sharing\text{ available resources, such as OR time, with new colleagues was seen as having a negative impact both on individual surgeons’ existing wait lists and income.}\]
Because OR time is generally not expanding for many surgical disciplines in Canada, surgeons must weigh the need of including another associate within their surgical team against losing additional OR time, ultimately contributing to an increased patient wait list, cancelled surgeries and, at times, loss of staff. As one program director described:

“… We allow our department heads to decide how they’re going to divvy it up [operating room time]…, so if you have a practice with 10 general surgeons but you have enough resources for 12, they’re quite enjoying the fact of having 10 share the pie instead of 12. … We have 15 ORs and we could have 15 surgeons except that the 12 here want to have a day and a half as opposed to a day, … When I saw a good person, I would say, ‘Let’s everybody spread a little bit and take a little bit less of the pie so that we can keep this good person.’” [KII 24]

Additional clinical and/or surgical procedures with extra OR time can also increase surgeons’ annual income. The substantial increase in numbers of residents now in various training sites is also contributing to income growth as the staff or attending surgeon can bill for surgeries conducted with residents. Thus, some key informants stated there are few incentives for specialists to include a new specialist on their hospital team nor is there a disincentive to have fewer residents practicing within the hospital.

There are concerns that what amounts to a conflict among certain senior specialists is not only having a negative effect on hiring practices toward new graduates by their not advertising for new hospital positions, they are also preferring to hire new graduates on only a part-time or “associate” basis which pays less than if they were hired as full partners (Dempsey 2012), thus contributing to physician underemployment.

“What has happened in an unprecedented way in the last ten years is the remaining three urologists - who by the way have just lost half their retirement in the stock market … they say, “Geez, why don’t we not hire another urologist? Let’s assume this person’s OR time and split it amongst the three of us. … And this is what’s really killing the people who are just coming out. We [new graduates] are not being allowed in.” [KII UR Grad B59, emphasis added]
4.2.3. **Personal context**: What are the personal factors driving employment challenges among new graduates?

**Employment problem main drivers**

- **Career counseling**
  - Generally poorly rated
  - Poor understanding of job market
  - Difficulty locating information about jobs

- **Personal factors/preferences**
  - Not going to where jobs are:
    - Issues with practice location or job type
    - Family obligations prevent move

The ability of new medical and surgical specialists to find and secure employment can also be influenced by their individual experiences around career counseling, and their personal choices and needs.

**Career counseling**

**Key findings**

The importance of career counseling cannot be overemphasized, given that career choices by new medical and surgical specialists are not only important for physicians at the individual level, the individual choices they make also impact the overall number, mix and distribution of specialists across the country.

Yet, new specialists reported concerns:

- five out of ten who participating in our study in 2012 stated they had not received any career counseling and;
- more than 1/3 without jobs and not continuing training in 2012 reported that poor access to job postings hampered their ability find a job.

In addition to poor access to job postings, lack of transparency about available jobs was reported as hindering unemployed specialists find suitable work.

A more systematic and comprehensive approach to career counseling and job advertising than currently exists in Canada is desirable to meet both individual physician and system needs and objectives.
Career counseling responds to very personal needs as it helps individuals make important and complex decisions that will impact their future. Career counseling or guidance can take many shapes and cover areas such as:

- “(a) helping individuals to gain greater self-awareness in areas such as interests, values, abilities, and personality style, (b) connecting students to resources so that they can become more knowledgeable about jobs and occupations, (c) engaging students in the decision-making process in order that they can choose a career path that is well suited to their own interests, values, abilities and personality style, and (d) assisting individuals to be active managers of their career paths (including managing career transitions and balancing various life roles) as well as becoming lifelong learners in the sense of professional development over the lifespan” (UNESCO 2002, page 4).

Career counseling can thus support job search, improve understanding of employment-related matters such as contract negotiation, and address more fundamental issues that can ultimately support and influence physicians’ and surgeons’ job search and selection, ranging from listings of available jobs to information about practice in specific locales. It can also provide insights about the job market of the day, and correct any misconceptions about practice realities and, in so doing, possibly help improve the distribution of specialists and subspecialists across the country. Yet career counseling among newly certified specialists emerged during the employment study as being a definite issue.

A significant percentage of respondents to the 2011 and 2012 Royal College employment survey reported that they had not received any career counseling. Whether they had indeed received any form of career counseling or advice, more than half of all respondents stated they had they had not.

### TABLE 6
Royal College Employment Survey, 2011 and 2012
Percentage of respondents stating they had not received any career counseling: 2011-2012

<table>
<thead>
<tr>
<th></th>
<th>Specialists</th>
<th>Subspecialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>62%</td>
<td>59%</td>
</tr>
<tr>
<td>2012</td>
<td>53%</td>
<td>46%</td>
</tr>
</tbody>
</table>


Data from the Royal College’s 2012 employment survey showed that the type of career counseling was quite varied across the country. For instance, almost nine out of ten respondents stated they had received advice about practice setting but six out of ten indicated they had received counseling about career opportunities.
There is not only great variability reported about the type of career counseling received, so is there around the opinions of residents about how satisfied they are with the employment or career counseling resources within their residency program. Data from the CAIR 2012 National Resident Survey (refer to Figure 17) showed that only 9% of those surveyed stated they were satisfied and 26% were somewhat satisfied with the resources in their program (Dufour 2012).

In the 2012 Royal College employment study, over one third (34.7%) of all respondents who had not secured a position and who were not continuing training when they completed the survey stated that poor access to job postings was another factor contributing to their inability to find a job. This was reported as being more problematic by subspecialists with 62.5% identifying this factor, compared to 21.2% of specialists who responded to this question.

More than 1/3 of new specialists without jobs and not continuing training in 2012 reported that poor access to job postings hampered their ability find a job.

### TABLE 7
Royal College Employment Survey, 2012
Type of career counseling reported by new specialists and subspecialists

<table>
<thead>
<tr>
<th>Type of Career Counseling</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice about practice setting (academic vs. community)</td>
<td>298 respondents (86.4%)</td>
</tr>
<tr>
<td>Work conditions (remuneration, benefits, and research/training opportunities)</td>
<td>226 respondents (65.5%)</td>
</tr>
<tr>
<td>Career opportunities</td>
<td>221 respondents (64.1%)</td>
</tr>
<tr>
<td>Other (eg., staff mentorship, getting fellowship, the advantages of academic medicine, paths to apply for job)</td>
<td>14 respondents (4.1%)</td>
</tr>
</tbody>
</table>

Total exceeds 100% since question allowed multiple responses.
Source: 2012 Royal College Employment Survey.

In the 2012 Royal College employment study, over one third (34.7%) of all respondents who had not secured a position and who were not continuing training when they completed the survey stated that poor access to job postings was another factor contributing to their inability to find a job. This was reported as being more problematic by subspecialists with 62.5% identifying this factor, compared to 21.2% of specialists who responded to this question.

More than 1/3 of new specialists without jobs and not continuing training in 2012 reported that poor access to job postings hampered their ability find a job.
Although the internet is increasingly the tool of choice for job seekers to locate employment opportunities, it does have its limitations: “While the Internet has opened up many new opportunities, many job seekers face the challenge of finding, navigating, prioritizing and evaluating this material effectively. …” (de Raaff et al 2012, p. 4).

Our research not only revealed that some job seekers found sifting through available information daunting, some key informants who reported they had not been able to secure a job expressed frustration about the lack of openness about available positions. Some felt that better access to and transparency about available jobs was key to helping unemployed specialists find suitable work. In short, access to comprehensive job postings might facilitate matching personal choices and needs with the job market.

The final report of the Future of Medical Education in Canada Project acknowledged the strategic importance to “[e]ncourage ongoing mentorship programs (student-student and faculty-student) to provide guidance for learners in such activities as choosing electives, engaging in research, getting involved in the community, and making career choices” (AFMC 2010, page 11). Some informants in our study stated that a more systematic and comprehensive approach than currently exists in Canada is desirable to meet both individual physician and system needs and objectives.

Personal factors and preferences

Key findings

Personal factors influence the choices that physicians make about the type and location of practice they can and will pursue. This is a byproduct of many influencers, including;

- the later age at which new graduates enter independent practice. Many new graduates have family responsibilities that might make it less easy to move to available job opportunities (sandwich generation, spousal employment, etc.)
- personal career preference such as practice location or type.

Key informants stated that access to comprehensive job postings might facilitate matching personal choices and needs with the job market.

Personal factors influence the choices that physicians make about the type and location of practice. UK research affirms that “[m]otivation and values that underpin it are major factors in determining career choices” (Jackson, Ball, Hirsh & Kidd 2003, page 13).
Our research shows that various personal motivations and needs impact job and career choices. While data collected to date is relatively limited, findings show that personal reasons merit ongoing examination (refer to Figure 18).

Despite a tight job market, new graduates often have families and associated obligations that might make it more difficult for them to follow available openings. This is particularly so since most medical specialists start independent practice at a later age because of the length of their training. As such, they may be experiencing many of the challenges of others in the “sandwich generation” which is “caught between the often conflicting demands of caring for children and caring for seniors” (Williams 2005, page 16).

It has also been observed “that spousal opportunities, educational opportunities for all members of the family, cultural, recreation and religious activities, community orientation, special funding for locum support, assistance with practice establishment costs, and paid vacation time, to name a few, have a positive impact on recruitment and retention” (Task Force Two 2006, page 24).

**FIGURE 18**

Royal College Employment Survey, 2012

No job placement and at end-point of residency training (n=49), Why you feel you do not have a job placement?

- wish to stay near family: 38.8%
- don’t like working in a community hospital: 6.1%
- hiring hospital doesn’t have the resources I have been trained to use: 8.2%
- don’t like living in a rural/remote setting: 28.6%
- can’t/won’t move: 20.4%

Column totals may exceed 100% as this question allowed for multiple responses.
Source: Royal College Employment Survey, 2011 and 2012
What are the effects of employment challenges on new graduates?

5.1. Tailored and morphed practices

**Employment problem main drivers**

- **Morphed practice**
  - Work only within available resources
  - Don’t practice specialty as taught
  - Underemployment: for ex., surgeons that don’t or rarely operate
  - Fear of skill loss

- **Brain drain**
  - 27.3% of those in 2012 reporting no job and not training plan to seek employment outside of Canada

**Key findings**

New physicians and surgeons who have developed morphed practices tailored to available resources are in effect evolving into a new type of specialist. While this new breed of specialists may be providing much needed services, concerns remain that these new practice models are a waste of the talent and competencies these specialists spent years to develop. There are also concerns about skills loss that may result in poorer patient outcomes if these morphed specialists secure jobs that require the full spectrum of the discipline taught during residency.

These morphed practices do not embrace the full spectrum of the discipline in which they were certified, resulting in a form of under-employment or brain waste (such as a surgeon who does not or rarely does operations).

Because some new specialists have only been able to secure limited access to hospital resources such as OR time or have not been able to secure a job in a hospital setting required to practice their discipline, they are developing tailored or morphed practices. These tailored or morphed practices allow new medical and surgical specialists to work within the resources available to them.
A number of new graduates have been unable to secure a position in hospital settings or only able to secure limited access to hospital resources such as OR time needed to practice their specialty because of hiring limits driven by both economic constraint and established physicians retaining access to available resources. For instance, Comeau (2004) has argued that due to operating room restrictions, less than half of Canada’s orthopedic surgeons are working at full capacity, with many operating only one to two days a week. In response, some new graduates are developing tailored or morphed practices that allow them to practice with the resources available to them. For example, some new otolaryngology graduates are pursuing a clinical practice without actually conducting any major aspects of surgery itself, despite their extensive training in surgery during their residency program. Known as an “office practice”, these practices are non-surgical or provide limited surgical services.

These morphed or tailored practices are in fact creating a new breed of specialist and some key informants expressed concerns about skill loss. Although there is limited literature in regards to this issue in Canada, there is evidence in regards to volume of practice and patient outcomes. A 2003 study demonstrated that surgical volume was inversely related to patient mortality in eight procedures including lung resections, repair of abdominal aortic aneurysms, esophagectomies, coronary artery bypass grafting, pancreatic resections, cystectomies, aortic valve replacements and carotid surgery (Birkmeyer, Stukel, Siewers, Goodney, Wenneberg & Lucas 2003). The mortality was higher for patients who had low volume surgeons, irrespective of the hospital volume (2003). Therefore, one can hypothesize that if recent Canadian graduates are not able to have high enough procedural volumes than this may result in poorer patient outcomes in the future.

“...A recent trend for some graduates is that they recognize that even if they are able to get a hospital appointment, they probably won’t get much OR time, and so...they try to alter their practice so they’re doing more things that can be done in the office, such as skin cancers...certain procedures for snoring and sleep apnea, and... outpatient type things where you don’t require bed resources or necessarily general anesthesia. ...There [are] a couple of people that have decided that they’re not going to do surgery and just do a clinical practice, which is possible in otolaryngology as well. …we find this is a tremendous waste after the amount of time and effort going into learning surgery...if somebody works for five years, hoping to have at least a one-day-a-week hospital surgical appointment, and then has an office practice, and [is] not able to use the skills that they learned during training – I think [that] would be a tremendous disappointment.” [KII 32]
5.2. Leaving Canada

A number of recently certifi ed medical and surgical specialists who have not been able to find a position reported they would look for work outside of Canada. The predicted physician shortages in the US may become a market for Canada’s unemployed specialists, prompting another brain drain.

Driven by the inability to fi nd employment, some new graduates reported they planned to seek employment in their specialty outside of Canada. The 2012 surveys reveal this to be the case for:

- 27.3% of specialists and 18.8% of subspecialists reporting not having a job and not pursuing training.
- 16.1% of specialists and 10% of subspecialists reporting not having a job and pursuing additional training such as a fellowship as an alternative to unemployment.

Some key informants expressed concerns that the current job market for new medical and surgical specialists may push Canada toward another brain drain, which is the outflow or loss of skilled professionals to another country of skilled workers (Cervantes & Guellec 2002).

Fears of brain drain to the US are particularly founded given the extensive shortages forecasted as a result of health care reform in that country. The Association of American Medical College Center for Workforce Studies (AAMC) predicted that the country would have a shortage of 46,100 non-primary care specialists by 2015, up to 64,800 by 2025 (AAMC 2010). This will not only create new opportunities for under-and unemployed specialists in Canada, it may also open up to active recruitment.
Conclusion

The findings presented in this report are not the final answer.
This report is only a beginning.

Our research has revealed what appears to be an important gap in how medical workforce planning has been generally visualized in Canada. Most approaches to date are based on producing the right mix and number of physicians, based on society’s health needs. Our research revealed that is only part of the picture. A number of specialty medical disciplines need particular resources, such as operating room time and hospital beds. However, costs must be controlled so access to such resources is tightly controlled, affecting how many specialists and subspecialists can practice and how much work they can do.

As such, medical workforce planning must look at both the health needs of the population and the availability of practice resources, now and in the future. This will help physicians and surgeons do the work they have been trained to do and what needs to be done. To do otherwise will perpetuate physician unemployment with the associated likelihood that Canada’s unemployed physicians will find jobs elsewhere, prompting a new brain drain. Poor planning will also worsen physician brain waste or underemployment since they will only be able to apply a portion of their knowledge and skills based on the resources available to them.

Unpeeling the multiple layers around the complex factors impacting and driving physician employment will take time. Our investigation continues and, hopefully, will drive others to join in the search for better information, understanding and answers.

“For meaningful change to occur in physician distribution, changes in [postgraduate medical education] PGME training must be part of a comprehensive package of reforms that includes interprofessional practice models, professional and career support, and remuneration.”

Answers to Canada’s physician unemployment problems will thus require broad input and collaboration, and most importantly, a cohesive national strategy.
References


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