QMR

QUEEN'S MEDICAL REVIEW

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ISSUE 9.2 BALANCE

Letter *from the* Editors

Dear Readers,

Medicine is a curious blend of art and science -a balance of clinical impression and technology, career and family, caring for patients and caring for ourselves, the need to eschew subjectivity and the need to embrace it. Finding balance can be challenging which is why we dedicated the current issue of Queen's Medical Review to the theme of balance.

We open with a summary of #Wellness Month – an initiative lead by Queen's students last year and expanded to medical schools across Canada in 2016. Meghan Bhatia (2018) and Shannon Willmott (2018) created infographics that summarize key points and lessons learned. Check out Meghan's list of ten apps that can help us keep balanced when it comes to fitness, nutrition, and social life.

How do you keep balance? QMR approached faculty and students with this burning question. Wei Sim (2018) and Mahvash Shere (2018) interviewed distinguished physician scientists, who gave insight into balancing an academic career with clinical practice. Wei and Mahvash also interviewed Dr. Jacalyn Duffin –our beloved history of medicine professor, and faculty advisor and founder of Queen's Medical Review. Medical student parents face unique challenges. Kate Trebuss (2018) interviewed our Qmed colleagues who are managing the joys and challenges of balancing family life with school responsibilities.

What happens when balance is lost? Jonathan Krett (2018) describes the Martyr Syndrome and the sad irony of learning to care for others when self-care falters. Shari Li (2018) describes the journey of learning how to care for patients without losing oneself. Grace Zhang (2019) analyzes the hidden curriculum. In Journal Club, Sachin Pasricha (QuARMS Class of 2020), discusses the growing trend of using patient-reported outcomes in healthcare.

In the Creative section, Adam Mosa (2018) reflects on the writing of his physician-author heroes and plots a course for his own writing endeavours. With humour and wit, Jacob Gordner (2017) brings us a world both recognizable and alien –a totalitarian medical school and the struggle of the individual against the system. Our Cover Art Contest features drawings by Adam Mosa, a painting by Nancy Wang , and photography by Wilson Lam and Sarah Edgerley (2018). This issue also features illustrations by Linda Qu, Richard Walker, and Maddie Baetz (2018).

QMR depends on students balancing a busy schedule to produce unique and insightful content. We are grateful to our writers and artists who made Issue 9.2: Balance possible.

Best wishes,

Luba Bryushkova Adam Mosa

Editors in Chief 2015-2016

Top 10 Wellness Apps

AUTHOR | Meghan Bhatia
MD Candidate, Class of 2018

RECENT EVENTS

The goal of the wellness challenge was to help give everyone creative ideas about of how to integrate wellness habits into our busy lives and maintain balance. Here are just a few FREE apps that can help organize and balance your time. I personally do not use all of these all the time, but when I feel like I am slacking in some aspect they help to keep track of things for a couple days to get me back on track. I hope you will find some of these useful!

SEVEN

Seven provides guided 7 minute workouts on your phone.

HEALTH

Health is synced with many iPhones and has a downloadable portion for Android that allows you to track your steps; it also has features for inputting allergies, medications, and emergency health contacts.

MY FITNESS PAL

My fitness pal syncs with the phone's base help app, and has a powerful search engine where you can find nutritional information about nearly any food - it even has the option to scan barcodes for purchased items!

> *"Don't forget to take time for these other aspects of life!"*

NIKE TRAINING CLUB

Nike Training Club is an excellent app that allows you to make your own training program and follow it throughout the week, it coaches you through each workout and is basically like a virtual personal trainer. It also contains short 15 minute workouts if you don't want to commit to a 4 week program!

DO YOGA WITH ME

Do yoga with me is a website that provides hundreds
of free online yoga classes catered to any level/need. It is an excellent resource and highly recommended.

SIMPLIDAILY

Simpliday is an email, calendar & To do list app all – in – one. It allows you to view and edit all three things within one app to keep you schedule organized!

SPARK

Spark is an email client that allows you to instantly and quickly sort your email so it doesn't get lost later, you can archive, delete, pin all with one swipe!

MINT

Mint is an app recommended by many banks that allows you to create a budget and syncs with your accounts to automatically update and let you know how well you are following your budget.

INTERVAL TIMER

Interval Timer: Having a quick interval timer can be useful in many things such as quick Tabata workouts, or to time yourself for taking breaks in the busy day!

SOCIAL MEDIA, YOUTUBE & PINTEREST

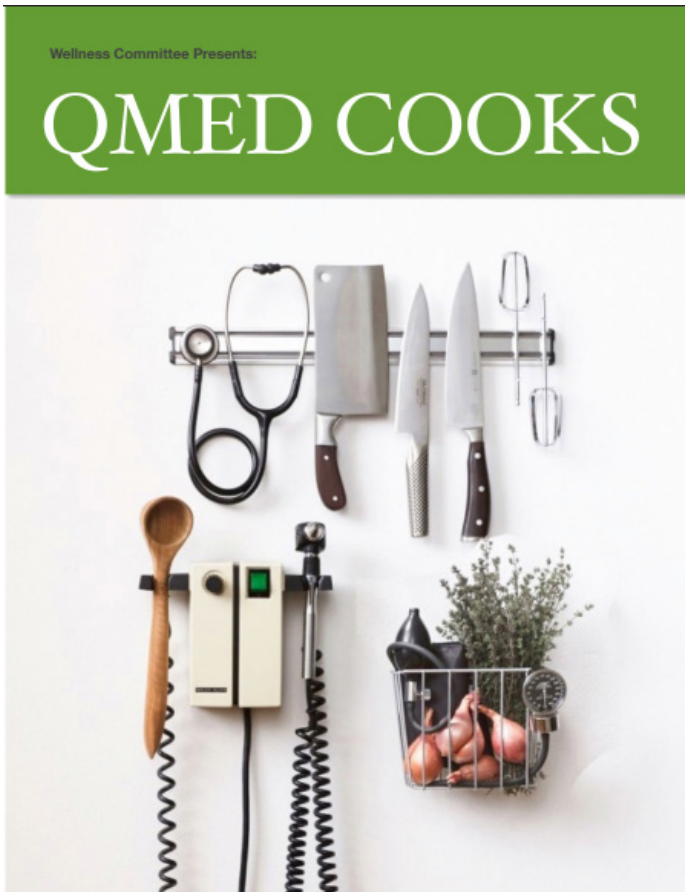
Social Media, Youtube & Pinterest: For some people these can be a nice way to unwind, get creative, & reconnect with friends. Don't forget to take time for these other aspects of your life!

Wellness Month: Highlights

AUTHOR | Shannon Wilmott
MD Candidate, Class of 2018

RECENT EVENTS

NUTRITION WEEK



If you haven't heard about QMED COOKS yet, check it out! It is a free cookbook compiled by Monica Mullin comprised of all the recipes posted during Wellness Month, complete with nutrition facts and additional resources.

Access it here: https://goo.gl/zv5WUo

PHYSICAL ACTIVITY WEEK

Physical activity week came with a variety of different options to keep moving, but my personal favourite was the "100 no-equipment workouts". We're all busy, but it's that much easier to exercise if you don't even have to leave your house! It even provides different intensity levels and tells you how long to do sets for.

Get it here: http://imgur.com/a/YBQFI

MENTAL HEALTH WEEK

The wall of awesome was a beautiful and colourful addition to NMB, but did you get a chance to see what people said made their days awesome? Here is a word cloud summarizing the things that keep us balanced from day to day.

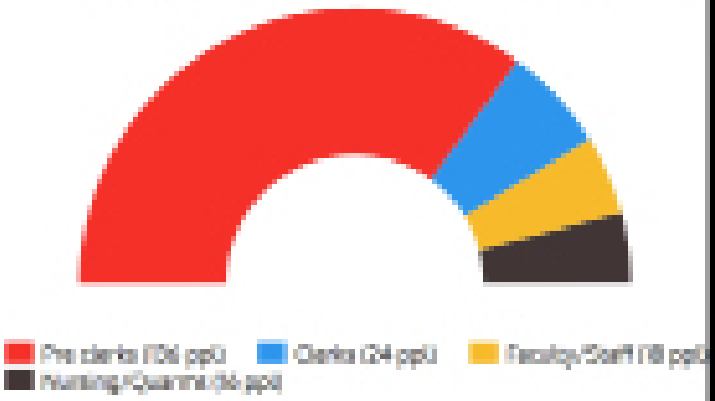
SOCIAL BALANCE WEEK

Art therapy was a highlight of social balance week – getting together to spend some time colouring postcards to send to friends combines the arts of drawing, writing, and keeping up with friends.

#keepsmewell HOW ARE WE DOING SO FAR?

48 TEAMS signed up

GOT FOMO? You can join at anytime! #wellness



40% of QMEDs have signed up for the challenge!

#keepsmewell generated 112, 950 impressions with 1,091 tweets in the last day.

Please now post with: #keepsmewell & #qmedwellness

ARTIST | Meghan Bhatia
MD Candidate, Class of 2018

The Question of Balance Among Physician-Scientists: Faculty Interviews

AUTHORS | **MAHVASH SHERE & WEI SIM**
MD Candidates, Class of 2018

At the Queen's University School of Medicine, we have the privilege of encountering mentors who wear many hats. In this series of interviews, we asked some of our favourite physician-scientists about their diverse roles, their training and careers, and how they approach the question of balance. Balance was this abstract thread that ran through their experiences – between the commitments of their personal and professional lives, between a day at the lab and a day at hospital with urgent patient crises, between doing everything for the patient in front of them and working on questions that will have a major impact on the healthcare of all the patients they haven't yet seen – our mentors somehow masterfully juggle all of these roles. We began by thinking of balance as this see-saw teetering between their roles as a physician vs. scientist, but soon discovered that our physician-scientists actually balance a complicated web of diverse roles. So here are some insights from our favourite physicians, scientists, teachers, innovators, and storytellers (among a few of their many hats).

Dr. Robert Reid

Dr. Robert Reid is a Professor of Obstetrics and Gynecology and Chair of the Division of Reproductive Endocrinology and Infertility at Queen's University. He is active in clinical research with some 200 peer reviewed publications, invited reviews, and book chapters in the areas of reproductive neuroendocrinology, menopause, contraception, menstrual -related mood disorders and photodynamic therapy. Dr. Reid is also an incredible teacher and mentor, as a Critical Enquiry tutor for medical students. He's also involved in teaching an 'Introduction to Research' course for residents and junior faculty on behalf of the Association of Professors of Obstetrics and Gynecology of Canada (APOG).

Do you consider yourself balanced? Why or why not?

I believe that a "balanced professional career" poses the challenge of knowing how much of yourself to give to the seemingly endless opportunities at your employment and saving enough time to allow personal growth through shared experiences with family and involvement in outside activities (hobbies or sports) etc. I feel very fortunate to have found a wonderful life partner who has been there to fill in for me when my career took me away for countless call shifts and meetings away from home. She has been a constant reminder to me that life is not all about work. I have had some success in my work which I attribute to great mentorship and supportive colleagues. Equally important is the fact that I come to work every day looking forward to what the day has to offer. Teaching is rewarding and I have tried to mentor as many learners as possible to afford them the same opportunities that I had

> *"To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science." -Albert Einstein*

> *I have a memory bank full of great experiences*

during my training. My occupation has brought me into contact with a large number of engaging people from many different walks of life. I have made a special effort to get to know a bit about the occupations and hobbies of the many patients I encounter. My work-related travels have allowed me to do a variety of fun things with my family (wife and three daughters) and I have a memory bank full of great experiences.

How has the research milieu in your field evolved over the course of your career?

Research certainly seems to have become more demanding over the past few decades. At one time a research idea could be tested with a little initiative (and an even smaller amount of paperwork/ approvals etc). Today, just starting a project (and getting funding) can be extremely time consuming and occasionally very frustrating. Training for research has become better, scientific techniques more advanced, and collaborative research is now essential to accomplish worthwhile innovation.

Tell us about the first moment/experience that inspired your motivation to pursue research

Interestingly, I did not graduate medical school with a strong desire to do research. However as I pursued my residency and fellowship I realized that there were so many facets of medicine that were poorly understood that unlocking even a few unknowns became a fun and challenging aspect of my work. Seeing this research published and shared with colleagues around the world was extremely rewarding.

How do you generate ideas for research?

Research ideas (at least good ones) look for a better understanding of basic mechanisms of diseases and therapies and often the very best ideas are a search for a simple solution to a common problem (the so-called "better mousetrap"). I tell my residents that when they do their day-to-day work at the hospital they should question the status quo and always consider whether there may be a better way to do things. When the search for research ideas eludes you talk to a mentor who will often have ideas or projects with insufficient time to do them.

Tell us about a typical work day when you began your career. Conversely, what's a typical work day look like now? How has that changed?

When I started in practice as a subspecialist my focus was on being a successful clinician researcher and much of my time was protected to allow me to more fully immerse myself into this work. As time has gone by there seems to be increasing responsibilities for a range of things (administration, teaching, mentoring, clinical demands etc.) and less protected time for research.

Many therapies have changed from in-hospital or surgical approaches to outpatient, less invasive treatments. While this has brought rewards to individual patients it has led to increasing overall costs to the health care system and daily demands for greater efficiency that at times feel like a burden.

> *I tell my residents that they ...should question the status quo and always consider whether there may be a better way to do things*

What would be your advice for medical students who wish to become physician-scientists? What are some of the challenges and joys of this path?

As a clinician scientist you will never be as busy as your colleagues "in the trenches" who see patients day-in and day-out. As your expertise increases you will encounter more challenging cases and if your research work is good, it will bring countless opportunities to travel and interact with equally accomplished colleagues from around the globe. It is very rewarding when you achieve a level of excellence in your field that your opinion is sought by colleagues at local or national levels.

> *A balanced career must allow time for us to support and nurture our children*

Who are your most influential mentors, and how did they influence you?

I have been fortunate enough to have had excellent mentors at work as well as several "life mentors". Parents are often the greatest mentors …and the important message in this is that a balanced career must allow time for us to support and nurture our children...especially as their person abilities develop in the first few years of life. My parents had a sign hanging at the family cottage which read "a parent's job is to give their children 'roots' and 'wings'" How true!

A colleague told me at the start of my professional career that life could roughly be divided into thirds: The first third was for personal growth and development –a time to establish who you were. The second third was the time to establish a family and help your children become who they will ultimately be and the last third is to give back to society. While life is clearly not so well demarcated into thirds I believe this advice has served me well.

How has the research milieu in your field evolved over the course of your career?

Research certainly seems to have become more demanding over the past few decades. At one time a research idea could be tested with a little initiative (and an even smaller amount of paperwork/ approvals etc). Today, just starting a project (and getting funding) can be extremely time consuming and occasionally very frustrating. Training for research has become better, scientific techniques more advanced, and collaborative research is now essential to accomplish worthwhile innovation.

Dr. Paula James

Dr. Paula James is a hematologist, a professor in the Department of Medicine and a clinician-scientist at the Clinical and Molecular Hemostasis Research Group at Queen's University. Her translational, bench-to-bedside research involves investigating the genetic basis of inherited bleeding disorders as well as the quantitation of bleeding symptoms.

What is the first moment or experience that inspired you to do research?

I clearly remember a day (it was a Monday) early on in my research fellowship when I was reviewing and analyzing some data. I saw a pattern in the data that hadn't been previously reported and was a completely novel idea at the time. There was such joy in that moment for me - that I'd discovered something new in data I'd generated - and that really motivated me to continue down a path towards a career as a Clinician Scientist.

Do you consider yourself balanced? Why or why not?

> *Training for research has become better, scientific techniques more advanced, and collaborative research is now essential*

Some days I do OK balancing the personal and professional sides of my life, but I have days when I struggle with this like anyone else. I have an extremely supportive husband (who is also a physician) and that is the biggest factor for me in terms of my life working out. Plus, my kids are super cool, and are pretty forgiving when one of us has an urgent work issue to attend to after we get home - just so long as it's not both of us at once!

How have your responsibilities changed over the course of your career? (especially with respect to your recent promotion)

My recent promotion to full professor actually didn't change much about my day-to-day life but my responsibilities have certainly increased over the years. My clinical practice, research group and educational responsibilities have all grown a lot and so I have to rely on my team for help. I try to spend my time doing the things that only I can do - like having a difficult patient discussion, meeting with students or writing a grant - and rely on others to help with other things.

Who are your most influential mentors? How have they influenced your approach to balance?

David Lillicrap and John Matthews. Both are very hard workers, but both make time to spend with their families. Their example has been important to me.

Tell us about your craziest day.
Professionally, my craziest day hap pened last year. I had three patients, all with severe bleeding disorders, who had serious bleeds on the same day. They all urgently needed specialized treatment and co-ordination with other services (two ended up in the OR) plus I'd admitted a patient with a WBC = 270 the night before and had teaching responsibilities all afternoon. Thanks to my colleagues, and my amazing clinic nurse, Lisa Thibeault, all did well.

What are some tidbits of advice for students aspiring to be physician-scientists?

Students have to train themselves properly for this kind of position, which is going to mean years of extra training. The investment is worth it in the end though. I think my position has the perfect balance of rewards from providing clinical care and doing research.

Dr. Gordon Boyd

Dr. Boyd is a clinician-scientist in the Department of Medicine at Queen's University, practicing both Neurology and Intensive Care medicine. His translational research uses proteomic approaches to identify novel serum biomarkers that will help predict neurological recovery after critical illness. He is interested in how brain function during critical illness correlates with long term neurological recovery among survivors of critical illness. He is also an incredible mentor as part of the Critical Enquiry course for medical students.

Tell us about the first moment/experience that inspired your motivation to pursue research.

I fell into research due largely to luck. I have always known that I wanted to do clinical medicine, but after my undergraduate degree, my CV and transcript were not strong enough to apply. So, I chose to apply to do an MSc.in Neuroscience at the University of Alberta. Dr. Tessa Gordon was an amazing research mentor to me, and I had a very exciting research project. It focussed on the clinically relevant problem of poor nerve regeneration after peripheral nerve injury. After a year and a half, I was given the opportunity to transition to the PhD program, and 2 years after that, I completed my PhD. I really fell in love with research and the scientific method. I found the notion of addressing clinical relevant problems in the lab very exciting. I was very fortunate to have been mentored by a graduate supervisor who completely supported my transition into clinical medicine. As a twist to this story, I wrote the MCAT after my PhD (nearly 7 years after even thinking about physics or organic chemistry), and did very poorly. As another lucky twist of fate, I moved to Kingston to do my post-doctoral fellowship with Michael Kawaja.

> *"I realized that with the proper mentorship and support, my career can successfully combine clinical medicine and scientific research"*

Dr. Kawaja introduced my to another clinically relevant project with involved glial cell transplantation to improve recovery after spinal cord injury. I was accepted to the Queen's medical program the following year, but continued to work in Dr. Kawaja's lab as a part-time post-doctoral fellow. It was during this period of time that I realized that with the proper mentorship and support, my career can successfully combine clinical medicine and scientific research.

Tell us about a typical week for you at work?

My work weeks are quite varied, depending on whether or not I have any clinical responsibilities. If I'm covering one of my clinical services, such as the intensive care unit or the neurology ward, my focus is on patient care. I'm in the hospital fairly early checking on patients and their labs. We round on patients, teach residents and medical students, and meet with families. I do a 24 hour call shift every 2nd or 3rd day during that week. For my non-clinical weeks, I'm in my office, either at the hospital or next to the lab.

I have meetings with my graduate students (I have 3), to make sure that they are on track with their research projects. I spend a lot of time writing

(and re-writing) papers and grants.

You probably have a very busy household, with work, research, and personal commitments.
Tell us about your craziest day.

Yes, it can be crazy. My children are a little older now. Matt is 7 and Camryn is 9. I remember the toddler and infant years being tough. I would often complain that after working in the hospital for 30 hours, resuscitating patients with trauma or sepsis, and putting people on life support, the hardest thing I had to do was to convince my two year old to put on socks.

What makes you get up in the morning?

My alarm clock. Seriously though, I'd say first and foremost it's my family. I have a wonderfully supportive wife and two amazing kids. Just this morning my son gave me a valentine's card that said "thanks dad, for all that you do." I also have an amazing job with wonderfully supportive colleagues.

What's the coolest part of your job?

There are many cool aspects to my job. I love analyzing new data and putting together graphs. We're currently trying to understand the determinants of brain perfusion, during critical illness, dialysis, and cardiac surgery. I love reviewing these findings with my colleagues and graduate students, and talking about the next steps. I also love teaching. I do quite a bit of teaching in the undergraduate medical curriculum, and it's so much fun working with people at the starts of their medical careers. I also love talking to patients and families. Helping people cope with the tragedies that we see is one of the most rewarding parts of my job.

Do you consider yourself balanced? Why or why not?

I think I lead a relatively balanced lifestyle. During my clinical weeks (12-14/year) the days are long and I don't get as much time to spend with my family. During my research weeks, I try to be more available for my family. My wife has a busy full time job, and both of my kids are competitive gymnasts who train between 10-16 hours a week. So, on a month-by-month basis, I'd say I'm fairly balanced, but the degree of balance fluctuates from week to week. I also have my own protected time. I play squash at least twice a week, and have been doing so with the same group of friends for over a decade. It's a great way to decompress after a long day on the wards or writing papers.

What has your experience in terms of starting a new lab been like? What are some of the challenges and cherished moments of being a new scientist/investigator?

I think my experience in starting a new lab would mirror any new investigator. There is a fairly steep learning curve when it comes to learning the finances of running a lab. There is a lot of grant writing.

I wrote 7 research proposals in my first 8 months. I learned that there isn't much difference in the amount of work it takes to write a proposal for 10K as it does for a proposal worth 100K, but every dollar helps. I've really enjoyed having my own graduate students, and watching them grow into their research projects. You also get really good at dealing with rejection, and accept that it is just a part of being an academic. If you took every manuscript or grant rejection as a personal attack on your character, I don't think you would last very long. In every rejection, there is valuable criticism that really strengthens the research story you're trying to tell.

"You also get really good at dealing with rejection, and accept that it is just a part of being an academic"

Always On Call: Inside the Lives of Medical Students with Kids

AUTHOR
KATE TREBUSS
MD Candidate, Class of 2018

"Can I get you a coffee? I just made a pot," asks Laurie Kielstra, a third-year medical student at Queen's University. I accept Laurie's offer enthusiastically as she shows me from her hallway into the living room of the home she shares with her husband Dave and their two-year-old son, Simon.

To the left of a large, squashy sofa I spy piles of notes, medical textbooks, and Laurie's maroon MD Financial backpack – a tribute to the fact that although she will graduate with the class of 2017 after a year of maternity leave, Laurie entered medical school as a member of the class of 2016 and remains linked to that cohort in ways both big and small. On the other side of the sofa is Simon's play area, its walls proudly plastered with whimsical toddler art, its floor stacked with an array of cheerful, brightly coloured toys ready to beep, whirr, and blink at the touch of a button. A miniature snowplow, a gift Laurie brought Simon from a recent two week elective in Sudbury, sits stationed atop a child-size picnic table, waiting patiently for its boy to return for another afternoon of digging adventures.

For now though, the room is quiet. Simon, Laurie tells me, has just gone down for a nap after a busy morning of Queen's Medicine family yoga and cupcakes and likely won't wake for at least an hour. We should have plenty of time to talk.

When I first arrived at Queen's, I was surprised to learn that one medical student in my class and several medical students in the years above me had started families either before beginning medical school or somewhere along the path to graduation. As someone who entered medical school a bit later than is typical, I suspected of course that there must be men and women who were raising children while also studying medicine. Nevertheless, as I battled my way through the first and second years of the curriculum and started to consider the transition to clerkship, I found it difficult to imagine the lives of this subset of my peers.

By the first semester of my second year, four students in my class had become fathers. When a fifth announced in December that he and his wife were expecting a baby in July, I decided to investigate the lives of these students to learn what unique challenges or benefits they'd experienced as medical school parents here at Queen's. With some persistent emailing and creative scheduling, I managed to interview six of the eight (soon to be nine) Queen's medical students who are learning the art of parenting in concert with the art of medicine: Sean Henderson (CC4), Laurie Kielstra (CC3), Ian Thomson (CC3), Cody Sherren (MS2), Jatinderpreet (JP) Singh (MS2), and one student we'll call Dave, who asked not to be identified by name.

There is relatively little information available on the subset of medical students who combine undergraduate medical training with child rearing. One study published in the CMAJ in 2000, found that 10% of incoming medical students and 17% of current medical students at the University of Saskatchewan had children. [i] However, this data is dated and likely not especially

representative of other Canadian medical schools, whose demographics vary significantly from province to province, and even within provinces. Although still not exactly abundant, considerably more information is available about medical trainees who have children during residency or on fellowship.

In my own class, parents will make up 5% of the student body by July 2016. In the class directly ahead of my own, they comprise 3%. 1% of students in the graduating class are parents, and at present there are no parents in the first year cohort (see Table 1). Yet I was unable to find whether or not these percentages are reflective of medical schools across Canada, or even within Ontario. Tellingly, of the 8 (or 9) Queen's medical students who have children, only 1 is a mother – the rest are fathers, whose partners have taken on average one year of maternity leave from their jobs or formal schooling after the birth of each child.

Table 1

Cohort year of graduation	Number of students with one or more children	Total number of fathers	Total number of mothers
2016	1	1	0
2017	3	2	1
2018	5*	5	0
2019	0	0	0

* As of July 2016

A common refrain I've heard from medical students, residents, physicians and the partners of physicians is that there is no ideal time to become a parent in medicine. For some, especially those entering medical school as mature students or planning to undertake specialty training in 5-plus year residency programs, such as surgery, medical school is as good a time as any for the emotional, financial, and logistical complexities of integrating childcare with the more-than-full-time demands of medicine.

Ian and Dave represent both of these demographics: both men entered medical school a little later than many of their peers and hope eventually to match to surgery. Dave, who completed extensive graduate training prior to beginning medical school, felt it wasn't fair to ask his wife – keen to have kids sooner rather than later – to wait until after graduation to start a family, since so many aspects of their life together were already dictated by the requirements of his education. And as Ian's wife Christine put it, starting a family "isn't going to be any more convenient during residency or after residency."

The "inconveniences" these parent students and their partners face are not insignificant. I have yet to meet a medical student who feels she or he has enough free time to do all the things she or he wants to do in a given day, week, or month, who hasn't felt sleep-deprived, worn down and over-stretched, or guilty for neglecting important relationships at some point along the way. I adopted a cat in September of my second year, and I'm ashamed to admit that on more

occasion I've unlocked my apartment to the tune of her frantic meowing for a dinner delayed several hours thanks to a group meeting that ran late, an observership I felt I couldn't or shouldn't leave, or a study session so frantic or engrossing I lost track of the clock. For many of us not yet responsible for non-furry dependents, it's hard, if not frankly impossible, to imagine adapting to the relatively inflexible needs of a tiny human.

The parent students I interviewed spoke of a number of challenges they face in day-to-day life as medical trainees also responsible for caring for one or more children. Some of these challenges are easy to guess at. Most new parents, whatever their professional commitments, struggle to get enough sleep or find enough hours in the day to get everything done, even with the help of a supportive, understanding partner. Others challenges are less obvious and came as a bit of a surprise: how often healthy kids get sick, how scary it can be to have intimate knowledge of all the deadly and disabling things that could be wrong with your child when they show signs of illness, or how hard it can be to make plans with an infant – just packing the car for an excursion can take hours, Cody tells me.

Sleep deprivation – an experience familiar to virtually any medical student – takes on new dimensions for student parents and their partners. "You can go days, like days, without sleeping when you have a sick kid," Laurie explains. Ian described his surgery rotation during clerkship, which corresponded with a particularly rough period in baby Jamie's sleep training. "There were a few days over a couple of weeks when I had to be at the hospital to round for 4:30, which means you're setting your alarm for 3:45 and that's the latest possible knowing that you're just going to get dressed…it's not just one particular day, but when you do that day after day it gets particularly tiring." Even with Christine doing everything in her power to care for Jamie on her own during that period, there were nights during when Ian barely slept at all.

"Yet, when little ones are sleeping through the night, the punishing schedules of certain rotations mean medical student parents may go days at a time without seeing them"

Yet, when little ones are sleeping through the night, the punishing schedules of certain rotations mean medical student parents may go days at a time without seeing them. "It's hard when you go and you round at 5 a.m. and you're home after they're in bed. You can go days without seeing them," Laurie explains. On one clerkship rotation, Sean arrived home after his three children (Emily 5, Sidney 3, and Jack 1) were already in bed, leaving before they awoke more days than not. More than once he stood in their bedroom doorway watching them sleep and wept.

Time, already a severely limited resource in medical school, becomes more precious still when you have a child and a marriage to tend to. Cody reflects on how his perception of time has altered since his son Oliver was born: "I never considered myself to be a VERY busy person. Like, I didn't feel like I had no time at all, but I am SHOCKED by how much time I used to have. I don't understand what I did with all of that time before now – which is crazy."
Nodding in agreement, JP adds that the unpredictability of kids can significantly exacerbate a parent's sense of being chronically short on time. Juggling childcare has been more of a challenge since his wife Taruna returned to full-time work as a dentist after a year of maternity leave. Before his daughter Jesleen was born, JP observes, "I didn't think of how unpredictable certain situations can get. When you're imagining having a kid, you're picturing in your mind that it's challenging, but you picture sort of this steady state. For example, we never thought of how often kids get sick, and how we would manage these situations once Taruna completed her maternity leave."

Even when logistically all is running smoothly, there are emotional costs to being committed to two competing roles that both demand significant attention. Taking time to decompress alone can feel uncomfortably self-indulgent when homework is piling up and a partner and one or more little ones are hungry for your company. Even though such moments of self-care are vital for students' ability to carry on giving their best to both roles, they can be difficult to prioritize. "I often feel guilty if I'm at home

not studying," Cody confesses, "and if I wasn't helping with the baby I would be feeling like I should spend time with the baby."

The emotions that arise for student parents can be incredibly complicated and conflicted. Dr. Perri Klass is a physician-writer who gave birth to her first child when she was a second-year medical student at Harvard University. She has written about a wide range of medical issues and experiences, including her life as a medical student parent. In a collection of her essays, A Not Entirely Benign Procedure, she describes the first summer after the birth of her son, when she began spending most of her time in the hospital:

Over the summer, I found myself envying the people who lived alone. I imagined them returning after a thirty-six-hour stretch in the hospital to quiet, calm apartments, sitting down and staring at the wall for a while, eating or sleeping or going out as they felt inclined. I would come home to Larry and our baby, Benjamin. After long stretches in the hospital I craved domestic pleasures, but they also felt like stresses, further demands on my already strained energy and empathy. I think I felt that if I were going to come home to other people, the least they could do was show sympathy for my weariness, hushed respect for Medicine. Six-month-olds are not strong on hushed respect, of course, and I was left with a kind of ridiculous indignation. As so often in the hospital, I found myself thinking, well, what do they want of me anyway?[ii]

As Klass points out, shouldering the tension between the weighty expectations of parenting and doctoring can be exhausting, the conflicts between these two roles impossible to reconcile. "Essentially, being a medical student and a parent, you have two jobs," Ian explains. "And then some days when things aren't going great you realize you have two jobs and you actually aren't doing well at either of them. I mean that's sort of tough, because you don't have the time or the energy to devote yourself fully to one job or the other. You find you're doing really well at one thing at the expense of the other. You're both new at being a parent and being a clerk, for example, so you just do it the next day and hope you'll be more efficient."

The guilt associated with doing one or both jobs "poorly" can be especially crushing for women, who face not only self-criticism but also the judgment of family members, peers and society at large – which continues in general to expect disproportionately more of mothers than fathers when it comes being available and physically present in a child's day-to-day life. "Certainly the guilt is really tough," Laurie says. "I had a stay-at-home mom. I don't think my mom judges me harshly for being in medicine, but sometimes I can read between the lines when I talk to her. When you're raised that way, there's no way that you escape that little voice in your head that's telling you that you should be home, that you should have more face time. I think I cope with that really well most of the time. But I had a hard time choosing and going on electives, because it's actual full weeks away."

Friends helped Laurie to reframe her guilt about leaving Kingston for elec-

"The guilt associated with doing one or both jobs "poorly" can be especially crushing for women"

tives, reminding her that if the situation were reversed, if her husband Dave needed to go away for a week or two for work, "'You'd pack him a lunch and smile. So get over it.'"

For many, the uncertainties associated with waiting to start a family loom larger than those associated with meeting the challenges of parenting head on – a fact that should not surprise anyone who has sat through the current undergraduate medicine genetics, pediatrics and obstetrics curricula, which outline in graphic detail the many risks one runs by deferring pregnancy and childbirth. After one particularly grim second-year lecture on female fertility, a not-insignificant number of my female colleagues who'd gathered informally in a bathroom admitted to spending much of the class frantically googling the cost and logistics of egg extraction and storage.

Although some might assume that many of the students who become parents during medical school do so unintentionally, every student I spoke with either began medical school with a little one already in existence, decided to try actively for a pregnancy within the first year or two of medical school, or determined that they were

at least going to stop trying not to get pregnant.

Though not exactly unplanned, the quick turnaround time from the abstract idea of parenthood to its impending reality nevertheless seemed to take several of them by surprise. Cody, whose son Oliver was born at the end of October, laughs when I ask him about this. Shaking his head, he admits, "We thought it would take longer!" Laurie, too, acknowledges that she and her husband Dave were more than a bit stunned when the strip turned blue the afternoon after she wrote her final exam of her first year (pediatrics, ironically enough): "We weren't necessarily trying to get pregnant," she told me, "but we also knew we wanted to be parents sooner rather than later, and we weren't trying very hard to prevent it."

Unlike the medical school admissions process, there's no standard timeline for conception. Likewise, many Canadian medical schools lack official school policies and protocols for students who become parents during the course of their training, whether it's a partner of a student who becomes pregnant or a student herself. Queen's School of Medicine is one such school that has no official written policy in place for parental leave for male or female students. The benefit of such a policy void is that it enables the administration to tailor the general leave policy to individual circumstances; however, the trade off is that it can leave students uncertain and anxious about their options and the security of their student status.

While the fathers I interviewed have required mostly modest accommodations to date – a deadline shifted here, an exam or clinical skills session rescheduled there – the biological realities of childbirth and breastfeeding present additional challenges when female medical students become pregnant.

After Laurie found out she was pregnant, she knew she would have no choice but to disclose her situation to the medical school. Even if she had wanted to keep this life event private, it's not as though she could have concealed it very long. When asked about the medical school's response to her pregnancy, Laurie underscores repeatedly her respect and gratitude for all the staff and faculty at Learner Wellness who worked with her to develop a plan for integrating motherhood into her medical education. She admits, however, "I think some of the people I discussed this with were a bit uncomfortable, as they hadn't really dealt with a female student getting pregnant in the middle of second year before. They had done it with dads, and they had done it with female clerks, but having someone physically out of the equation during pre-clerkship coursework was a trickier thing to navigate than I expected. Because of the way the curriculum is built, I really only had a choice between a week or two off, or a year."

After much discussion, she agreed the one-year absence would be the best option for her and her family and officially began a period of leave in January of 2014. Thinking back on the process by which she and the administration negotiated this arrangement, Laurie shakes her head and laughs: "They were so supportive in every way, but they had no clue what to do with me in the beginning.

> *"Staff and faculty... have consistently demonstrated compassion for the unpredictable demands of parenting"*

And it was something we got through together, and I think it'll be a lot better for whoever pulls this stunt next."

Although Laurie encountered a few bumps early on in her transition to becoming a medical school parent, she and every other student I interviewed characterized the administration's overall response to the special circumstances of parenting as overwhelmingly positive. Staff and faculty of the medical school, students report, have consistently demonstrated compassion for the unpredictable demands of parenting and an unflagging commitment to supporting student parents and accommodating their unique needs wherever possible, both at an institutional level and a more personal one.

Sean moved to Kingston with his wife Mandy to begin medical school at Queen's when his oldest daughter Emily was just over one year old. On his first day of Orientation Week, he found himself sitting behind Dr. Sanfilippo, Associate Dean of the Queen's School of Medicine. After introducing himself (as "Tony" no less), Dr. Sanfilippo asked Sean whether he was new to Kingston. Sean shared that he,

Mandy, and Emily had just arrived from British Columbia, where the rest of their family was situated. They were excited, but also a bit overwhelmed by the magnitude of the change. Sean recounts being blown away by the genuine warmth of Dr. Sanfilippo's response: "He said, 'You need to get in touch with me and my wife. We've been here for a long time. We know all of the resources in the community – where all the good parks are, the libraries. If you're comfortable with it, just send me your phone number, and I'll get my wife to give you or your wife a call.' And he did just that." Within days Sean, Mandy and Emily had received a long list of local resources and an invitation for dinner with the Sanfilippos. "It's a BIG weight off your shoulders to know that's the kind of community you're a part of," Sean explains.

The School of Medicine's program directors and administrative staff work hard to support parent learners in a more official but no less personal capacity. "I feel very much if I have to miss a class, that's okay; if I have to miss an exam, the admin will help me out," Dave explains. He's quick to add that the administration does not eliminate requirements for student parents, merely adapts them as necessary. "I wouldn't want them to say I didn't have to do a particular thing," Dave says emphatically, "so long as they're flexible and I can do [some things] on a slightly different timeline." Dave and several of the other parents I spoke with stated explicitly and without prompting that they neither expected nor wanted to be exempted from any element of their training. All seemed more than a little proud of their ability to match or even exceed the achievements of their classmates living without dependents.

The support of classmates has been nearly as important as accommodations facilitated by the administration. Sean speaks glowingly of his class's response to finding out that he was a dad. "We're amazingly well supported here. The class was so supportive. Everyone really rallies around you." Baby showers, class gifts, meal drops following deliveries, and offers to babysit or share notes for missed classes are the rule, not the exception, and medical student parents find no shortage of willing baby handlers at intramurals matches or medical school events. Additionally, several of the medical school parents and their partners have recently formed an increasingly close-knit group that many characterize as an invaluable source of support.

Although none of the student parents I spoke with felt that they had experienced discrimination by classmates, faculty members, or the administration at any point during their tenure at Queen's, several expressed concern that residency programs may choose non-parent students over them during the Match process. Some students, like Sean, can't imagine not disclosing their family situation to an interview committee, since his identity as an aspiring family physician is so intimately bound up with his identity as a father. Other students choose not to share this personal information with interviewers, or even go so far as to conceal it.

One of the students I interviewed for this article, Dave, requested that I not use his real name. He admits to being nervous that surgical residency candidates with children may be perceived as less committed than those without children. "I've heard from a lot of people that perhaps there is some discrimination against parents during the residency process," Dave explains, "so I have no intention to advertise the fact that I have a child. But I hope that my performance in clerkship speaks to the fact that I have a child and I can do this. And maybe it's all in my head, but just in case, I'm not planning on disclosing it any more than I have to."

> *"The support of classmates has been nearly as important as accomodations facilitated by the administration"*

Whether or not Dave's concerns reflect the current reality of the Match process, they speak powerfully to the sense of vulnerability that these student parents face in planning for their futures as physicians. Although their struggles are different in many ways, medical student parents share some of the same anxieties as students with disabilities.
highlighting the extent to which despite its best efforts the profession of medicine continues to be perceived even by those inside it to be a culture that is relatively inhospitable to social difference.

And yet, the diverse experiences the student parents I spoke with have had since their children were born have only served to enhance their abilities

> *...the values you want to instill in your child-taking good care of yourself, being kind to people, recognizing that being happy actually needs to be a priority - you start living those things for yourself, which ultimately makes you a better person.*

as physicians in training. Going through or witnessing close up a pregnancy, labour, and delivery gives you an insight into that process and the impact it has on families that all the evidence-based medicine in the world can't begin to approach. Watching an infant grow and achieve each developmental milestone, or fretting over the decision all parents face about whether or not to seek medical attention for a sick or fussy kid – these are experiences that not only provide medical learners with invaluable real-time knowledge of the physiology and pathophysiology they've encountered in the classroom but also strengthen their ability to understand, empathize and communicate with patients and their families. When asked how being a parent had altered him as a physician-in-training, Dave reflected on his daughter's arrival, which didn't go exactly according to plan: "We had a lot of complications with the delivery.…I truly believe that if it weren't for the nurses and physicians one or both of my wife and daughter may not have made it. We're in the middle of second-year, and we've been sitting in class forever memorizing lists. To see that this stuff actually really matters, it's reminded me that you actually really need to know this stuff. Someday someone's actually really going to depend on you, so from that perspective it's really been inspirational from the medical school side of things."

The realities of parenting also seem to help students appreciate the big picture from the high and low points of medical education and choose their commitments carefully, with an eye more to what's important to them than to what's important for their resume. JP revealed that his daughter Jesleen helps him daily to keep things in perspective: "I find [having a kid] is a constant reminder of what's important in life. It's hard to get too stressed – I think overall that's really helped me a lot on a personal level, having that person who de-stresses you, just in an instant." After you become a parent, Laurie explains, "You don't really have a lot of free time anymore. So I just don't really do a lot of things that I don't want to do anymore. Which has actually really enhanced my quality of life. You just sort of really learn the meaning of the word NO. I find that medical students don't really know the word NO very well – I certainly didn't."

I asked Laurie about what had surprised her most about becoming a parent.

"Sometimes I'm surprised that it's not harder than it is. Sometimes everyone is like, 'Your life must be such a disaster… you must be so busy and so tired all the time,' but I think because you get more discerning, you just kind of take better care of yourself. And the values that you want to instill in your child – taking good care of yourself, being kind to people, recognizing that being happy actually needs to be a priority – you start living those things for yourself, which ultimately makes you a better person, because you really think about the kind of person you want your kid to be."

All of the students I spoke with make important contributions to their classes, both in their own right and as representatives of a social group with needs that don't always align perfectly with the one-size-fits-all model of medical education. Although their experiences at Queen's have been largely positive overall, we need to continue to be mindful of how policy changes and medical student parents and other non-traditional students with divergent needs. For example, as the Queen's School of Medicine continues to develop and expand its integrated clerkship streams and to offer more regional rotations outside of Kingston, the administration should examine and dismantle barriers that might prevent students with young families from taking advantage of these educational opportunities.

Many speak passionately about the value and importance of diversity in-

> *"True diversity [is achieved] by asking those we seek to include what we can do to make it possible or desirable for them to join us… building a new table all together."*

medicine, and yet we too often fail to make space for those we seek to bring to the table. True diversity is not achieved by identifying those who can conform to the culture into which we invite them, but rather by asking those we seek to include what we can do to make it possible or desirable for them to join us – some might say by building a new table all together.

Towards the end of my interview with Laurie, Simon wakes and joins us in the living room for a snack and Richard Scarry videos. With Simon sleepily snuggled up under her arm, Laurie remains focused and continues to answer my questions and ask about my own plans for the future. As our interview draws to a close, Simon – now fully awake – clambers off the sofa and begins to hunt for the miniature snowplow his mom brought him back from Sudbury earlier in the week.

Before I go, Laurie reflects once more on how being a parent has impacted her journey through medicine: "I really feel like I'm having my cake and eating it too – having this little guy and being able to pursue medicine….When you're here and just playing, he's just the most important thing at that time, and it just really puts in perspective everything that happened to you that day. There's so much sadness and heartbreak in medicine, there's such a range of emotions you feel, and he just really centres me for whatever I have to take on."

These words and the happy cacophony of Laurie and her son unpacking trucks and tools from their storage boxes ring in my ears as I make my way out the front door, down the steps and back to my own quiet apartment.

“History has lessons in humility built in it”: An Interview with Dr. Jacalyn Duffin

AUTHORS MAHVASH SHERE & WEI SIM
MD Candidates, Class of 2018

Dr. Jacalyn Duffin, is a hematologist and historian, and has been a beloved Professor of Medicine and the James A. Hannah Chair of the History of Medicine at Queen’s University. She has also been an integral part of the student initiatives at Queen’s Medicine as a faculty advisor for the Aesculapian Society, Medicine and Literature, and finally, our very own Queen’s Medical Review. As Dr. Duffin transitions into retirement, we couldn’t help but run over to office, and ask her about her life and career, different areas of academic interest, and her rich perspectives on balance. With over 8 books, 88 publications and a huge number of awards and accolades, she is a titan in the field of History of Medicine, yet she told us the importance of humility and staying grounded. Dr. Duffin, as the history-doctor at Queen’s Medicine, has been a captivating lecturer with her vibrant presence and contagious love of history. During our History of Medicine lectures, she has skillfully condensed centuries of history in an hour. Sitting in her lectures is a bit like time-travel, since no lecture was ever complete without rich images or real historical artifacts! (like Queen’s copy of Vesalius’ anatomy atlas: De humani corporis fabrica 1555). Shifting our focus from physiological pathways or specific presentations, she showed us how much medicine history actually teaches you.

In our interview, Dr. Duffin tells us about the delicate balance involved in holding on and letting go when circumstances in your life change, when you discover new passions or interests, when you can’t do anything more for the patient in front of you, and finally, when you love teaching but have to retire. History. noun. From Greek ἱστορία, historia, meaning "inquiry, knowledge acquired by investigation".

So here’s to you Dr. Duffin, for teaching us that investigation in medicine isn’t limited to scientific research, inspiring us to ask questions and learn from the lessons that history has taught us.

How did your interest in history of medicine develop?

All the way through high school and public school, I wanted to do archeology. I even had a map of Ancient Egypt on my wall growing up. But it wasn’t until grade 13, I started thinking that I should do something useful. At the time, I thought that being a doctor would somehow be more “useful” than perhaps being an archeologist.

My father died when I was twelve and my mother raised my brother and her on her own. She was enthusiastic about our education and really believed that education was the most wonderful thing in the world. My brother has become a historian of music and I, of course, became a physician and a historian of medicine. We both credit our mother for this.

Tell us a little bit about your journey into medicine.

I went to U of T medical school out of premed (a six year program), and I was done medical school when I was 23. That was in 1974. I got my MD and I felt really ignorant, so I decided to specialize because I thought I might be dangerous and Internal Medicine was a way to continue training.

"I loved the hematologists - I have met one or two I didn't like - but mostly I like hematologists because they have a kind of humility about them."

I went to medical school at a time when there were only 10% women in our class and there were a few people who said nasty things like, "oh you're only going to get married and quit."
But I said, "I'll never quit, I'm going to be a doctor." I had ideas about going and working in underserviced areas and being a doctor's doctor. Although the more I did hematology the more I realized I needed a lab so I couldn't go too underserviced.

How did you end up choosing hematology?

When I was a medical student, I didn't know I wanted to do Hematology. But while doing straight internship in Internal Medicine I met hematologists and I liked them. Heme is the only organ that perfuses all the other organs so you have to be a really good general internist with good clinical skills. As I went through residency, Hematology seemed more and more the right thing to do. And I loved the hematologists - I have met one or two I didn't like - but mostly I like hematologists because they have a kind of humility about them. At the time, they were treating deadly diseases and making some gains, but when the patient had no more treatment options they still looked after them. I just thought that was awesome and I really admired it.

It was also an exciting time in the field of hematology. We were just beginning to get bone marrow transplants, (for example, cis platinum as a chemotherapy) and horrible diseases, like embryonic cell testicular cancer that were killing young men, were suddenly becoming curable. It was also in my residency that we realized that we were actually curing childhood leukemia and so hematology, scientifically, was just fantastic.

What was your experience in residency like?

Part of my residency allowed you to move anywhere you wanted. I did my PGY1 at Western, but I was feeling like I had made a mistake and that I shouldn't have done medicine. But then I thought that if I go to a French school in Quebec, at least I'd be learning French. So I went to Sherbrooke for PGY2.

I was completely immersed in medical French and it was really scary for the first little while. I remember saying to the chief resident, "I am really worried I might hurt somebody because I might miss something in the interview." And he said to me in his French accent, "Never you mind, you are the doctor, and they are the patients. They will speak so you can understand." And it was true! The patients slowed down [for me]. They also thought it was funny - I was the only Anglophone who had ever gone there and they would make sure I understood by shouting and pointing. I had nightmares in French for a while, but gradually it all came together. I finished my residency back in Toronto [with my husband] and he became chief resident. We then went up to Thunder Bay to practice.

What was life like in Thunder Bay?

My husband specialized in Nephrology and we both got jobs in Thunder Bay. He was the kidney doctor and I was the Hematologist. We really enjoyed Thunder Bay - we did lots of cross country skiing, we were canoe trippers and we were into the lifestyle. It was perfect. And we would still be there but he was killed in a traffic accident while he was bicycling to work.

At that point I was 31, and I didn't know what I was going to do. We had a 4 year old and we had only been there one year. The people in the town were very respectful and supportive -- they helped drive my kid from kindergarten to the daycare. I felt very supported.

I got the chance to get married again. It was to an old friend who was a really nice guy and also a canoer. But his flaw was that he was a diplomat working for the Canadian government in Paris.

How was the transition from Thunder Bay to Paris?

Once I got to Paris, I wanted to continue being a hematologist. I went around knocking on doors all over Paris but nobody would give me a job. I discovered I couldn't get a work permit because I was married to a diplomat and the wives of diplomats are not allowed to work. I had not quite appreciated that before I left so I got really depressed very quickly. Because there they were: son at school, husband at work and me - and I had to admit I was doing nothing and that was not pleasant.
But I found a professor at the Paris-I-Sorbonne who was teaching history of medicine. In our first meeting he told me, "You will study Laennec", the inventor of the stethoscope. But I said, "I don't want to study Laennec, I want to study all of medical history." And he looked really angry and said, "In France you have to have a subject and if you do your subject well, you will learn all". And he was right!

How did your training at Paris I Sorbonne shape your future academic pursuits in history of medicine?
Historians write books. Our products are books. Historical research has a lot in common with scientific research because you have a research question, you have evidence, and you analyze it. Your experiments might be to go to archives or do interviews -- but you have to test the evidence and see what other people have had to say about it to push the envelope in many directions. I don't think most people at medical school realize this!

Books are like proxy children, they go out and they have a life of their own, and they're reviewed by people who hate them and people who like them. They make their own friends, and grow up and become eventually passe. But I hope they represent good historical work and my moment in time when I asked these questions.

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History has lessons in humility built in it.

How did you transition back to Canada and Queen's?
I was appointed the Queen's Hannah Chair of the History of Medicine in 1988. I was extremely lucky that I was cross-appointed immediately and invited to do clinical work. Since then, I have always been able to keep my hand in clinical work as well as teach history of medicine at the School of Medicine.

I love students and I love the patients and I love the stories of the patients.

I loved going back to Hematology and I really had missed it. Going back to it emphasized how it yanked my heart out. I was so grateful that the Hematology Department didn't blame me for being a historian; in fact, they thought it was cool -- and they let me infiltrate the curriculum! I also was cross-appointed in Philosophy and History so I taught courses over there too. I am so lucky that I have

(I'm dinosaur-like). But the drugs are all the same drugs we use in heme and the process of care is very similar to treating hematological malignancies. I function as a "helper bee" in the clinic and I don't mind it in the slightest. At the Cancer Centre, We are cheerleaders to help the patients get through their treatments. I feel useful and I love it because I can still lay hands on people and I can see them get better.

How do you understand balance as you reflect on your career?

I think you have to be open minded about balance and you have to roll with the punches that are going to happen in your life. When you are young and arrogant and a high achiever, as almost every single medical student is, the world is your oyster but it may not turn out the way you thought it was going to. But you still have so many advantages because of your education. Every single day, I use my medical degree and my historical research. The kind of history I do is determined a lot by who I am as a physician.

As you can tell, I've had a blast at Queen's. My job here has given me permission to explore my interests, ask questions, and I get to call it research. I feel appreciated by the students and my colleagues.

I probably make a quarter of what I would make if I were a hematologist, but money can't buy you happiness. People who are really rich go and spend it on vacations where they try to find these "happiness points" and I don't have to have that. I've had a steady stream of young people who are smarter than me and who laugh at my jokes -- and that's the best kind of ego boost. So I've been lucky to define my own kind of balance.

So we've all been saddened to hear about your retirement, but realize it's a time for you to move onto other things in your life after being so dedicated to us as an educator, as a historian in medicine, and as a clinical hematologist. What prompted this decision for you at this point in your life?

I think this is related to balance -- that in your career you have to decide it's time to leave.

For me, part of it is recognizing that the discipline of the history of medicine is bigger than me. It needs to be revitalized and to do that you need to give other people a chance. I've always sort of integrated that in my mind -- that I didn't want to be taking the place of a young person. And I want a young person to have all the opportunities and support and fun that I have had. I also think it's important that the students have a young person to relate to. 'Cause I'm old, I'm a grandmother!

For people like me, I can keep doing my research till I drop. I don't need a lab. If I need money, I usually can find it myself. I don't need million dollar grants. I can keep cultivating and doing history and I do plan not to give up historical research. But I would rather leave on my own terms when I am healthy and be a good steward of the job and leave with grace and leave it possible for someone to move into it and keep it vibrant.

The hold up for me is leaving the students. I think that the worst loss for me is the loss of the ego boost of walking into the classroom and having them like exploring history of medicine - and witness them like it. It's because what I get to teach and what I get to do as a historian and a scholar is so awesome. I just so happened to come along at a time when someone saw fit to create a job like this. How lucky is that!

What is your advice to future medical students?

1. Relax and be grateful. You never really know what you're going to end up doing with your MD, but just getting your MD is such a huge privilege. I regret the pressure that's put on you to choose specialties so soon. But the pressure you feel isn't as dire as you think it is right now! So keep calm, and carry on!

2. Know that you can come back to things you leave behind (eg. art, music, history) --and if you don't, maybe you didn't really want them in the first place.

3. You might as well do what you love now because you don't know how long you've got. You might discover something you love by doing something you would consider "risky" for your CV and discover something that changes your direction completely. So follow your heart.

Career Highlights:

- 21 Teaching awards (20 from medical students), 1992-2015
- 7 Research and Writing Prizes, 1998-2015
- 5 Service Awards for contributions to the field of medical history, 1999-2006
- 8 Peer reviewed books including:
- History of Medicine: A Scandalously Short Introduction, 2nd revised edition, University of Toronto Press, 2010
- Medical Miracles: Doctors,Saints and Healing in the Modern World, New York: Oxford University Press, 2009 (released November 2008)
- Lovers and Livers: Disease Concepts in History, the Joanne Goodman Lectures, 2002, University of Toronto Press, 2005.
- To See With A Better Eye: A Life of R.T.H. Laennec, Princeton University Press, 1998
- 40 Keynote or Named Lectures, 1990-2015

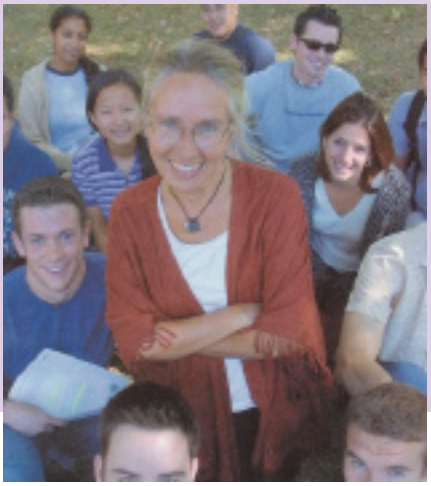
CAREER HIGHLIGHTS

Some recent highlights:

- 2015 Queen's University Prize for Research Excellence
- 2015 Keynote Finnish Historical Society, Finland
- 2015 10th Anniversary Lecture, U Strathclyde Glasgow, UK
- 2014 Ida and Cecil Green Visiting Professor, Green College, UBC
- 2009 Hannah Medal of the Royal Society of Canada
- 2007 Distinguished International Scholar, University of Pennsylvania
- 2007 Alpha Omega Alpha Visiting Professor, University of Chicago

A few of Dr. Duffin's personal accomplishments within Queen's School of Medicine:

- History of Medicine in the curriculum
- Heroes and Villains
- History of Medicine Community-Based Projects
- History of Ideas about Disease
- Established Medicine and Literature Course
- Established the Annual Travill Debate
- Established Annual Pearls of Wisdom Session for the incoming medical class.



Playing the Martyr: A Delicate Balance for Physicians and Learners

AUTHOR | Jonathan Krett
MD Candidate, Class of 2018

FEATURES

A blaring alarm sound marks the beginning of another day of the grind. Dr. Conway rolls out of bed on the side that never seems to be right. She must have asked thousands of patients in her successful career at the High Profile Teaching Hospital if they ever needed an 'eye-opener' to get their day going, yet she'd never been asked even once herself. Walking over to her dresser she opens a pill bottle and pops yet another Prozac. She fills a one-and-a-half ounce shot glass with Johnny Walker and tips her head back as she washes down the pill. Sometimes she wonders if her morning dose of Prozac interacts with her morning shot of whisky. She never bothered to look it up. It's almost 0530, time to get going. A brittle but outwardly successful Dr. Conway gets behind the wheel and drives to receive her Lifetime Achievement Award from the High Profile Teaching Hospital. She wonders if she should be enjoying this moment more. Maybe it's time to ask for help.

Physicians provide a significant portion of medical care for patients. Yet, as good as physicians and medical trainees can be at taking care of the ill, mental illness and job burnout are strikingly pervasive amongst physicians and learners1-3. The paradox of poor health among society's healthcare providers represents a conundrum for the healthcare enterprise and threatens to undermine effective patient care. Factors identified as key contributors to the prevalence of burnout amongst physicians and trainees include those inherent to the profession like strenuous work schedules and dealing with emotionally difficult situations. In addition, there may be factors intrinsic to individuals who choose to practice medicine, and factors extraneous to day-to-day practice that are part of the present-day medical culture4,5. Those drawn to study medicine are often high achievers, critical thinkers, have perfectionistic tendencies, and possess what's been termed a 'martyr complex.' While these qualities likely suit individuals well to strive for excellence as physicians, the very same traits make them vulnerable to burnout and stressors which may compromise their health over time. As it relates to healthcare providers, the martyr complex can be described as the idea that one must suffer and persevere, often at the expense of one's well-being, in order to provide quality care and progress professionally6. Experiencing martyrdom may even be considered a rite of passage on the path to becoming a respected clinician. Whether it is acquired as a state during the course of training or is an inherent trait is a question that we as present and future shapers of medical culture must answer in order to ameliorate the precarious status of physician and trainee wellness.

There's no doubt that some degree of self-sacrifice is part and parcel of a career in medicine. Inevitable is a certain degree of second-hand suffering when one cares for those grappling with illness. We bear witness and attempt to understand how it might affect one's humanity to be ill, to feel sick. That said, we also have myriad opportunities to make a difference for people by listening, diagnosing, and intervening at the most difficult moments of their lives. Being truly present for patients in these difficult moments dictates that we offer our support on their schedule, even if it may clash with ours. As we muster up the courage to engage with our end of a sort of therapeutic bargain, we collect dividends to our name. From said therapeutic bargain, we obtain the wisdom that emerges from caring for a patient, the lasting impact of emotional connection, the ability to ascribe meaning to our daily responsibilities, and the not-to-be-forgotten monetary remuneration. Yet, there is an unavoidable component of putting the individual in your care first. In each encounter, the patient's needs come before ours and even come before those of the system that allows us to practice. It may be the very inability to switch off this mode of operation that gets physicians and learners in trouble. We justify working long hours at the expense of our personal time. Some use substances to numb pain and emotion because it can seem daunting to confront them, to take the time to process things when there's always another task to complete, always another patient to tend to. It's hardly surprising then that we become quite good at caring for others while our capacity for self-care may erode or lag behind. What's become apparent though is that the sustenance of this behaviour is clearly not sustainable for us, for our healthcare system and for our profession. A good doctor cannot remain proficient forever without prioritizing their own well being at some point. In particular, compassion and empathy are resources that will be exhausted if not actively replenished. Why might the propensity for martyrdom be so prevalent in trainees who have not yet experienced the medical profession?

Learners entering the field emerge from an increasingly competitive talent pool full of individuals who are adept at delayed gratification. In order to progress, arguably in some areas of medicine more than others, the ability to spend more of one's own time taking care of patients, acquiring skill, and conducting research are very appealing traits. Perhaps learners entering the field of medicine are even required to engender a certain standard that is increasingly difficult to meet, and increasingly taxing as careers blossom. Perhaps through other, diverse life experiences, early trainees bolster a martyr complex amongst family and friends. It's possible that those entering the medical profession have excelled at fulfilling the role of caregiver long before matriculating into medical school.

From the collection of diverse individuals who provide healthcare emerges the medical culture itself. It can be unforgiving for those who don't learn to conform. Those who do succeed in the process of training evolve in a way to become new leaders within the cultural landscape. Unless this culture begins to change from within, future

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and present learners will continue to face the expectation to conform by engaging and fostering a pre-existing martyr complex. Clearly, changing a culture is no simple task. What we can start to imagine though are changes to the criteria and frameworks around which trainees acquire or cultivate a martyr complex. If what's gotten the profession to such a precarious era of well-being is some twisted process of natural selection, then perhaps a reimagining of the evolutionary pressures on learners during the early phase of their development is the first step to achieving a good balance.

The issue of balance arises from a dilemma presented by the martyr complex. How does one balance the cost and benefit of a propensity for self-sacrifice? Called to a career path that at its core is about caring for others, caring for those who are afflicted with life altering conditions, we are privileged with the gift of making a (hopefully) positive impact. Simultaneously, the greatest gift imparted by the profession may be it's most costly. We are losing physicians and medical students to suicide at an alarming rate7. About half of medical students have had symptoms suggestive of burnout1. Depression and other mental illnesses are very common amongst trainees and more experienced practitioners alike2,3. This is clearly an unacceptable tragedy. If we can seek and achieve some semblance of balance, the impact will be felt by the countless physicians and in turn patients, who have the benefit of interacting with a physician who cares for others as well as they care for themselves and their loved ones. Thankfully, the medical profession is one that is expert at problem solving. Borrowing from some of the introspective spirit that lends support to the therapeutic relationship, healthcare educators and trainees can reflect on the infrastructure that has contributed to an alarmingly unwell population of practitioners. Addressing the presence of a martyr complex during the assessment of an applicant's commitment to the field of medicine may offer some insights that will enable training to steer learners towards harnessing their tendency for self-sacrifice in patient care while preserving themselves. As well, beginning a dialogue with practicing physicians and trainees may be enlightening for leaders who have a responsibility for staff/trainee well being in clinical care environments (e.g. hospital administrators, department heads, educational deans). A recent study highlighted the benefits of explicitly coming to terms with elements of the physician personality through coaching to dispel misgivings about performance in doctors experiencing burnout8. The pointed guidance of a professional coach illuminates overly self-critical thinking and cognitive distortions that physicians may put in place to explain less than excellent performance. In addition, the confidential support of a coach who resides outside one's immediate workplace environment can offer some much needed approval and positive reinforcement when colleagues do not provide it. Other industries such as the business world regularly employ coaching to improve staff performance. Evidently, these industries have much to offer the medical profession in terms of considering all aspects of life on the personal-professional spectrum as contributors to worker wellness and performance.

Dr. Conway pulled up outside the auditorium at the High Profile Teaching Hospital to receive her award. As she walked across the room in front of the gleaming faces of her colleagues, she felt grateful for the first time in years. Her marriage had fallen apart, the children had moved out long ago, and it seemed all she had left was the profession. She was grateful too that her shot of whisky seemed to have calmed some her stage fright and jitters prior to addressing the crowd. She wondered if it was wrong that the only word to come to mind was 'vindication.' She had suffered a great deal, but she knew for a fact that she had helped others. Still, looking back she couldn't help but wish she could have carved out some time to help herself along the way. Somehow she felt she had played the martyr in all this success, as if it had required a deal with the devil. Medicine had given and it had also taken away, more than Dr. Conway could have ever imagined.

Weathering the Storm: Learning How to Care in Medicine

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I experienced my first ever vasovagal syncope in the ER. The patient was young, maybe 19, perhaps 16 – I'm not sure. She came in for spotting. She was sitting on the examining table hugging her knees, a troubled look on her face. Dark hair, dark nails.

The doctor pulled in an ultrasound machine. Some gel, a few deft movements of his wrist, and there it was – she was pregnant. Now, the options…

I looked at her, saw her expression, and for a moment I was with her: the world crumbled beneath us, swirled into a black chasm of nothing… an eerie humming was filling my ears, reality fell away. When we walked out of the room, I asked the doctor where the washroom was, nodded without comprehension, took three steps, and crumbled onto the floor.

I spent some time that shift looking up vasovagal syncope, confused and a bit embarrassed that my episode was not justified by some amount of blood or gore. I discovered that severe emotional stress may trigger the vagal response. My friend with a phobia of needles later told me that the sight of an injection was enough for him to physically feel the needle, which in turn triggered vasovagal syncope – something that his psychiatrist had described as an extreme empathetic response.

This was all very interesting to me, but also of some concern: clearly, I could not continue to respond this way to patient encounters, or I'd be fainting and crying all over the place, of no use to anybody. Yet, I was not willing to be the doctor who was oblivious to the girl's state of mind as her world crashed down around her. Or, perhaps he had noticed, but had learned to over years' of hard experience to keep his emotions in check – but I wasn't there yet, and I was not ready to be that doctor.
This brought me to the question: what kind of doctor was I going to be?

In medicine, there seems to be an eternal tension between two opposing forces: empathy versus detachment. On the one hand, many of us enter medicine because we are empathetic individuals – because we want to be there for people, with people, and to see them through difficult times in their lives. On the other hand, we are reminded constantly of the need for distance. This is manifest in our lectures on patient confidentiality and professional boundaries; it is also manifest, albeit more insidiously, in our medicalization of patient experiences, in the preceptors who joke about patients and conditions behind closed doors. And, of course, we are reminded to distance ourselves a bit further each time a patient's story cuts too deep, rubs us too raw.

> *"And, of course, we are reminded to distance ourselves a bit further each time a patient's story cuts too deep, rubs us too raw."*

As a student, we see ahead of us the paths forged by our predecessors who dealt with the same dilemmas and responded like the humans that they are: variably, not always optimally, and often clumsily without clear navigation of these murky waters. The question left to us is who we will become, and how we will in turn attempt to strike the delicate balance between empathy and distance, between feeling too much and feeling too little.

I recently spoke with Dr. Harry Zeit at a talk addressing burnout in medicine. I put the question to him: how can we reconcile empathy and caring with the demands of the profession and the risk of burnout? His simple response surprised me, after having spent the past year pondering the question myself with little more than vague inklings to show for it. His response was compassion.

Compassion is defined as showing concern and caring for the well-being of another person, but without sharing the pain or taking it with you. This distinguishes it from empathy, and reduces the risk of secondary trauma from vicariously experiencing a constant influx of negative emotions.

Compassion has also been linked to mindfulness. It could perhaps be described as having an internal poise and grounding that allows one to reach out through tumultuous waters without being swept along in the current. And it makes sense that this would be a desirable trait in the medical profession: the last thing a drowning person needs is another drowning person clinging along for the ride. To present a stable hand is comforting, and importantly the kind of connection that is helpful to the patient.

“The question left to us is who we will become, and how we will in turn attempt to strike the delicate balance between empathy and distance, between feeling too much and feeling too little.”

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It was on my second ER observership that I stumbled upon a mysterious happening: I witnessed a doctor deliver news of a miscarriage – but he managed while doing it to convey genuine kindness, to deliver the news in such a way that the patient accepted it without devastation, and to do it all in five minutes, after which he left the room and moved calmly to the next task. Through it all, the patient and I both felt comfortable, and despite my ill bodings about another vasovagal response I never felt an inkling of distress. I was blown away and baffled; but, even at that time, I knew that somewhere in that experience laid the answer to my question regarding empathy versus distance. Now, after all these months, I realize that what I had witnessed was compassion.

There is a story recently covered by the local news in a small Virginia town: a woman and her son, upon realizing that a tornado was heading directly for their home, dashed outside and grabbed onto a tree as the storm ravaged their house. Miraculously, while the house was utterly destroyed, both the woman and her son survived the storm; the tree had stayed firmly rooted, an accidental observer of the entire scene – and, simply by not being swept along, its presence had provided a source of stability for the mother and son, seeing them through the storm.

The Formative Years: Medical Education and the Hidden Curriculum

AUTHOR | Grace Zhang
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Welcome to the beginning of the rest of your life – a window of time where every case of Strep throat is an event to write home about, every glancing contact with a genuine, non-simulated patient a pearl that is lovingly treasured, every scrub-wearing opportunity worthy of a photograph. Like a child in a candy store, everything is fresh, everything is new, everything is enticing. The future that stretches ahead is a long road, but it is one that brims with promise. Welcome to your first year of medical school.

> *"So, to make ourselves feel more worthy of the trust so freely given by patients, we [do everything we can think of] in our attempts to become what we intrinsically recognize as a 'good doctor'"*

The start of medical training marks a crossing into a different world, one where we are suddenly privy to patients' most personal information. While being the audience to vulnerability is a shared human experience that probably isn't new to most medical students, there is something incredibly humbling about being immediately trusted by a complete stranger. We have grown up with the understanding that trust must be earned with kindness, respect and time, among many other things; we now witness firsthand the influence of our identities as health care professionals in winning that trust. So, to make ourselves feel more worthy of the trust so freely given by patients, we pour over lecture slides, practice percussing on every hard surface, listen in on the patient history-taking of our physician role models and attempt to mimic their techniques -- all in our attempts to become what we intrinsically recognize as a "good doctor."

Education for medical students occurs through a curious comingling of two elements: 1) the deliberate planning of the institution, and 2) the more subtle teaching referred to as the "hidden curriculum." The hidden curriculum is defined as the set of influences that are working at the level of the organizational structure and culture of the medical environment, including deeply entrenched norms and values [4]. These influences can range from commendable to highly alarming: at one end of the spectrum, this might mean absorbing the compassionate bedside manner of a positive role model; at the other, becoming accomplices in the systematic denigration of specific groups of patients and even other physicians.

Public awareness of this phenomenon has grown in recent years, and it is increasingly becoming an area of research interest among medical education experts around the globe. Ironically, the topic of "the hidden curriculum" has found its way into overt medical curricula across Canada, which attempt to hammer into students a resistance against inappropriate behaviours

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out on the wards. Given that hidden curriculum is now so readily studied, discussed, and taught (not to mention experienced), its name has become almost misleading. It's really not a hidden curriculum at all: it's right there. To call it "hidden" in itself is a concealment – an attempt to mask the fact that within medical education there is often ostensible and obvious conflict between theory and practice.

Thanks to the foregrounding of the hidden curriculum within official Canadian and North American medical curricula, students are informed early on that they may struggle against an erosion of their ethical principles and a loss of the idealism that propelled them into medical school in the first place. Long before students ever set foot in the hospital or clinic, they are equipped with an understanding of moral distress – the cognitive dissonance arising from feeling compelled to act against one's own morals – and the different ways it may manifest. Most know, in theory, to reject the informal teachings of the so-called "hidden" curriculum when they conflict with the professional expectations that have been explicitly communicated to them in the overt education. However, for a single trainee con-fronting a deeply rooted culture, this can easily seem outright impossible to do. My own experience with hidden curriculum education thus far mostly involves pointing out and discussing inappropriate physician behaviours in the safety of the classroom setting, led by a clinician who has come in specifically to teach us about the hidden curriculum. Sitting in that lecture hall, I can't help but wonder: to what extent will this exercise apply in a busy hospital ward, where the attending physicians are far removed from recent developments in the medical curriculum and where my very presence there is more of a privilege granted to me than a right? Clearly, awareness – although a definite positive step forward – is not sufficient to address the issue.

So what can be done? Researchers of moral distress in medical training advocate for a foundational intervention that begins at the top of the hierarchy – in short, with faculty development. One potential contributor to the conflict in education is the fact that many senior physicians received their medical training in a setting

> *So what can be done? Researchers of moral distress in medical training advocate for a foundational intervention that begins at the top of the hierarchy*

where the values and culture were different from those of the present day, or perhaps received poor support for their own moral distress. Continuing medical education is already a crucial component of physician growth – we expect physicians to keep up with recent developments in their field so that their care is founded on current knowledge, rather than the standard of practice when they were in school. But can the same expectations be held for the standard of medical culture?

Moral distress can also be addressed in many ways at the student level. Forums for peer support and discus-

sion allow students to find companionship in their struggles, and are especially welcome in clerkship years when there is very little structured interaction with classmates. Recently at Queen's, the concept of the "Clerkship Confidential" forum has spawned a corresponding "Pre-clerkship Confidential," providing pre-clerks with their own space to talk openly about their sources of discomfort. Additionally, facilitated exploration of the medical humanities can promote reflective practice and provide an avenue to address challenging issues. The Medicine and Literature Interest Group at Queen's provides an outlet for this type of discussion, and in my attendance at this group, I've witnessed numerous times that a literary text can act as a springboard for more general discussion about the overarching moral elements at play in medical encounters.

At the heart of this issue, however, there is an apparent disconnect between expectation and reality. In principle, the more unattainable any initial goal seems, the more likely people are to become immediately discouraged and walk away without trying. Hidden curriculum education is particularly at risk of disengaging students by presenting them with options that are seemingly infeasible. Any effective hidden curriculum education needs to acknowledge that speaking up is hard, and that overcoming moral distress is not a matter of all or nothing. Each student is unique, and not everyone will always feel comfortable acting on their beliefs in every context.

The curriculum could perhaps better accommodate this diversity by allowing students to identify individualized intervention strategies and smaller "stepping stone" goals that are acceptable to them. Overcoming the hidden curriculum is ultimately a personal journey, and each student has the potential to develop the means to dissect and resolve internal conflicts, just as each student has the potential to become a great doctor. The aim of hidden curriculum education is then the same as that of medical education in general: to provide every opportunity to allow students to reach that potential.

Patient Reported Outcomes: Balancing Comprehensiveness and Validity

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You measure a patient's blood pressure to evaluate the effect of an Angiotensin-Receptor Blocker. But what about the effect on the patient's energy level? Fatigue? Prevalence of headaches? These would be patient-reported outcomes.

Patient-reported outcomes (PROs) are defined as "any report of the status of a patient's health condition that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else." Often questionnaires, they aim to assess aspects of care that clinician-reported outcomes (categorized into the broader category of observer-reported outcomes) may otherwise overshadow. How does taking six pills a day affect a patient's quality of life? What functional limitations result from being temporarily wheelchair bound? Does the patient view the prescribed treatment as effective and important? Health-related quality of life (HRQOL), symptoms, function, satisfaction with care or symptoms, treatment adherence, and perceived value of treatment are what patient-reported outcomes aim to assess.

Though initially used as primary or secondary endpoints during clinical trials, PROs are now being used in clinical practice too. The SF-36 (a 36-question survey on health) asks about physical functioning, bodily pain, general health perceptions, social factors, emotions, and mental health among other issues that clinician-reported outcomes would find difficulty addressing. Health economists can also use such a survey in its ability to analyze quality of life and the cost-effectiveness of treatment options. In addition to generic PRO tools like the SF-36, specific ones like the Migraine Specific Quality of Life (MSQOL) have condition-relevant questions that might translate into a certain diagnosis or treatment plan. In specialties like plastic surgery, where the effects of a procedure are largely what determine efficacy, PROs have been particularly useful.

With the use of PROs on the rise, the UK's National Health Service actually began requiring Patient-Reported Outcome Measures (PROMs) in four elective surgical procedures as of 2009 - hip replacement, knee replacement, varicose vein surgery and hernia surgery. The NHS has also started funding PROMIS, an information system for providing highly reliable, precise patient-reported measures of physical, mental, and social well-being. Because of the ability to measure cost-effectiveness and corresponding use by pharmaceutical companies, the U.S Food and Drug Administration (FDA) have set PRO guidelines.

What is causing the increased use of PROs? First and foremost is their ability to evaluate measures that clinician-reported outcomes would have difficulty assessing – most notably the financial burdens of treatments and the effects on quality of life. Beyond this, innovative approaches to PROs make them appealing.

Item Response Theory, now embedded in numerous PROs, takes into account both an individual's response on a specific question and the difficulty for that individual to answer that question. The theory suggests that the response of an individual who finds it difficult saying they were compliant with a certain medication should not be weighted the same as a response by an individual who found it easy making the same claim.

Computer Adaptive Testing is a method whereby the answer to one question leads to a different ques-

tion, depending on the initial answer. This is the questionnaire "adapting" to the responses. If a patient answers that they are uncertain about their clinician's decision regarding a certain treatment then the following questions will pertain to this; the questionnaire may take a different path yet when the patient is certain about their clinician's decision. The growing role for Item Response Theory and Computer Adaptive Testing in PROs is prefaced on the digitalization of PROs and may provide an avenue for improving clinician-reported outcomes.

Despite the increased uptake of PROs and innovative research focused on improving their efficacy, several concerns to their widespread use remain, particularly relating to reliability and validity. Much of this subjectivity stems from disputes over how to interpret PROs. The FDA and European Medicines Agency have released guidelines on the interpretation of PROs in Oncology but this is still an area of active discussion. Certain specialties, most notably Psychiatry, have raised objections stemming from uncertainty over whether a PRO by their patients can produce reliable results. PROs are not intended to replace clinical laboratory tests but are intended to work in conjunction with these in order to gain a more balanced picture of patient care. Their ability to address quality of life and the hidden financial burdens of treatment seems unprecedented and has contributed to their support by the UK's NHS and use by drug companies. Furthermore, their incorporation of Item Response Theory and Computer Adaptive Testing may serve as a guiding point for the direction observer-reported outcomes should move in. That being said, the concerns over validity and thus utility are still unresolved. Will this trepidation limit the expansion of PROs thereby limiting the balance that they aim to achieve? Time will tell.

Three for Nine

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It's Friday 18 March and I am sitting at a snack bar at the Cozumel Airport. I'm eating salty peanuts, rubbing off the salt with my fingers. After security, they're not clean, but I'll take that over the salt. The board says we'll be in Toronto by 2:00 PM, and I've got some thoughts.

Top of the list – an essay that should not be so difficult to write. Eight weeks have passed since I decided to write for two hours every Sunday. This is my second attempt.

When my own inclusion in the club was uncertain, I satisfied my thirst for medicine with the works of doctors like Chekhov, Conan Doyle, Thomas, Sacks and others. Then began the dialogue. They retracted the wound and let me join them as a witness to human drama –birth, illness, injury, suffering, and death.

Writing and medicine is a jealous relationship. We are not journalists. Our job is not to tell stories. In Pauline Chen's, Final Exam: A Surgeon's Reflections on Mortality she writes, "you want nothing more than to perform all the steps perfectly and leave your patient, by virtue of meticulous attention to ritual, with life force completely intact." Who has time to write?

> *"They retracted the wound and let me join them as a witness to human drama –birth, illness, injury, suffering, and death."*

In the works of literary doctors, writing is a way to process the emotions and insights of clinical life. In Henry Marsh's book, Do No Harm, the British neurosurgeon reflects on harrowing encounters and bares his mistakes. His book reminded me of a man organizing the belongings of a deceased relative, pausing in turn to smile and gaze pensively at the artifacts that populated a life. Marsh writes that one of the great benefits of a career in medicine is that "one acquires an endless fund of anecdotes, some funny, many terrible." With only two years of medical school behind, I see this to be true. While the stories come passively, understanding is an active process, and I know who to learn from.

> *"His book reminded me of a man organizing the belongings of a deceased relative, pausing in turn to smile and gaze pensively at the artifacts that populated a life."*

From the Cozumel Airport I think of Sunday. I am two for eight so far. Will it be three for nine?

Medystopia Chapter 1: Privileged

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It's noon. I stare at a picture of the brain on the projector screen along with all the rest of the 2017's around me. 2017. That's the number they have assigned me and the rest of my cohort, based on the school-cycle when we are supposed to become Doctors. It's different than in the before times, when they identified us by a grade number. My grade number always made me feel proud, but 2017 makes me feel small and hopeless. A reminder of the impossibly far away time when I will finally have freedom.

I shiver. Even thinking the word 'freedom' fills me with anxiety, even though I have not actually spoken aloud. I am not supposed to want freedom- I know that. "I should be happy with where I am," they tell me. "My future will be great. I will help our society. I am privileged."

I know I am barely looking at the screen anymore, but after three hours I am too tired to keep staring. The Administration has all sorts of screens they use to control us: projector screens, computer screens, tablet screens, phone screens, pager screens –it's endless. Some people who really love screens become radiologists.

There's a sudden movement at the corner of my eye, and a new wave of fear rushes over me. Someone sees me not paying attention to the screen. If they are a false-face, a 2017 who pretends to be your friend but really wants you to fail to help them succeed, then they might report me to the Administration. False-faces are rare here at Queen's, one of the smallest programs. But I've heard stories of other, bigger programs with whole classes filled with false-faces, where 2017's manipulate and hurt one another to get ahead.

Wait, if they're looking at me, then they're not paying attention either, I realize triumphantly.
Ready to challenge whatever false-face sits next to me, I quickly turn to the side, and I lock eyes with Marrow. I breathe a sigh of relief, and even giggle a little as he grins at me.

Marrow is my best friend. We met during orientation, almost two school-cycles ago. Since then we have done all our studying together, and he helps me keep up with my work.

He mouths words to me from five seats away, but I hear them as clearly as if he was whispering in my ear. "Shouldn't you be paying attention, Melena? If you don't learn about the brain, how are you going to become a neurosurgeon?"

I have to bite my lip to stop myself from laughing. Ever since I told Marrow that I don't think I'm smart enough to be a neurosurgeon, he's always teasing me about it. I don't mind, except that my friend Dyspnea says that when boys tease you it's because secretly they want you to Couples Rank with you.

My pulse quickens as I imagine what it would be like to Couple's Rank with Marrow, but then a small voice in my head pipes up: This is what they want, it says, and immediately, I am torn away from my daydream.
The only people who are accepted into the program are those who have specific characteristics. We are systematically analyzed and appraised for our abilities to think and solve problems, and even before that we must undergo a harsh and grueling test known as the MCAT. Once we are in the program, the close quarters we are kept in everyday ensure we will eventually breed

with one another and there will be an accumulation of favourable genetics over the generations, producing superior Doctors with each passing school-cycle. That's what they want for Marrow and I.

I am privileged, I have to remind myself again.
Then I remember it doesn't matter even if Marrow and I are supposed to breed together. Everything will change soon because the 2017's will become clerks (a more proper word the Administration uses in the place of 'slaves'), and Marrow and I have been selected for different streams. We will barely see each other over the next two school-cycles. And what if while we're separated, Marrow decides he wants some competitive specialty? I glance at Areola Crepitus who is staring attentively at the screen a few rows in front of me. I used to be almost as close with Areola as I am with Marrow before she started gunning for ophthalmology. She hasn't spoken to me since.

"…is The Match," I hear our instructor say from his podium next to the screen.
Suddenly, every 2017 is completely focused on him.

"The Match," I hear a girl repeat under her breath somewhere behind me. Several other whispers echo hers across the room.

But our instructor is only referring to the exercise currently being projected on the screen, instructing us to match different parts of the brain with their general functions. I ooze back into my seat as a soft sigh of disappointment escapes from the rest of the 2017's.
I watch as Nephron Pica raises his hand and answers the instructor's question in full. Nephron knows everything. And he's done lots of research, a horrible trial that supposedly makes you more competitive. He'll Match to whatever specialty he wants, I'm sure of it. And that's all that matters. Because the Match is everything. Everything.

At the end of four school-cycles, we are Matched to what is supposed to be our perfect specialty. It's not like in other parts of society, where you might get a bunch of different career offers and you can choose the one you like best. Each 2017 will only get one Match, and if you don't take it you have nothing. You might even hate your Match.

Stop being silly, Melena, I berate myself. Have you ever heard of anyone hating their Match? No. And at Queen's almost everyone gets a Match they love! Just think how 'privileged' you are to be here.
But not everyone gets a Match they love. That nagging voice in the back of my head joins the conversation. Some don't get one at all. What if you're one of the 'Unmatched'?

Unmatched. They tell us it hardly ever happens, that we shouldn't worry about it. It only happens to the rare, foolish, unprepared students. Students that never want to work hard, and can't decide what they want to do until it's too late. The students that somehow, got through all the tests and evaluations that are supposed to weed them out.

The students like me, maybe.

That's why I'm scared. I'm not like Nephron who is so smart he can match to whatever he wants. Worse, I'm not even like Areola, who is certain of what she wants to match to, and can direct all her energy into making sure she gets it. I could be an Unmatched.

Marrow doesn't understand. When I tell him, he always just laughs and then in an instant he is transformed into a puppet of the Administration, and his lips open and close in tune with words I know are not his. "Don't worry, Melena. Our Matches will all be great. We will be rich and happy. We will be Doctors. We are all so privileged."

Once upon a time, that would reassure me. But lately, whenever anyone talks about The Match, I worry the unthinkable could happen to me. And then I don't feel so privileged at all.

The 2017's around me begin to stir, and I become aware that our instructor is dismissing us for our one hour break. We are meant to believe that these breaks were born from the generosity of the administration; but secretly, I think they are given to us so we do not revolt against them.

“My backpack is another gift I should be grateful for. Every student is given one when they enter the program, and they serve to remind us of our place in the rigid hierarchy of the medical world.”

Still, I feel privileged to have a full hour today. Even though our dismissal time is a rule set by the Administration, it is rarely followed by the Doctors who instruct us. Like gods, Doctors have all the power to twist and warp the rules of the medical world, the world I am bound to, as they wish. “That is why you must never make a Doctor angry,” we were all warned on our first days as 2017’s.

I stuff my computer screen into my orange backpack and throw it over my shoulders, along with the other one hundred 2017’s around me. My backpack is another gift I should be grateful for. Every student is given one when they enter the program, and they serve to remind us of our place in the rigid hierarchy of the medical world. The colour was chosen by the 2016’s, the class one school-cycle ahead of us. We are rarely given any semblance of power, and so the choosing of the backpack colour is almost always a way for one class to take out their aggression on the following one. The 2016’s chose bright orange to humiliate us, but instead the orange just reminds me of how I feel like a prisoner here.

All at once, I realize the brilliance of the whole backpack colour system. Creating an endless cycle of abuse, and turning the classes against one another so we are too preoccupied hating ourselves to ever look to the Administration as our enemy.

I have a sudden urge to throw off my backpack and stomp it into the ground. But I know it would be pointless. That is because unlike other backpacks that deteriorate and lose their functionality over time, this one does not seem to break no matter what you do with it. And despite my best efforts, I have not yet discovered what futuristic, resilient material it is composed of. I will have to wear this backpack forever.

I exit the lecture hall and begin walking toward the Clinical Skills Centre. Today is a special day. Due to an inconceivable, once in a millennium error by the Administration, a prospect pre-med who was meant to be evaluated last weekend for whether or not she is capable enough to be accepted into the program was given the wrong date, and will instead be evaluated during today’s one hour break. I, along with another five 2017’s, were privileged enough to be selected to be her evaluators at a six station interview held for only her. This duty is not mandatory, however no one will reject it because then we would have to forfeit access to the free pizza lunch that we have been promised. Students in my program are kept from purchasing and consuming food by the Administration’s high program cost and busy schedule, and so food is often used as an incentive to encourage us to accept extra labour.

I reach the Clinical Skills Centre, and state my name for the hawkish Doctor standing in the foyer. She scans me up and down, and I know she is appraising my appearance, trying to determine if it meets the strict standards of the program. I can imagine a thousand variables trickling through her mind: my skirt length, the colour of my stockings, even my choice of hairstyle. Meanwhile, I read her badge and learn that she is Dr. Rubella Venule, a psychiatrist. I then realize too late that my own badge has flipped over on my chest, a childish display of unprofessionalism. I quickly attempt to restore it without alerting the Doctor. I don’t think she notices. Today, I really am privileged.

She leads me to Room F, one of the many small rooms that circle the inside of the Clinical Skills Centre. These rooms are designed to mimic real patient rooms in the hospital, and I've passed countless hours in them, working to strip away my former, unprofessional personality and replacing it with the approved characteristics that a Doctor should have.

> *"Better to walk a tightrope over a pit of crocodiles, than jump into the pit willingly"*

Dr. Venule and I will evaluate the prospect together, each of us checking the appropriate boxes on our forms, though in my heart, I suspect that only the Doctor's form will actually be used in the selection process.
She closes the door behind us and I sit in one of the chairs on the other side of the room. But before she can join me, her pager goes off. She yanks it from her body, as quickly as if she was removing some blood-sucking leech, and her brow furrows as she reads the letters that appear on the screen.

"I have to go for a minute," she says, startling me.

"We're the last room in the series, so I should be back before the prospect gets to us, but if for some reason I'm not, just fill in my form for me. I trust you." She winks at me.

I am dumbfounded by her order. But, before I can muster up the courage to make any sort of protest, Dr. Venule strides from the room and the door shuts behind her.

I begin to sweat. This feels wrong. If the Administration were to learn of this deception, I cannot even fathom what could become of me. Being Unmatched might be the least of my troubles.

Then again, everyone knows Doctors can alter the rules to suit their needs. And if Dr. Venule was to learn I reported her… I shudder at the thought. Better to walk a tightrope over a pit of crocodiles, than to jump in the pit willingly.

Veronica has already read the instructions outside the door which tell her to explain why she wants to be accepted into the program, so there is no need for me to speak for the next eight minutes. At first, she does very well, describing to me the wondrous adventures and enjoyable education she imagines will come with her entry to Queen's. Her fantasy is no doubt spurred on by the Interview Video, a heinous piece of propaganda the Administration forces us to produce every school-cycle to draw in greater numbers of prospects. It is as though she truly believed in the vision we showed her.

In fact, the more Veronica speaks, the more I feel myself transported to the before-times. How long has it been since I've encountered someone like her: so full of passion and optimism? I realize that I would really like Veronica to join me here in the program, even if she will be a 2019.
And that's when the unthinkable happens. Veronica's cell phone rings.

My heart sinks. Veronica quickly shuts off her phone and picks up where she left off, but it is too late. The mistake is unforgivable. Leaving one's cellphone on while in a professional environment is easily comparable to second-degree murder in my program. She will never be accepted to Queen's.

The doomed prospect finishes giving her exposition, thanks me, and then leaves the room, seemingly unaware of her own condemnation. I bow my head, dreading the task of completing Dr. Venule's and my evaluations of her. One mark in the right box, and I will seal her fate.

Heavy with regret, I begin filling out the evaluations. I give her the excellent scores she deserves for her answer, temporarily avoiding the areas where I know I must record her breech of professionalism. Yet too soon, there is nothing else left to fill out, and my pen hovers over the 'red flag' box like an executioner holding up his axe.

I try and will myself to make pen touch paper, but no matter how hard I try, I simply cannot. The Administration would not want this prospect to enter the program, I know that, and I have never defied them before, not once. How can I now?

Of course, Dr. Venule defied the administration when she left me here alone to fill out her form. But I am not a Doctor. Not yet. I cannot bend the rules.

> *"I have spent hours in these rooms listening to other peoples' hearts, but today, for the first time, I will listen to my own"*

But Dr. Venule can! I realize suddenly, staring at her pre-emptive signature on the form. If I am deceiving the Administration by filling out the form as Dr. Venule, surely it's no more risk to leave out a worthy candidate's single mistake. I gulp as I consider the magnitude of what I am about to do.

I have spent hours in these rooms listening to other people's hearts, but today for the first time, I will listen to my own.

I check off the 'no flags' box on both forms, drawing my pen across the paper with a flourish. Then, as the weight of what I've done truly dawns on me, I drop the forms on my chair, and dash out of the room, feeling more alive than I can ever remember.

Today, I made a decision. Today, I am a Doctor.

And today, Veronica is the privileged one.

INFORMATION ABOUT AUTHOR

Jacob writes his funniest, most "unprofessional" work under his pseudonym, Jake Caldera. His soon-to-be released novel, The Elephant on Fire, tells the story of the star of a series of teen dystopian rebellion movies who's life is turned upside down when her exotic vacation to a third-world country ends up with her being caught up in a real-life revolution.

Interested? Of course you are. You can learn more about it at his website, jakecaldera.com, or his facebook page, facebook.com/jakecalderawriting.

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Cover Art Contest

"The Writer" Adam Mosa

"Time Out" Adam Mosa

"Koi Ying Yang" Chang (Nancy) Wang

For thousands of years, Koi fish have been symbols of good fortune, ambition, perseverance, and harmony. The circling black and white fish call to mind the pull between yin and yang, light and dark, the individual and the collective. It is often through this struggle between opposites that we find the balance we strive towards.

Cover Art Contest

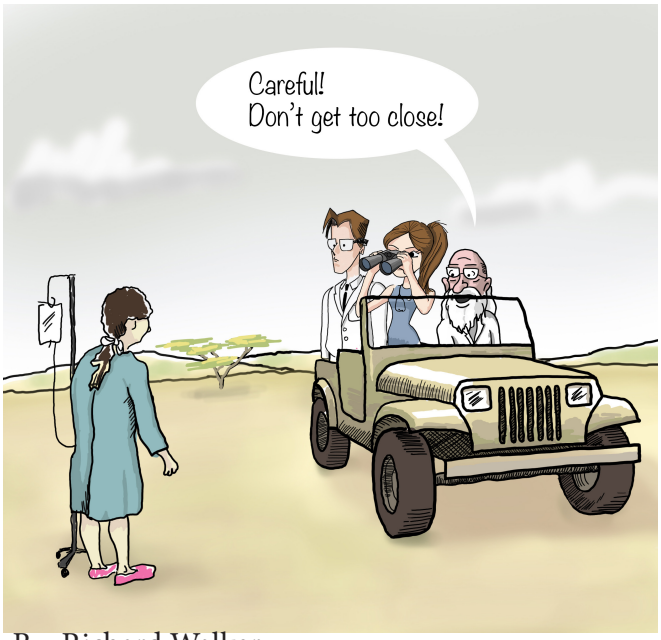
"Glaciers" Sarah Edgerley

These are photos I took this past December of the Perito Moreno glacier in Argentina. Spanning over 250 square kilometers with walls over 70 metres high the glacier was an impressive sight to see. As my family walked around we could hear the thunderous sounds of house-sized ice chunks falling into the water. From our viewpoint we could only see collapse and destruction. But, hundreds of kilometers away, an equal amount of new ice was forming to balance the losses and push the glacier ever forwards.

We all leave medical school different from when we first started: we have new knowledge, new friends, and new perspectives. Throughout our education we learn to strike a balance between the old and the new. This process of constant change will continue to shape us and push us forwards as we move through our careers.

Cover Art Contest

"Scales" Wilson Lam

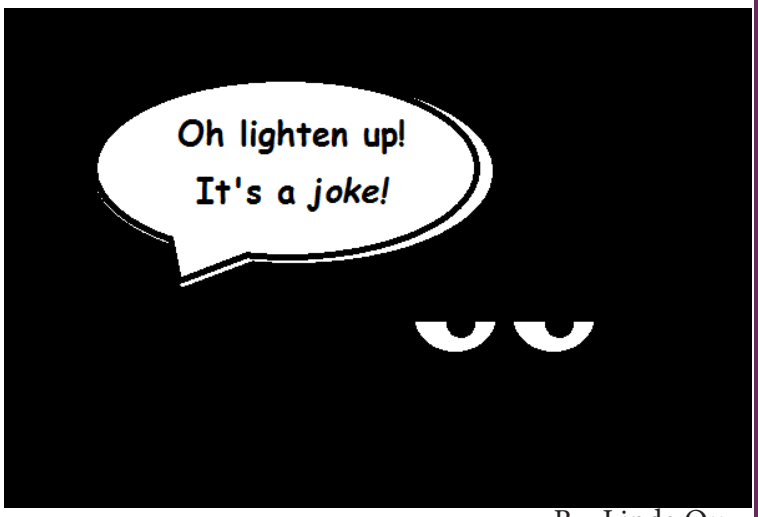


By: Richard Walker

By: Shari Li

SUBMISSIONS

Top Left "", Top Right "Dark Humour", Bottom Left "Empathy", Bottom Right "Turtle"



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