CONTENTS

RECENT EVENTS
4 Letter from the Editors EDITORS-IN-CHIEF

POINT / COUNTERPOINT
5 Point: Supporting Non-Traditional Means of Medical Education and Physician Licensure: IMGs and QuARMS Students LAURA BOSCO
8 Counterpoint: Why IMGs are Bad for Canadians and Canada MARK BROUSSENKO

FEATURES
10 Give and Take. Just Don’t Take Too Much TETYANA ROGALSKA
12 SPACED Learning: Benefits and Limitations in Medical Education LAURA FINKELBERG & REBECCA WANG
14 #QMedEd, Click here to subscribe STEVEN TONG
15 Uptodate and Beyond: Where to go When Dr. Google Isn’t Enough GENEVIÈVE ROCHON-TERRY
16 The Maze of Career Exploration: Choosing a Medical Specialty LOUISA HO
18 Medical Training in the Land Down Under: The Australia Clerkship Exchange OLGA ACE

INTERVIEWS
20 Interview with Dr. Duffin: 20 Years of Retrospective MARK BROUSSENKO
22 Interview with Emma: PGY1: An IMG Perspective LAURA BOSCO

CREATIVE
24 QMR Cover Contest Winners
26 The Therapeutic X-Ray SARAH LUCKETT

OPINION
28 Medical Dummies: Anything but Dumb SARAH-TAISSIR BENCHARIF

INTRADERMAL COLUMN
30 IntraDermal Column DANIEL PALUZZI & BRANDON WORLEY
Letter from the Editors

Dear Readers,

How do you feel about your education? Do you have qualms with QuARMS, loathe lectures, or are you irate about IMGs (Laura Bosco, 2017 and Mark Broussenko, 2016)? Or do you just want to know what all these terms mean? Whatever the case, Queen's students have a lot to say. In this issue, we delve into some of the challenges and controversies that plague medical education, from how to choose a medical specialty (Louisa Ho, 2017) to the challenges one IMG faced when coming back to Canada (Laura Bosco, 2017).

Why doesn't Queen's have an UpToDate subscription (Genevieve Rochon-Terry, 2017)? What's the real story behind the Australia Clerkship Exchange (Olga Ace, 2016)? If you've felt as though you tend to forget everything you learned in a course after the exam, turn to Rebecca Wang (2016) and Laura Finkleberg (2017)'s analysis of whether this is a flaw in the system or an intentional process. Noticing the recent upswing in #writing #like #this? Steven Tong looks at the use of social media like Twitter and YouTube right here at Queen's. Read about the surgical training process (Tetyana Rogalska, 2016) and take a peek into the history of medical education in an interview with Dr. Duffin (Mark Broussenko, 2016).

Are you often deceived by medical dummies, or do you dread the despair that is derived from dreadful diagnoses? Sarah-Taissir Bencharif (2016) explores the use of medical dummies in the education process. This issue also hosts a creative piece by Sarah Luckett-Gatoloulos (2014) and Brandon Worley's (2014) IntraDermal column. We also feature the runners-up of our cover photo contest, further showcasing the talent of our classes.

Before you turn the page and become a veritable education expert (we promise, there aren't so many educational puns within!), we would like to pause to thank our amazing team of writers, editors, contributors, and our faculty advisor, Dr. Duffin. We have learned so much working with each of you! We hope you enjoy the issue.

Class dismissed!

Mark Broussenko  Allison Rosen
Point: Supporting Non-traditional Means of Medical Education and Physician Licensure - IMGs and QuARMS Students

LAURA BOSCO, CLASS OF 2017

Canadian medical students and hopeful applicants are well versed in the traditional path to become a practicing doctor in Canada. Typically, students undertake a Bachelor’s degree from a Canadian university, and apply in their third or fourth year of their degree. However, non-traditional means of obtaining medical education and becoming a practicing physician in Canada are gaining popularity for various reasons. In light of the staggering competition to obtain a seat in a Canadian medical school, some students seek to obtain their M.D. elsewhere, planning to return to Canada for residency. Foreign physicians seeking to practice in Canada apply to the Medical Council of Canada in the hopes of obtaining licensure to provide better opportunities and quality of life. With regards to the extensive time commitment required to become a specialist, new programs are emerging to condense the years of medical education. This article will address non-traditional routes of medical education, and support their integration in Canada as licensed physicians.

“The rising integration of international medical graduates (IMGs) into the Canadian healthcare system has been a point of contention for many years.”

The rising integration of international medical graduates (IMGs) into the Canadian healthcare system has been a point of contention for many years. Concerns around IMGs in Canada include concern about variations in quality of care, their role in addressing the shortage of physicians in rural regions, the validity of foreign credentials, and ethical concerns around brain drain, namely depleting physician resources in deprived jurisdictions. I will attempt to address some of the concerns pertaining to IMGs, their alternative route towards medical education and advocate their place in our healthcare system.

To properly understand the debate about IMGs and their role in the Canadian healthcare system, we must define our terms. Medical graduates who immigrated to Canada with medical degrees and post-graduate training are categorized as immigrant IMGs. Canadian citizens and landed immigrants or permanent residents who left Canada to obtain a medical degree in another country, and are returning to Canada for post-graduate training, are defined as Canadian IMGs. Immigrant IMGs tend to be older, married, have dependent children, and have usually emigrated from Asia, Eastern Europe, the Middle East, or Africa (Foster). Canadian IMGs most frequently obtain their medical degrees in Asia, the Caribbean, or Europe. All IMGs are in the same applicant pool when applying through CaRMS for Canadian residency positions (Foster).

Immigrant IMGs face a long, demanding process to obtain a license to practice in Canada. They must obtain Canadian citizenship, earn a medical degree from an institution and program recognized by the Medical Council of Canada (MCC), have permanent resident status or authorization to work in Canada, earn passing grades on the MCC examinations, prove language proficiency through a Test of English as a Foreign Language (TOEFL) exam, and complete one year of postgraduate training or active medical practice in Canada. Achieving entry into a residency program as an IMG is exceedingly competitive. Ontario typically receives 1500 applications for 200 [residency] positions...

“Ontario typically receives 1500 applications for 200 [residency] positions...”

In rural and underserviced areas of Canada, IMGs provide vital medical services. They are willing to work in areas where CMGs generally will not. Admittedly, IMGs are not a long-term solution to the shortage of doctors in rural re-
gions, but they do fill an important gap in physician coverage. A broader strategy, involving Canadian Medical Association and Society of Rural Physicians of Canada, is required to increase domestic rural physician supply and retention rates. In addition to the role of IMGs in rural physician coverage, there are ethical concerns associated with their immigration to Canada. The major ethical dilemma lies between an individual’s right to practice wherever they desire, and the right of the citizens to have access to healthcare professionals, whose training they have invested and supported.

“The major ethical dilemma lies between an individual’s right to practice wherever they desire, and the right of the citizens to have access to healthcare professionals, whose training they have invested and supported”

The potential difference in quality of care provided by IMGs compared to Canadian physicians is another point of concern surrounding IMGs. There is no evidence of a correlation between the quality of care and location of medical education (Foster). A study conducted by the Institute for Clinical Evaluative Sciences found that IMGs provided the same level of care for heart attack patients as Canadian physicians. Study investigators monitored over 127,000 heart attack patients admitted between 1992 and 2000 to acute care hospitals in Ontario, and compared mortality rates, use of secondary prevention medications, and invasive cardiac procedures of patients treated by IMGs and Canadian medical graduates (Ko). The mortality rates of IMG-treated and CMG-treated patients were not significantly different at either 30 days (13.3% vs. 13.4%) or one year (21.8% vs. 21.9%) following the heart attack (Ko). Their report concluded that these similarities in practice are a demonstration of the careful screening and training of IMGs in Canada before a license is granted. The findings also highlight the ability of IMGs to adapt to Canadian standards of medical care (Ko).

The issues surrounding foreign educational credentials in Canadian medicine are associated with professional competencies that may be tied to differences in cultural practice. However, the extensive MCC examinations, National Assessment Collaboration OSCE, and competition associated with obtaining post-graduate training in Canada are designed to evaluate one’s present medical knowledge, ensure similar standards of care, and educate foreign physicians within the structure of the Canadian healthcare system.

Immigrant IMGs are predominately visible minorities, reflecting current immigration flows, and can perceive themselves as victims of a cultural bias because their medical training is not as highly regarded as Canadian or American training. Joan Atlin, the former Executive Director for the Association of International Physicians and Surgeons of Ontario, uses both perspectives of competence and human rights when addressing the issue of the doctor shortage in Ontario. Atlin poses the question, “Why is medical licensure a right for Canadians and a privilege for internationally trained physicians?” (Atlin Conference).

The existing licensure system creates two classes of Canadian physicians – one with freedom, and another involving intense competition and a Return of Service contract before acquiring full access within the healthcare system. In this regard, internationally trained physicians have been said to be “treated like labour market commodities and not like citizens with equality rights” (Atlin Conference). Although IMGs in underserviced regions provide only temporary relief of physician shortages, IMGs still have long-term value in the Canadian healthcare system.

IMGs are integral to the delivery of health care in Canada. IMGs contribute helpful and necessary diversity to the physician workforce, broadening the scope of unique cultural perspectives and increasing sensitivity to different cultures and religions. IMGs help accommodate growing and diverse patient populations, and can give original insight into culture-specific issues surrounding treatments and procedures. For the time being, IMGs help provide primary care in rural communities, and alleviate a portion of the gap of physician coverage in underserved regions. Overall, IMGs are a valuable asset to the Canadian healthcare system, and their contributions, alongside Canadian physicians, serve the medical needs of the Canadian population.
QuARMS:

“[QuARMS] aims to decrease the time it takes to become a physician, providing those students with long-standing dedication and passion towards a career in medicine with a shorter route to achieving their career goals.”

The Queen’s University Accelerated Route to Medical School (QuARMS) is a new non-traditional route to medical education. The program is designed for high school students, where Chancellor’s Scholarship nominees may be granted direct entry into medical school after only two years of undergraduate study in the Arts, Science or Computing programs in the Faculty of Arts and Science. Requirements for direct entry into medical school include a minimum cumulative GPA of 3.5, Dean’s Honour’s List status in the Faculty of Arts and Science in year 2, and the demonstration of the CanMEDs competencies. QuARMS is the only admission track of its type in Canada. This program aims to decrease the time it takes to become a physician, providing those students with long-standing dedication and passion towards a career in medicine with a shorter route to achieving their career goals. The age of the QuARMS MD graduates would be approximately 24 years, assuming no skipped grades. This would be no different from a 3rd year student entering a 3-year medical program, or a 4th year student who has skipped multiple grades in elementary school. I feel that this program is an excellent option for students who are certain of their career choice, and have demonstrated passion and dedication to the medical profession in their high school career.

References:

Counterpoint: Why IMGs are Bad for Canadians and Canada

MARK BROUSSENKO, CLASS OF 2016

In anticipation of the upcoming 2014 match, the debate over international medical graduates (IMGs; defined by the Royal College as someone who has completed his or her undergraduate or postgraduate medical training outside of the US or Canada) awakens from its annual hibernation, recruiting critics and defenders alike. At the time of printing, the R1 match results are available: 329 IMGs matched across all specialties, compared to 284 R1 IMG matches in 2013. Supporters of IMGs cite a number of arguments for making it easier for them to match here, including: a perceived shortage of physicians in rural areas, increased opportunities for Canadians studying medicine abroad, and opportunities for taxpayers to circumvent some of the costs associated with training physicians in Canada (exact figures on this last point are unavailable, but the estimated cost to taxpayers of a Canadian trained physician ranges between 6 and 7 figures). There is some merit to these claims, but the net balance of IMGs entering Canadian residency programs or looking to practice in Canada creates perverse incentives, both abroad and overseas, undermines domestic human resource planning and puts undue pressure on Canadian medical graduates.

“One of the most prominent arguments in favor of IMGs is that Canada faces a shortage of physicians, especially in rural areas. Many argue that, in light of a lack of access to physicians – particularly family doctors – we need more medical graduates, international or otherwise. This view might be intuitively appealing, especially in a crowded waiting room. But when we look deeper, the claim that there is a numerical lack of physicians is dubious, at best...”

At the same time as we lament the lack of Canadian doctors, we can find no evidence that healthcare outcomes are necessarily linearly tied to physicians per capita. Each year, the Organization for Economic Cooperation and Development (OECD) reports on a number of health based metrics [available at www.oecd.com]. These include primarily non-physician factors, such as health expenditure, allocation and efficient utilization of health resources, non-medical determinants of health and pharmaceutical consumption and sales. Canada, for instance, spends more on healthcare, has the same amount of physicians per capita [data courtesy of the World Bank, data.worldbank.org] as Japan and has middling health outcomes, while Japan is second in the world in life expectancy and most other measures of health and wellness (by the OECD’s accounting, Monaco is first). France has twice as many physicians, spends around the same amount as Canada – paying them approximately half as much – and has nearly identical health outcomes. Absolute number of physicians, then, does not necessarily correlate with outcomes. More, in this case, might very well not be better.

It should be obvious that simply throwing more physicians at improving Canadian healthcare might not be as effective as using our existing resources better. In this setting, IMGs present more challenges than solutions. While many areas of Canada are legitimately underserved by primary care physicians, these areas are overwhelmingly rural, small and...
do not receive an appreciable percentage of immigrants. The places that do – large urban centers such as Toronto, Montreal, Calgary and Vancouver – are already well served by existing medical personnel. Many proponents of loosening restrictions on IMGs couple that with the idea of return of service (RoS) agreements, allowing physicians to practice in exchange for some years of service spent in an underserviced community.

“Many proponents of loosening restrictions on IMGs couple that with the idea of return of service (RoS) agreements...”

On the surface, this sounds like a fair tradeoff, but there is currently no data available on the retention rates of physicians to communities where they do a RoS placement, and there is little reason to believe that IMGs would be any more willing to work in those locations than native Canadians, who are already voting with their feet and moving to large urban centers. In fact, an IMG is, almost by definition, not averse to uprooting and moving in search of a brighter future. After all, he or she did decide to emigrate here. We know from domestic medical school applications that the best predictors of people who will go back to practice in small communities are age (older), gender (female) and strong ties to that community – ties that are hard enough to engender in domestically trained physicians, who are not facing the struggles of adapting to life in a new country without the support of a large community allotted by living in an urban center. Ironically, the idea of using RoS placements as a mechanism of ‘seeding’ underserviced communities with physicians is likely best suited to Canadian-born IMGs (Canadians completing their undergraduate medical education abroad and looking to return home), many of whom are younger and single, and thus more likely to put down roots and settle. The only problem? Canadian IMGs are, unsurprisingly, almost identical to the current pool of Canadian medical graduates and have the same preference towards large cities as their contemporaries.

The last point against IMGs touches on a moral principle near and dear to every medical student: justice. It is widely known that a number of for-profit medical schools in the Caribbean currently cater to would-be physicians from the United States and Canada who are unable to gain admission into domestic programs. Similarly, medical schools in Ireland and Australia offer seats to foreign students (again, chiefly North American in origin) at exorbitant prices – tuitions ranging from 200-300% more than medical schools here – in order to subsidize their own domestic students. Medical education abroad has become an industry, and we are on the wrong side of the profits. These countries take advantage of students lured by the dream of being a physician, often understating the realities of commitment to the profession. Moreover, this model is exploitative, with very high attrition rates, frequent moves from medical center to medical center and uncertain job prospects for graduates, who realize the magnitude of their decision too late in the process. By making it easier for IMGs to incorporate into the CarMS process, we would be tacitly endorsing this process. After all, where else do our IMGs come from? Do we really want to support a system that encourages buy-your-way-in behavior with respect to medical school admission, takes seats away from deserving international students in favor of profit-maximizing Canadian applicants, and treats medical education as an exportable commodity, responsibilities to the local community be damned? Is this a price that we can ever afford to pay? I hope that the answer remains a resounding no.

“Medical education abroad has become an industry, and we are on the wrong side of the profits...”
Give and Take. Just Don’t Take Too Much

TETYANA ROGALSKA, CLASS OF 2016

International experience is becoming an increasingly valuable asset in medical training as globalization continues to demand physicians who are culturally sensitive, experienced in cross-cultural collaboration, and trained in the social determinants of health. Global health curriculums are thus becoming an integral component of medical education, with a growing number of medical students seeking opportunities for international medical electives (IMEs). Indeed, medical students’ participation in IMEs has seen a five-fold increase since 1984; approximately 30% of recent medical graduates report participating in an international health elective during their medical training [1, 2]. While such placements provide unique opportunities for students to develop clinical skills and cultural competencies, they invariably involve important ethical considerations and pedagogical challenges.

“The contexts and parameters of international medical electives vary widely, and students are gaining access to a broad range of learning opportunities as global partnerships between medical institutions develop. While global health is certainly not limited to low-resource settings, a large number of students choose to pursue placements in developing nations. The motivations of students are well-intentioned and generally relate to one of five categories: an altruistic desire to help, learning about health care in another country, developing clinical skills, increasing knowledge of infectious diseases, increasing language skills, and learning about another culture [3]. Upon return, students report greater self-confidence in history-taking and performing clinical exams, as well as improved knowledge of tropical disease and immigrant health [4]. Such electives build an appreciation of cultural health and cross-cultural communication, and are positively associated with career choices in underserved or primary care settings [5].

“Concerns about ethical challenges that students encounter during their placements, however, suggest that some IMEs may actually be detrimental to patient care...”

Despite the well-established benefits of international clinical experiences, the value of IMEs has only been evaluated for visiting medical students. To date, indicators of program success have measured benefits to the students and health systems in home countries [6], neglecting a thorough analysis of their impact on patients and host health systems. Concerns about ethical challenges that students encounter during their placements, however, suggest that some IMEs may actually be detrimental to patient care. Practicing beyond one’s competency is a commonly cited issue that can not only impose significant stress on the medical trainee, but can also have serious consequences for patients [7, 8]. This may reflect impressions of superior competency associated with the developed world’s technological and medical advancements, as well as historical and modern relationships of power. Difficulties translating students’ levels of training between very different educational systems can also pose challenges to preceptors, particularly for students who hold prior degrees and have numerous years of post-secondary education. Whatever the reason, situations where students engage in activities that surpass their level of training pose a serious ethical breach for patient care.

Like scope of practice, the students’ role in the local medical team can be similarly ill-defined. Students have described receiving more recognition and more learning opportuni-
“Students have described receiving more recognition and more learning opportunities from the staff or community because they were Western…”

ties from the staff or community because they were Western [8], resulting in important implications for the educational quality of local medical students. This can have broader effects on the development of local health care. Moreover, discordances between clinical practices at home and abroad have sometimes been difficult for students to navigate, posing unexpected ethical dilemmas. A limited understanding of local systems and customs can make it difficult to recognize acceptable occasions for patient advocacy, for example. When is it appropriate to advocate for medications or treatments for particular patients in settings where needs exceed available resources? Or whether to encourage a respect for patient privacy when one is unfamiliar with cultural norms? While IMEs certainly promote cross-cultural learning and collaboration, the learning curve can be steep and the timeline short, leaving students feeling disoriented in a new health care system.

International clinical experiences offer a unique opportunity for the personal and professional development of medical trainees. Working in a new health care context provides novel opportunities for experiential learning and developing international relationships while gaining an appreciation for perspectives and practices different from one’s own. The common structure of current international electives, however, is one of unilateral capacity building; visiting students return from their placements as the primary beneficiaries, at a potential cost to the local systems of training and care. The ability of local programs to support the load of incoming, temporary learners is also an important consideration, as program success is very much dependent on the availability of adequate resources, supervision, and infrastructure. Yet it is difficult to build and improve international elective programs when there is a considerable lack of literature on their community impact. A comprehensive assessment of the influence that visiting medical students have on the health status of local communities is therefore a critical next step for the development of ethical and mutually beneficial opportunities for medical learning. After all, collaboration is a game of give and take.

References

LAURA FINKELBERG, CLASS OF 2017 & REBECCA WANG, CLASS OF 2016

SPACED Learning:
Making Memories in Medicine

In this rapidly evolving information age where access to information is effectively instantaneous, the sheer abundance of knowledge and new research is staggering. The medical field is no exception. Among medical students in the UK, a reported 91% believe that medical education is overloaded (Lahmiti, 2011). The notion of overload compels us to ask: how much of what we are learning in undergraduate medicine are we able to retain long-term? Moreover, does the format of the new UGME curriculum at Queen’s, in effect as of 2011, support the long-term retention of knowledge?

Sheila Pinchin, a specialist in pedagogy who has been actively involved in implementing the new UGME curriculum, explains that it has been carefully “designed to promote long-term retention and application”. It is principally a “spiral curriculum”, where concepts are not just taught once, but are iteratively revisited in increasing depth (Harden, 1999).

“Spaced learning is the sequential rehearsal of factual information at specific time intervals…”

Dr. Michelle Gibson, Year 1 Director of UGME at Queen’s, is a proponent of our spiral curriculum because it encourages spaced learning. Spaced learning is the sequential rehearsal of factual information at specific time intervals, in contrast to massed learning where rehearsal is performed all at once. The earliest demonstration that spaced learning was superior to massed learning at promoting long-term retention was in 1885 by Hermann Ebbinghaus (Ebbinghaus, 1885), a German philosopher and experimental psychologist.

Despite the enormous potential utility of this result, there was a lapse of nearly a century before other scientists investigated how and why spaced learning is so powerful. Moreover, it was not until 2007 that researchers explored how spaced learning could be applied to medical education.

At first, scientists played with the pattern of intervals in spaced learning, to see if one would confer an advantage over another in terms of retention. For learning involving associative priming (in which the learner is given one word that aids in recall of an associated word), it was demonstrated that a testing schedule employing expanding intervals of time between each recall promotes knowledge retention better than do schedules using fixed or contracting intervals (Landauer and Bjork, 1978).

Gradually, experimental psychologists created a model of learning and memory that accounts for the success of expanding intervals at promoting knowledge retention (New Theory of Disuse; Bjork and Bjork, 1992, Bjork, 2011). The New Theory of Disuse suggests that forgotten information is not decayed and lost; it instead remains intact but gradually becomes inaccessible. Specifically, the model posits that disuse of a memory increases the effort ultimately required on retrieval, and that effortful retrieval improves long-term retention (Bjork, 2011). The theory predicts that expanding intervals would be superior at promoting retention because they create disuse, and thus demand effortful retrieval. This explanation has been validated by a study in which expanding intervals of spaced learning that were designed to defy the normal conditions of effortful retrieval failed to create long-term retention (Bjork, Kornell, and Cheung, 2009).

Throughout the last decade, Dr. B. Price Kerfoot, associate professor of surgery and staff urologist at Harvard Medical School, has investigated the applicability of spaced learning to the education of undergraduate medical students, residents, and physicians. For example, one RCT enlisting over 500 urology residents from the US and Canada demonstrated that rehearsing already-learned information for exam preparation was more conducive to long-term retention when delivered in an expanding spaced interval format, as opposed to a massed learning format (Kerfoot et al, 2007). Kerfoot and his colleagues’ studies have repeated these results across diverse settings and levels of expertise, with spaced learning consistently offering an advantage for long-term retention.

A more recent investigation employing urology residents
which was designed to test whether spaced learning could “generate transfer of learning to new contexts” produced an unexpected result (Kerfoot et al., 2010). Rather than testing already-learned information, this study taught and tested related but novel information at each time point. While retention was still superior in the spaced learning condition, the initial acquisition of novel information during the learning phase was significantly better in the massed learning condition. Specifically, massed learners’ test scores improved by 26.1% (SD 15.4) throughout the learning phase, versus an improvement of 13.8% (SD 14.6) for spaced learners (p < 0.01).

The marked strategy-dependence of success in knowledge acquisition supports our intuition that learning novel information has different cognitive requirements than does reviewing or rehearsing information. Moreover, the distinct requirements of novel learning appear to be better served by a massed approach.

To explain this phenomenon, we hypothesize that a massed learning strategy permits a greater depth of processing, which is a major determinant of long-term retention (Kandel, Schwartz, and Jessell, 2000). For instance, massed learning may allow comparisons to be drawn amongst similar items, and distinctions observed between differing items. We predict that this process of comparing, contrast ing, and developing a framework of inter-item relationships would enhance the depth of processing involved in initial learning. One can imagine how such synthesis would be more limited by the time lapses inherent in a spaced approach.

Evidently, our current UGME curriculum structure at Queen’s, which delivers content at spaced intervals and in a spiral fashion, has strong roots in cognitive psychology. Still, our own critical review of the spaced learning literature throughout history, in both experimental psychology and medical education research, has led us to consider a modified approach.

We propose that the ideal strategy is an initial mass learning period that maximizes depth of processing at first acquisition, followed by spaced repetition at expanding intervals to ensure prolonged retention. Now knowing that the success of these strategies is based upon effortful retrieval and (possibly) depth of encoding, we hope that students can capitalize on this information in devising their own study plans.

Even with a well-conceived curriculum and committed self-study, as undergraduate medical students we are still susceptible to the stress and burnout from the “academic overload” inherent in our demanding timetable. Many medical students still express worries of forgetting what they were taught, despite knowing the information so well at the time of the course. We would like to leave our peers with some final words of reassurance from Dr. Gibson: “While medical knowledge is important, it is not all that is required in becoming a good physician”.

“If you don’t know how to think, reason, question, and problem-solve, you can’t be a good doctor... If at all possible, try to understand vs. memorizing things for the test… Plus, big secret here - you can LOOK THINGS UP. That's OK… Everyone needs to learn things again. It’s normal and good. It’s easier to relearn each time.”

-Dr. Gibson, Year 1 UGME Director

References:


S
ocial media has completely infiltrated our lives. We are constantly on our phones or computers, scrolling through Twitter feeds, perusing the newest pictures on Instagram, browsing Facebook, and watching YouTube videos. It is no surprise that we are seeing more of it in medical education. Here at Queen's, we are starting to see some integration of these popular social media outlets in the classroom. For example, Dr. Michelle Gibson, Dr. Robert Connelly, and Dr. Mike Leveridge are a few known twitter fanatics and Dr. Michael Sylvester's new YouTube channel currently has 73 subscribers.

I had the chance to speak with Dr. Sylvester, who teaches the Clinical Foundations Family Medicine course here at Queen's, about his YouTube channel and how he has integrated it into medical education here at Queen's. Dr. Sylvester's videos become available to students prior to class. Students are then expected to come to class prepared to work through sample cases and be called upon to answer questions via the dreaded random number generator.

I asked Dr. Sylvester how he felt his pre-class videos added to the course and how it compares to traditional learning. “I like notion of giving students access to distilled information. First, it forces the professor to concentrate on absolute essentials and deliver it clearly. Secondly, by having these videos, it frees up class time for other activities”, he replied. This method allows the classes to focus on applying concepts instead of delivery. When I asked about whether this method is an effective teaching tool, Dr. Sylvester said that anecdotally, from his experiences, it is. However, he did mention that there are some studies out there demonstrating that group learning was superior to more traditional lectures as it allowed for students to solidify concepts. He gave the example of the ear pain session where a large portion of class was dedicated to viewing pictures of infected ears. After the session, he found that the students were able to identify and differentiate between acute otitis media and middle ear effusion at a level comparable to family medicine residents.

While it is encouraging that these pre-class videos seem to be an effective and efficient medium, I wondered if the students were receptive to having YouTube videos in place of a lecture. Dr. Sylvester admitted to receiving mostly positive responses from 1st and 2nd year medical students and even residents. However, he did note that the responses could be biased and those who did not enjoy the videos may not have approached him and he may have a better idea after course evaluations.

I questioned if there were any disadvantages to having a dedicated YouTube channel. “It’s very time consuming”, replied Dr. Sylvester. While he mentioned that the logistics are improving and he’s spending less time on that aspect, the bulk of his time is spent redoing takes and writing a good script. He stressed that the script was the most difficult component as it he needed to “condense the information and make it understandable”.

Since YouTube is a public site, I had wondered if Dr. Sylvester had felt any discomfort with that fact or any issues with privacy. He assured me that he was very much “into open source and wouldn’t have it any other way”. Even on YouTube, these videos would belong to Queen’s University. However he cautioned that he had to be very careful about not violating any copyright laws (e.g. inserting images into his videos). In addition, these videos are accessible by anyone in the world and he finds it “cool to go on google analytics and see that 10 people from Brazil have watched it”.

In closing, I asked Dr. Sylvester whether social media outlets like YouTube have a place in a medical educational curriculum and he answered with a resounding “Yes! It’s inevitable”. He believes that it is an efficient, economic, and an effective way for content delivery and “more and more of post-secondary education will head this way”.

Dr. Sylvester’s YouTube channel can be found under the name MjSylvesterMD or at http://www.youtube.com/user/MjSylvesterMD. Currently posted videos include, chest pain, cough, ear pain, fever, sore throat, abdominal pain, pain management, and constipation and diarrhea. When I asked if he would be working on videos in the winter/new year, he hinted that there may be some things planned, so keep an eye out!
Up To Date and Beyond

GENEVIEVE ROCHON-TERRY, CLASS OF 2017

If you’ve ever tried to search for information from UpToDate, you may have noticed that the Bracken Health Sciences Library at Queen’s doesn’t subscribe to this resource. While UpToDate is commonly used as a reference in diagnosing and treating patients, many medical school libraries do not subscribe to it. This has raised concerns that students are missing out on their chance to gain UpToDate skills before entering practice.

I spoke with Suzanne Maranda, Head Librarian at Bracken Library, to get the official explanation. Bracken is aware of the demand for a Queen’s UpToDate subscription and has considered a subscription several times over the past few years. Unfortunately, the UpToDate pricing model is tailored for individual subscriptions, making it very expensive for institutions. In fact, for the library to be able to afford UpToDate it would have to discontinue 20% of its existing collections.

Furthermore, Bracken Library is committed to only purchasing resources that can be used both on and off campus. Since many health sciences students and residents complete placements off-campus, flexibility in accessing point-of-care resources is essential. Even if affording the on-campus-only UpToDate subscription was feasible, the library’s budget does not allow for the substantially more expensive remote-access subscription. Additionally, the large annual increases in the price of an UpToDate subscription would be unsustainable for Bracken; eventual cancellation of the resource would be inevitable.

If this news fills you with despair, remember that UpToDate is not the only clinical resource out there. The library purchases a number of evidence-based and point-of-care clinical tools, including ACP PIER, BMJ Best Practice, Clinical Evidence, and Access Medicine. All these resources may be accessed remotely using the Queen’s proxy service and are available on the Bracken Library homepage under “Point-of-Care Tools”. You can even arrange a consultation with a Bracken librarian to learn about the features of each tool.

If you wish to learn about these resources without leaving your desk, the librarians have created a guide to Bracken’s various point-of-care tools (available at http://guides.library.queensu.ca/poct). Bracken Library has also recently added DynaMed and its companion decision-support tool Isabel; this duo is already used at medical schools such as Ottawa U and the University of Alberta with favourable results. As with some of the other point-of-care resources, Dynamed also has a mobile app which students can download. A recent BMJ article showed that DynaMed is superior when compared with four other point-of-care tools: Clinical Evidence, EBMGuidelines, eMedicine, and UpToDate (Banz et al 2011).

If you still prefer UpToDate, there is always the option to subscribe individually – Canadian medical students can currently purchase one year of UpToDate access for $199. Josie Xu, a third-year clerk who was AS VP Internal 2012/13 and the former Bracken Library Committee student representative, tells me that the Queen’s School of Medicine previously provided students with a 50% discount for an annual subscription if they chose to order UpToDate. In 2013, under great debate, the decision was made to cut this refund due to budgetary constraints. Even without the reimbursement, there was no change in order numbers from Queen’s medical students in September 2013.

“If you’re currently in the pre-clerkship stage, it’s important to work now to familiarize yourself with the point-of-care tools available.”

If you’re currently in the pre-clerkship stage, it’s important to work now to familiarize yourself with the point-of-care tools available. Xu says that she underused clinical resources during pre-clerkship. She wishes she had more experience, so that she would be better prepared to use point-of-care tools as she goes through clerkship. She says: “I also wish I downloaded and used mobile apps more often (e.g. Epocrates) since I use that more than anything else”. Whether you’re hung up on UpToDate or open to playing the clinical care resource field, getting to know the point-of-care tools now may be a stepping stone to success down the road.
The Maze of Career Exploration: Choosing A Medical Specialty

LOUISA HO, CLASS OF 2017

Student 1: “What specialty do you want to go into?”
Student 2: “I have no idea…”
Does that sound familiar to you? We have been told that the hardest part is getting into medical school; once you are in, you will make it through. But the question is, as what? Medicine is a profession that has a niche to offer to every interest, every type of personality. The amount of choice however may be overwhelming and makes choosing a medical specialty once of the hardest decisions we will have to make during our medical school careers.

Most students have very limited exposure to any medical specialty, and likely have a whole lot of misconceptions about most specialties...

While a flowchart on reddit may serve as an amusing diversion during a study break, choosing the ‘right’ specialty is a much more involved process that takes into consideration a multitude of factors from interest and personality, to lifestyle and expected outcome, to career opportunities. Researchers and educators alike have tried to look for connections between Myer-Briggs personality traits, values, or medical aptitudes and medical specialty preferences to map out the decision down to a science, but have only found loose associations at best. The choice remains confusing and a cause of anxiety for many, because frankly, medicine is a field where entering students have very little idea of what it is actually like to be a doctor. Most students have very limited exposure to any medical specialty, and likely have a whole lot of misconceptions about most specialties.

Career choices are thus very much influenced by experiences in medical school. The implications for medical education is that perhaps earlier exposure to different specialties could help alleviate some of the confusion and stress over choosing a specialty. Importantly, next to interest, teaching may be one of the most influential things on a student’s decision; it is the interplay between the faculty member and clinical encounters that shape the experience, and ultimately interest in a specialty. In the pre-clerk years, interest groups are fantastic way to start getting a basic description of the specialty, and it also creates valuable opportunities for cultivating networks between students and faculty with common interests. But its doing observerships that really gives us a chance to take a look what it might be like to actually work in that specialty – in fact, it’s the only opportunities we have before the first-hand exposure during clerkship.

...medicine is a field where entering students have very little idea of what it is actually like to be a doctor...

The ongoing endeavor by the class councils to create a pre-clerk observership directory is a strong first step in making navigating the observership process more efficient. However, it is still questionable whether or not squeezing observerships into the afternoons we have off is enough time to see enough to gauge whether its something we can stay excited about for the rest of our working lives; and perhaps more importantly, its not enough to imagine whether or not we can live with some of the things we do not like about the specialty for the rest of our lives. Perhaps protected time for observerships during the school year would help facilitate the process of acquiring the experience and knowledge necessary to help choose a medical specialty. While there are studies that suggest that specialty choices may be made earlier and are more stable and accurate than we think, regardless, getting a realistic, comprehensive idea of what a specialty is like early on in medical school gives us the time to build up more credibility when we interview for CaRMS. Most importantly, it gives us a better chance at being happy with our choice, which will ultimately make us better physicians that provide better care for patients.

References:


Stillwell, N.A., Wallick, M.M., Thal, S.E., Burleson, J.A. Myers-Briggs Type and Medical Specialty Choice: A New Look at an Old Question. Teaching and Learning in Medicine (12).


Medical Training in the Land Down Under:  
The Australia Clerkship Exchange

OLGA ACE, CLASS OF 2016

There is often just one thought dominating the mind of the clinical clerk as she awakes in the dark of a Kingston winter morning and braves the knee-high snow drifts on her march to KGH – escape!

Whereas an all-inclusive resort doesn’t quite fulfill the requirements of a clinical rotation, the clerkship exchange program to Australia offers an escape from winter. A warm and exotic locale is just part of the unique clinical experience abroad.

A Novel International Opportunity

The Queen’s School of Medicine clerkship exchange program with the University of Queensland in Australia is a novel program that provides the opportunity and funding for ten clerkship students in each year to spend eight weeks in Brisbane. While there, students complete one of three core clerkship rotations (pediatrics, obstetrics/gynecology or psychiatry) and two weeks of elective.

Dr. Anthony Sanfilippo, the Associate Dean of Undergraduate Medical Education, is one of the key faculty members involved in the development of this international opportunity for undergraduate medical students.

Dr. Sanfilippo explains that the exchange program is based on mutual interests between Queen’s University and the University of Queensland:

“The strengths of the program are in the diversity of the experience, an ability to work within a healthcare system that has differences to our own and appreciate the different approach that Australians have toward medicine. Brisbane is home to more than 2 million people and the Royal Brisbane and Women’s Hospital is a large center with a full pediatric and psychiatric service in addition to a dedicated obstetrics and gynecology floor.”

This sentiment is echoed by Dr. Alexander Melinyshyn (MEDS 2013) when speaking about his experience during the exchange,

“Looking back on my clinical exchange to Brisbane and the University of Queensland, I can fondly say that it was one of the defining experiences of my clerkship years. This was an exploration of differences. Differences in culture, in politics, in medical hierarchy, and in therapeutic approaches.”

Melinyshyn encourages participants in the program to take time to explore the natural beauty of the country and spend time developing friendships with future colleagues. From the Great Barrier Reef to Uluru, there is no shortage of unique places to visit.

The Clerkship Role

Feedback about the program has been positive, and clerks are eager to go. Dr. Sanfilippo does, however, acknowledge the challenges of defining the role of Canadian students in the Australian clerkship system. Responsibilities of students in each system are markedly different.

“There are just as many clinical encounters and procedures and the Canadian students are not disadvantaged by the differences in approach. It is important to realize that an element of the exchange experience is to see how things can be done differently, whether in training or in having a parallel public and private system,” says Dr. Sanfilippo.

Melinyshyn points out that, while it is easier for a clerk to become a passive observer in the Australian system, it is up to the individual to be motivated and active in their clinical rotation. He says,
“The Australian medical hierarchy is modeled after the British system, and there are many more rungs to the ladder. It is up to you to step up and to volunteer yourself to assume greater responsibility. They will happily give you work to do. Setting goals for yourself, and recognizing when you’ve seen enough of something, and moving onto the next, is an important independent learning skill to develop for residency.”

Another Perspective

One of the reasons for this difference is highlighted by a Queens’ resident who completed his medical education at the University of Queensland. He explains that, although the structure of medical school itself is quite similar to Canada, after graduation, Australians do an internship year. An intern can also go on to do one or two extra years of general residency prior to applying to a specialty. At the medical school level, clerks have similar responsibilities to Canadian students, but there are fewer night and weekend shifts because most students work part time to pay for tuition.

Having experienced training in medicine in both the Australian and Canadian system, he suggests that doing an exchange in Australia would be very valuable for Canadian clerkship students:

“I think it is a huge advantage to experience and learn in as many settings as possible, whether it is in a different country, or just a different hospital, a rural area, or a remote area such as northern Ontario. Especially if done early in your career, it will make you a much more diverse and flexible physician in the long run.”

What about CaRMS?

A common concern brought up by students considering the exchange is the impact this will have on CaRMS applications and elective time. Dr. Sanfilippo and Melinyshyn agree that an international experience only adds to the diversity of medical training for a prospective resident and is no way detrimental to the application process.

“I promise your future holds decreasing opportunities to make such an odyssey. What seems like a sacrifice in terms of elective time will in hindsight prove to be negligible,” explains Alexander.

Future Directions

With a group of students having just returned and a new set of clerks scheduled to depart in January, more Queen’s students are taking the opportunity to experience medicine Down Under. Dr. Sanfilippo will be taking a trip to Australia in early 2014 to see how the Queens’ clerks are doing and further develop the future direction of the clerkship exchange.
INTERVIEW

Interview with Dr. Duffin:
20 Years of Retrospective

MARK BROUSSENKO, CLASS OF 2016

Please join us for a retrospective with the illustrious Dr. Jacalyn Duffin, as she offers her opinions on the past 20 years of medical education here at Queens! [Comments abridged for print]

QMR: Thank you for agreeing to speak with us today! If we can break the ice with a general question, what would you say has been the best development in medical education over the past 20 years?

Duffin: I think the biggest gain has been a general recognition that large numbers of science pre-requisites are unnecessary. Unfortunately this has not cashed out; medical students still tend to self-identify as scientists. People think that science is relevant, perhaps more so than they should. If you take courses in math and science, you can get 100%, raise your GPA and improve your MCAT scores in the process. We still tend to select for science students, but not nearly as much as before.

QMR: What about the worst change?

Duffin: This is difficult question to answer. Maybe the biggest mistake has been a slippage and erosion of the curriculum revisions – not the most recent one, but the one prior to that [1994]. Over the course of the past several decades students have become neurotic about exams again. I wonder if that is interfering with their ability to get over themselves and shed some of the competitiveness around exams. Classes are now more competitive than they were, say, 10 years ago. It’s a shame that we brought back so many exams – it continues to foster this culture. Some people who argue for this seem to think that students want to have these exams – some students give feedback that these are soothing.

QMR: But some of these are very stressful – testing content in May when it was originally taught in January.

Duffin: I am actually not very sympathetic to this… we WANT students to remember what they were taught six months ago. Suffering because poor students have to remember something for six months does not garner a lot of sympathy.

QMR: Shifting gears a bit; web interaction and digital media has become a big part of the curriculum recently. What are your thoughts, especially in light of the theme of the past issue (the future of medicine)?

Duffin: I personally find the emphasis on web interaction to be distressing. I do it because I want to look like all the other professors. I hate having to spend hours and hours looking at a computer. Some young doctors don’t necessarily know how to look at their patients. While I’m sitting there pouring out my tale of woe, the person is sitting there looking at the computer instead of the patient. I know that some of the other SGL tutors have asked groups to put computers away. That said, my generation may be gone and dead and all the patients may be like you guys and they don’t care if anyone is looking at them or not.

QMR: Do you think the technology adds anything positive to the medical experience?

Duffin: Putting everything on the web while you’re in undergraduate medical education, that teaches you everything that you’re going to do as a doctor. Even I can’t deal with a patient without using a computer. But there have been some courageous moves – I spend some time in the cancer clinic and there are no computers terminals in the patient rooms. It would be interesting what proportion of examining rooms around Kingston have exam rooms and which don’t. But the cancer center is very new, so it had to be a conscious decision to exclude computer terminals from there.

QMR: There might be something to be said for medicine moving towards a way that is not necessarily superior, but might be more convenient, not just in patient setting but in education as well.

Duffin: Sure, but convenient for whom? Backtracking a bit, but there is a desire not to have lectures. And that’s another thing that bothers me a lot. Especially as one person representing a whole discipline. A really efficient way to communicate is a whole class session, and I agree that small groups are a great way to go. And if I had ten colleagues doing medical history, then sure small groups are the way to go. And in the past, I have sometimes taught the same class three times because they have asked for it, but I would really rather not have to do it ten times. And it bothers me that all lectures are viewed as bad things by...
virtue of being a lecture. What should be the case is giving a good lecture is a virtue and lectures should be scores on their effectiveness...they are not intrinsically horrible.

QMR: On that topic, do you think that SGL or PBL has improved the student experience, or at this point has it become more of a hindrance than a help?

Duffin: PBL is as old as my MD. I got my MD in '74 at UofT; wall-to-wall lectures. But next door was Hamilton and McMaster and the first cohort was coming through. People were worried about it, but it turned out to be a very effective way to learn. We first got it at Queens in that curriculum review in 1994, and I have been a PBL tutor ever since. At the time there was a lot of opposition to it and they thought that it was a waste of time. We used to refer to McMaster as the ‘M word’; and oh we were just doing this because McMaster was doing it. But in between us doing it and McMaster doing it, Harvard had adopted it and it became the Harvard method. It was clear that we were doing it that it was to meet accreditation standards imposed from within, but as we were doing it, it became clear in the first year or two that a. it was a lot of fun and b. it was a good way to learn and c. that there was enough neurosis around the school about whether or not it was effective that students were getting the double dipping. We would have SGL on a topic and then we would have a lecture on it. And it wasn’t clear if one or the other – the SGL or the lecture – that was redundant. The school was actually afraid to assign topics to SGL and not lecture on them, and that went on for a while. And I actually see that creeping back; you get lectures on things that we cover in SGL and fSGL. For a while they assigned topics exclusively to SGL and didn’t teach them elsewhere... but it almost doesn't matter. The students themselves are really smart – it almost doesn’t matter how you teach them. They turn out motivated and good doctors, because we picked them well.

QMR: Our last question, before we wrap up; you mentioned that they pick us well. If you had to identify one aspect of what the selection process screens for that has a good predictive value for what makes someone a good doctor, what would it be? Or is it more of a holistic perspective?

Duffin: That's a great question. During the 1994 curriculum review, we established interviews. Before then, we didn't have interviews.

QMR: What did you have before then?

Duffin: Marks. Marks and letters. And during that process, there were a lot of professors who were children of the 60s, who were uncomfortable bringing back interviews, because they believed that interviews had been abolished in the 60s. I wasn't interviewed when I applied, but there had been interviews in the 40s or 50s. And they got rid of them in 60s because interviews were seen as a way to tell if you were clubbable – they were classist, and elitist and they were racist. And so the 60s got rid of them on a tide of the great leveler: marks. And then you couldn't accuse anyone of discriminating. I actually hadn't realized when I was a student that there had been interviews in the past. So when we brought back interviews, it was actually the class 1996, we got all these letters of complaint that you will be racist and the class won't have diversity and you will be discriminating against people who didn't go to Upper Canada College and you won't necessarily get the smartest or the best and the brightest. So we were very conscious of that. So we looked at the applicant cohort, and we were very worried at the time that Queens had more men than women.

QMR: By a large margin?

Duffin: Yeah. And it was after the interviews that we got equal. We studied what we thought we should do was make sure that the number of men and women in the class equaled the number who had applied, proportionally. We shouldn't be going for affirmative action, because that would be a meaningless gesture. The interview process worked kind of like a charm. We realized that the applicant pool was 50-50, but women had not been picking Queens. Part of that was that Queens had a 4 year program; if a woman got an offer from McMaster or Calgary, she would go there, because the biological clock aspect of it, plus the fact that we also required a degree, so they were older. People also asked what predicts who would do well in medical school. I studied the marks coming in, and we had pass/fail/honors, and I correlated it. And the graph was a direct line. The higher the student's marks going in, the more honors they got. Which was no surprise because it shows that kids who know how to do well on exams will do well on exams. Then the whole question raised the fact of whether exams are predictors of anything.

The whole question of who is going to be a good doctor is very ambiguous. People have looked into what makes for good doctors and whether we are actually surveying our product. McMaster used to say that if you were a woman and you had a Mac degree you would never be sued. Is not getting sued a measure of a good doctor? Well, it means that your patients are very happy, even if you’re killing them [laughs]. But are there tangible measurable outcomes that you can look for in a physician’s career that can tell us if our products are doing well? I don’t know. I don’t even know if school collect statistics on...what proportion of their grads are sued, or the other metrics. I have no idea.

QMR: Thank you so much for joining us, and thank you again for your insights!
INTERVIEW

Interview with Emma, PGY1: An IMG Perspective

LAURA BOSCO, CLASS OF 2017

When I ask Emma to describe her undergraduate experiences at McMaster University, and to contrast those with her experiences at a medical school in England, she essentially describes my own first impressions of undergraduate and medical education. Throughout her first year of a Life Sciences program at McMaster University, she found the program exceedingly large and competitive. As opposed to providing a supportive environment for students, her program felt like a game designed to intimidate students and pressure them to switch out of Life Sciences. Having family in England and a UK passport, she decided to apply to a few English medical schools during her second year at McMaster, and was offered a position at the University of Birmingham Medical School. Reluctant to turn down an acceptance, as well as an opportunity to bypass the MCAT, Emma accepted the offer.

“She loved being abroad for her medical education, as it gave her the opportunity to travel and become a more open-minded and cultured individual…”

Fortunately, her experience in Birmingham was completely contrary to her undergraduate experience at McMaster. She felt at home in Birmingham, and found both her program and faculty supportive and nurturing towards their students. Emma esteemed their systems-based program, in which students simultaneously tackled the anatomy, physiology, and mechanisms of disease of a single system. She described England’s medical community as exceptionally patient-centered, placing much emphasis on effective communication skills. Moreover, she loved being abroad for her medical education, as it gave her the opportunity to travel and become a more open-minded and cultured individual. Emma established a strong social network, investing time in friends and family, and building strong and lasting relationships. Overall, she had a wonderful experience in England, constructing the groundwork for medical training in Canada.

When Emma applied to CaRMS in 2013, she was not expecting to match successfully to her program of choice at Queen’s. At the time, based on how competitive the process is, she anticipated applying for her two-year foundation placement in England and then reapplying to CaRMS upon its completion. Coming back to Canada for residency is an exceptionally difficult process, requiring the successful completion of MCCEE (Medical Council of Canada Evaluation Examinations) and a NAC OSCE (National Assessment Collaboration OSCE). Among the 2013 IMG graduates, there were approximately 1800 CARMS applicants, where 338 applicants with the highest MCCEE scores (98th percentile and above) were invited to interview, and ultimately 146 offered positions (CARMS Match Statistics). Although Emma was ecstatic when she did match, she was concerned about the differing structures in education across the pond, and how it would affect her ability to succeed in a Canadian program.

“…undergraduate medical education in England would be easier than that of Canada, while residency programs in England would be comparatively more rigorous than Canadian ones…”

England has a 5-year medical school program commencing after high school, then a two-year foundation placement, followed by 7-10 years of residency. Meanwhile, Canada a 3-4-year medical school program preceded by an undergraduate degree, and 2-7 years of residency. In comparing the emphases and time allotments for each phase of training, Emma feels that undergraduate medical education in England would be easier than that of Canada, while residency programs in England would be comparatively more rigorous than Canadian ones. To illustrate, Emma describes her clerkship years to have been more of an observership. A typical day began with a teaching session at 9AM, followed by bedside teaching with physicians. Students would then go on the wards for a couple of hours, have lunch, and spend the afternoon in bedside teaching sessions. Clerks never had the opportunity to manage their own patients from begin-
ning to end, prescribe for them, or investigate patient concerns. These exposures and responsibilities are introduced in the foundation years, and expanded throughout the 7-10 year residency.

“The process has been challenging at times, but she has no regrets about her unique and varied experiences...”

Emma likens coming to Canada for residency to being thrown into the deep end. Emma is experiencing a steep learning curve here in Kingston. She also feels that she has less clinical experience coming out of her medical program compared to Canadian graduates. In particular, she is finding physical exams a challenge. Whereas the theory and goals of the exam were taught extensively in England, she is less practiced than her Canadian peers at utilizing the exams to establish a differential diagnosis. Had she stayed in England, Emma would have had 10 years to gain the skills and perfect her technique, whereas in Canada she is expected to know them thoroughly at the outset.

Emma also shares her perceptions of other IMGs and the barriers they face in coming back to Canada. Emma explains that even though medical schools abroad may differ in their education style and structure, it is definitely possible to return to Canada given “strong communication and academic skills”. She has been feeling a little overwhelmed upon her return to Canada, where she is continuing to perfect her clinical skills, and navigate the differences between English and Canadian techniques. Fortunately, Emma has not observed any differential treatment as an IMG at Queen's. Still, she understands and supports the preferential treatment towards Canadian students in regards to residency positions and jobs.

Emma noted that when making the decision to receive medical education elsewhere, one should not expect, nor feel entitled to a residency position in Canada upon graduation. Although it is possible to come back, it is far from easy. If history is any indication, returning to Canada for residency in the future will require excellent MCCEE scores and NAC OSCE scores, as well as a superb interview. Addressing undergraduate medical students wishing to return to Canada, Emma expresses that the process has been challenging at times; however, she has no regrets about her unique and varied experiences, and looks forward to the learning opportunities that await her in Canada in residency and beyond.

References:
https://www.carms.ca/en/r-1-match-reports-2013
Cover Art Contest

First Place: Alyssa Lip

This image represents the transition of medical education at Queen’s from the past to the present, as represented by the medical education buildings. The older building farther away was from the Medical Building from 1910, as compared to the current New Medical Building built in 2010.

Sources:
http://meds.queensu.ca/assets/New-builiding-pg.jpg

Second Place: Louisa Ho

The new medical building is more than just a place where we have our classes. It is a place where we are inspired by faculty, supported by the staff, encouraged by our predecessors, and influenced by our classmates— it is our home.

Sources:
http://meds.queensu.ca/assets/New-builiding-pg.jpg
The backpack is perhaps one of the most universal symbol of education. The stethoscope signifies medical education in particular. It is shaped in a question mark in order to highlight the controversies in medical education; the ultimate questions that continue to challenge us today “Is our medical education perfect? If not, how can we make it better?”

Third Place: Devang Odedra
I run through the presentation for my attending at break-neck speed. I’m ready to be done with this patient. I inhale deeply in preparation, and finish with a flourish:

‘...In conclusion, this patient does not meet the Ottawa Ankle Rules criteria for imaging, and is a huge pain in my ass, taking up precious, unpaid, under-slept time when I could be learning something or providing some sort of semi-helpful care to someone who is actually hurt, and therefore I recommend we do not X-ray this ankle, and instead kick its owner out on her butt into the snow, post-haste. I volunteer to do this using my very practical, and miserably ugly, Emergency Department shoes.’

The words tumble out, a torrent of great force stemmed only by my eyes snapping open. And thus, another sleepy night-shift fantasy is ended prematurely by my attending’s nearing footfalls.

This patient truly is a nightmare. She tripped on a patch of ice sometime in the past week, and attended the emergency department due to unrelenting, excruciating pain.

The non-urgent nature of her complaint notwithstanding, I can understand how such pain would drive one to the emergency department. Since her presentation to the department, however, she has revealed that, in fact, the pain is perhaps not all that bad. She occasionally takes acetaminophen. She is able to ambulate and has been walking well since her fall, though she does occasionally use a pair of too-short crutches that she is holding tucked under her armpits. When suitably distracted, she lopes along with an almost normal stride.

After gaining a rudimentary understanding of the nature of her injury, I ask the obvious question: Does she have a family doctor?

In return, I get the expected answer: Yes.

Why then, I ask - suppressing the paroxysmal rotational nystagmus that has erupted in moments of frustration since at least my early adolescence - why has she not seen her family doctor for this completely non-emergent problem?

In fact, she has seen her family doctor. She has also attended a walk-in clinic nearby, but ‘they didn’t even do an X-ray.’ I paw at her ankle with all the grace and thoughtfulness of an improperly trained circus bear. I see no bruising, no swelling. She scarcely moves her ankle when I ask her; the pain and stiffness is too severe. When I rotate her ankle, however, I find it moves freely, though I can see that she is truly in pain when she gasps. When I palpate her ankle, she is diffusely tender, but not over the lateral or medial malleoli.

I conclude that this patient doesn’t need an X-ray of her ankle, and glance at the Ottawa Ankle Rules chart posted on the door of the examination room to confirm my suspicions.

When my attending’s heavy middle-of-the-night footfalls reach me, I sigh heavily, inhale deeply, and begin my review of the patient. My oral report is short and to the point, and I conclude with the assessment that this patient has a soft tissue injury to the ankle, and requires rest, ice, and elevation. Maybe some NSAIDs, too.

‘You don’t think she needs any imaging of the ankle?’ Dr. Kenny asks, his eyebrows knit. I’m taken aback by his skepticism, but stick to my story.

“This is why we have algorithms like the Ottawa Rules...”

No, I don’t think she needs an X-ray. It’s an unnecessary expenditure, and - quite aside from her being an aggravating and unrelenting pain in my posterior region - frankly unwarranted. This is why we have algorithms like the Ottawa Rules; they help us identify patients who need further diagnostics or treatment, and prevent us from wasting resources on patients who don’t. She has both feet planted firmly in the latter category.

‘Okay,’ he agrees, ‘Let’s go see her.’

We enter the examination room together, and I’m unable to control the paroxysmal rotation nystagmus that
overtakes me when the patient jumps and gasps at each touch and movement, exaggerating her response after my less-than-sympathetic assessment of her pain and function.

Dr. Kenny explains that we will not image her ankle, and leaves me to give the patient instructions about how best to care for a soft tissue injury. The patient doesn’t seem to listen when I speak. Instead she grunts and huffs.

I pause, flustered.

“So you’re not even going to do an X-ray?”

‘So you’re not even going to do an X-ray?’

‘No, we are not,’ I reply. Stretching my patience to its outer limits at this late hour, I point to the Ottawa Ankle Rules posted on the door and explain why we won’t be doing an X-ray in the kindest tones I can muster. I send her on her way with an ibuprofen tablet and instructions to return should any worrying symptoms develop.

In my arrogance, I congratulate myself on my restraint; I did not kick her out the door with the toes of my ugly, but serviceable shoes.

Not an hour later, however, a chart flips over my left shoulder and lands on top of the orders I’m filling out. I read the name and pinch my lips shut to hold in the stream of obscenities gathering in my mouth. I glance up and see Dr. Kenny standing over my shoulder. I look at him darkly, and he arches his eyebrows at me.

I stomp back into the orthopaedic examination room prepared to give my returned patient a piece of my mind.

What I see when I enter the room surprises me. The patient with the not-broken ankle looks at me with tears welling in her eyes. She looks small and fearful. I am taken aback. But just a second later, I understand. This brash, abrasive, and thoroughly unlikeable woman without a single broken bone in her body is scared that we have misdiagnosed a catastrophic injury and sent her away to endure pain and suffering without support. She is genuinely afraid that we have failed to identify an injury that will leave her disabled and in pain. She worries that we have missed a broken bone that will cause her untold troubles in the months and years to come.

The problem is I don't know how to make her feel better. I know – or believe I know – that her ankle is not broken, but she does not.

I bring my problem to Dr. Kenny, who looks annoyingly amused, superior even. I scowl.

‘So how do I explain to her that her ankle isn’t broken, then?’

Dr. Kenny counters my question with his own.

‘Are you sure you don’t want to do that X-ray?’

‘I…I don’t know,’ I concede. I know that I shouldn’t image her ankle - it’s not indicated and an extra expense the system could be spared. But, as Dr. Kenny counters, isn’t her return visit a drain on the system?

In the end, Dr. Kenny and I order the X-ray. I’m not happy about it, but the patient is, and I’m relieved when I show her the images of her completely unbroken ankle, and she seems...well, she doesn’t seem happy, but she does seem to believe that we have done all we can for her, and that she is safe, even if she is in pain.

The patient leaves with instructions to ice and elevate her ankle. She walks out the door without her crutches or a limp, adding to my annoyance.

But she doesn’t come back.

So do you want to do that X-ray?
Medical Dummies: Anything but Dumb

SARAH-TAISSIR BENCHARIF, CLASS OF 2016

In medicine, playing pretend saves lives.

SimMan 3G lies on the floor.

On this day, he collapsed on the deck of a community pool. The junior lifeguard, a nursing student, arrives.

She checks his pulse.

Absent.

She calls for help. Medical and nursing students take turns doing chest compressions. Then, with the use of an automated external defibrillator—“all clear,” they repeat—they shock him.

SimMan 3G groans.

He’s back.

At the Queen’s University School of Medicine’s Clinical Simulation Centre, the use of medical mannequins is critical.

“Our number of [simulation] sessions has doubled since two years ago,” says Kim Garrison, operations manager of the CSC.

These dummies are anything but dumb.

Their use is beyond simulating scenarios, from cardiac arrests to seizing mannequins—they generate key information on a team’s performance.

Behind the glass walls of the simulation lab, Marcus Brown, biomechanist at the CSC, examines the real-time feedback on the quality of the CPR: is it deep enough and frequent enough? A diagram on the monitor shows the jaw thrust necessary to ventilate the mannequin—did they achieve it? The mannequin’s simulated vitals are tracked over time, and sensors on the mannequin’s pulse check zones reveal how frequently and when the vitals were checked by the team, as the pulse quality changes along with the blood pressure.

This monitored feedback, along with the participants’ performance as a team, is key to training, says Khala Albert, chief resident in emergency medicine at Queen’s and a leader of the emergency medicine resuscitation rounds.

When the stakes are as high as they are in medicine, practice is key.

“We did something that was unsafe for patients in a controlled setting,” says James Simpson, a third year medical student at Queen’s after the junior resuscitation rounds. “That’s not something I’ll do in a real setting.”

“It’s a low stakes environment,” adds Prasan Parikh, a fellow third year medical student.

But with the demand increasing for simulations, are trainees already spending too much time with plastic rather than with people? A 2013 study by Johns Hopkins University showed first year internal medicine residents spent only 12 per cent of their time interacting with patients, and more than 40 per cent of their time on computers.

“Yes, we get a little bit less face time but we learn a critical skill,” says Simpson. “At a macro level, it’s really for the benefit of patients we’re doing this.”
The use of mannequins has evolved with time, from the earliest Resusci-Anne still sometimes used today for CPR training, to today’s $50,000 to $80,000 blinking, seizing, baby-delivering, dummies with audible breath sounds.

Still, today’s medical mannequins feel too perfect at times, says Alexandra Myszko, a fourth year nursing student at the junior resuscitation rounds. “You don’t get different-sized mannequins,” she says, adding that some of the real challenges of patient care are complicated by the patients’ weight.

“What would be great would be if you could do more invasive stuff,” says Albert, citing a need to simulate higher risk, difficult procedures like placing chest tubes.

And with the increasing use of ultrasounds, Jeremy Babcock, technical lab assistant at the CSC, hopes future mannequins could enable the use of ultrasound probes.

Whatever the task, the mannequins don’t mind the practice.

After a long day of dying and reviving, SimMan 3G rests in the simulation lab’s storage room, on a gurney, surrounded by his mannequin family. Among the 9 mannequins, there is his predecessor the SimMan Essential, and his younger counterparts, the SimJunior, a 6-year-old boy, and the SimBaby, the infant mannequin. There’s also the Noelle, the pregnant mannequin perpetually plagued with problematic births and her newborn baby Hal.

The most popular of the bunch remains the SimMan 3G.

“[It’s] just a little hardier,” says Garrison, the CSC’s operations manager, adding that at the end of their 7-8 years of life, the mannequins become technological organ donors, donating their parts to other simulation labs and institutions. “The Noelles you can do resuscitations with them but they are more fragile because of the pistons to deliver the baby.”

And just like patients, medical mannequins need care. Behind the scenes, Babcock maintains the health of these simulated patients.

“He does a lot of preventative maintenance,” says Garrison. “They’re resuscitated hundreds of times a year.”
Why is Dermatology education important?

Primary care management of skin disease will become increasingly important in the next 10-15 years. Skin cancer is outpacing all other tumors (2). Treating skin disease can have a significant impact. Atopic dermatitis, psoriasis, and acne can have significant functional and social impairment. Additionally, recognizing dermatological emergencies (eg. Erythroderma, DRESS and AGEP) and understanding their initial management can save lives.

“Dermatologic conditions are some of the most often seen in primary care...”

Dermatologic conditions are some of the most often seen in primary care. Currently skin conditions comprise up to 36% of primary care presentations, but 68% are referred upon initial evaluation (3,4). With wait times ranging from 6 months to over a year in Ontario, it is imperative for primary care physicians to manage a wide spectrum of cutaneous disorders. However, this is made difficult with misdiagnosis rates approaching 50% (3). Considering that the 2013 CaRMS match placed 1479 (53%) graduating medical students into either family medicine or internal medicine (5), there is a pressing need for better undergraduate dermatology teaching. Raising the quantity and quality of dermatology education for medical students can only improve patient care.

“What is happening at Queen’s?

“...the new Queen’s Dermatology Interest Group is working to provide supplementary education to students through lectures, workshops, purchasing dermascopes, and lobbying for FSE inclusion into the clinical curriculum...”

Currently, Queen’s students explore related specialties like family medicine, plastic surgery, infectious disease, and rheumatology for dermatology exposure. There are also some opportunities for lectures in second year. However, Queen’s is excited to welcome two new dermatologists later in 2014. With them will come the creation of a new Division of Dermatology. Additionally, the new Queen’s Dermatology Interest Group is working to provide supplementary education to students through lectures, workshops, purchasing dermascopes, and lobbying for FSE inclusion into the clinical curriculum.

As students, we must be proactive and imagine new ways to augment our education. One such way is the use of modern technology.
“Tech-Ed Out” Learning

“A variety of educational dermatology technologies exist from podcasts and online modules to Smartphone apps. These offer inexpensive and portable resources for use on electives and in remote settings without Internet connection or textbooks. Apps can help score psoriasis or provide quick reference. The effectiveness of educational smartphone apps has been evaluated in many specialties. Supplementing clinical and didactic teaching with apps improves student performance on written examinations and increases enjoyment of learning...”

And the future holds exciting new technologies yet to be developed. Imagine a personal Learning Library that automatically adapts to what you see in clinic, creating quick bullets from sources like UptoDate or Medscape, to improve bedside care. Or how about an app that helps you triage a patient with bullae. Is it DRESS? What should I be doing? Technology is an ever-expanding industry that can – and will – aid budding medical professionals in providing comprehensive, compassionate care.

There are many ways to increase our learning about skin disease. Queen’s is working to improve dermatology education and so can you. Take charge and help promote innovative approaches to dermatology education. Working together we can make a difference for a very visible problem.

Until next time, keep it topical.

Brandon Worley, Meds 2014
Daniel Paluzzi, Meds 2016

References
