

A medical student's comparison between pre-medical and pre-clinical education

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Introduction

Three major transitions exist as a medical trainee: pre-clinical to clinical, clinical to resident, and resident to attending. Perhaps less addressed is the transition from pre-medical to pre-clinical education, one that is often buried under the jubilation of acceptance into medical school. Advice concerning this rather precarious transition is plagued with over-generalizations: “have fun and enjoy the experience”¹, “buy a good computer”², and of course, “be yourself.” In this article, I compare the differences concerning my undergraduate pre-medical and pre-clinical experiences. However, given the diversity of pre-medical studies and variations in pre-clinical education between institutions, I emphasize that this is a personal opinion and acknowledge its limited generalizability. I write this viewpoint having completed a Bachelor of Science (BSc) degree before entering medicine and from the perspective of a 3rd year University of British Columbia medical student.

It is Harder to Seek In-Person Support for Academic Help or Tutoring

As medical students in the pre-clinical setting, we receive lectures from a diverse group of physicians, allied healthcare workers, basic scientists, and patients or patient advocates each week. However, this makes individual face-to-face sessions difficult to schedule given the majority of lecturers are busy practicing healthcare professionals who teach only on a part-time basis. In comparison to my pre-medical studies where one professor taught one class and advertised set office hours that students could drop-in to, contact with physicians and allied healthcare workers is often limited to e-mail. To further complicate matters, there is a shortage of tutors in pre-clinical studies, as those qualified are limited to healthcare professionals and upper year medical students with time-constrained schedules of their own. Whereas in my pre-medical studies, upper-year or graduate students were easily accessible via tutor registries. Another option for those seeking help in pre-clinical studies is to ask for clarification within peer-groups, but often answers are based on speculation and have their uncertainties. Furthermore, the quality of responses inevitably differs based on who one asks and has in their social circle. This all amalgamates into somewhat of an inequity unique to pre-clinical education: those at arms-reach from a physician, upper year student, or a knowledgeable social circle are at an advantage compared to those who are not. For the majority of students, this creates the need to become proficient at using external resources to supplement course lectures. Popular resources are Toronto Notes³ and USMLE First Aid,⁴ which are condensed UBC-unaffiliated study guides with pertinent clinical information. Osmosis⁵ is another platform that hosts condensed yet informed medical videos popular amongst

medical students nation-wide. This is a stark contrast to my pre-medical education where lecture notes and course-guides were sufficient and readily available.

There will be a “Fire Hydrant” of Content

The total time spent in class in my pre-medical studies was roughly 20 hours per week, whereas I spent roughly 35 hours per week in class during my pre-clinical studies. Furthermore, unlike in undergraduate studies where students select their own schedules, classes at UBC medicine are pre-scheduled with consecutive classes and only short 5-10 minute intermissions between, making it challenging to focus and absorb presented information. I also found the basic science in medicine to be taught at a faster pace, albeit with lesser detail and greater volume than my pre-medical education which focused on a greater understanding of curated topics. Given this diversity and volume of content in pre-clinical studies, known colloquially as the “fire hydrant” of information, certain strategies have become commonplace amongst my peers to extract the most relevant details – that is, to focus on what is clinically applicable: medications, imaging and blood tests, and symptoms and signs are known informally as “high-yield” information. Now, my goal is not to undermine the importance of other content, but in reality, there are limitless potential rabbit-holes in pre-clinical studies. Thus, students must focus on what is most clinically relevant to help them excel on the wards, as understanding and memorizing everything presented is not possible (for most).

You will be Evaluated Subjectively

In my undergraduate science degree, objective measures of assessment were hailed as trustworthy and fair: blinding of markers to test papers/assignments were implemented to ensure that each students' grade was created as unbiased as possible. Although at UBC medicine our written exams are objective, our Work-Based Assessments (WBA) are subjective by their very nature. WBAs are used to evaluate students in clinical skill sessions, family practice visits, and Case-Based Learning (CBL). A preceptor evaluates students regarding areas such as knowledge, professionalism, teamwork, and communication, based on what they see in a particular session(s). Though preceptors have guidelines to follow for assessment, there is a large subjective component. As an illustration, CBL is an environment where students are sorted into small groups and collectively analyze a written clinical case. As new findings are presented, the case posits questions which allow students to demonstrate knowledge and soft skills. However, the distinction compared to undergraduate science is that no one asks any particular individual to display their knowledge. It is completely at the students' discretions to contribute information and they are graded accordingly based on their contributions. In clinical skills

sessions, students are evaluated based on the quality of their patient interviews and physical exam skills. In family practice sessions, preceptors similarly evaluate students based on direct observations. Factors such as the leniency or difficulty of the preceptor in grading, and even how prepared and knowledgeable other group members are may all subjectively influence an individual's WBA. Although subjective evaluation is common for some degrees, compared to my undergraduate BSc, this subjective evaluation was novel for me in the transition to medical school. However, I realize that it is an integral and invaluable part of medical education as medicine is a subjective field. Patients' conceptions about their healthcare provider is innately subjective, having great influence on the patient-physician relationship and perceived care. In order to work in a team-based environment, communication, collaboration, and teamwork skills are vital, which are evaluated and responded to subjectively by colleagues. My advice is to familiarize oneself with subjective evaluation by asking questions and practicing speaking out-loud in front of one's group early-on.

You will Spend Most of Your Time within the Bubble known as Medicine

Regardless of background, most undergraduate pre-medical studies consist of a diversity of classes spanning from creative writing to computer programming or mass spectrometry. New faces from various faculties populate each class. However, medicine is different in that every class is taken with the same people. As such, all class time is spent with one's medical peers. Furthermore, the majority of clubs that medical students join are linked to the medical undergraduate society, which again, consists primarily of students in medicine. For the sports enthusiasts, there are also medicine-exclusive intramural teams. In a nutshell, it is easy to become consumed by the ever-expanding bubble known as medicine, both from an academic and social perspective. This is not necessarily a detrimental phenomenon, as medicine is a challenging career that requires immersion. However, it creates difficulty in maintaining diverse commitments in one's life. From my perspective, I enjoy a breather from medicine every now and then, and feel it contributes to my mental well-being, and would encourage incoming students to stay grounded in a few commitments outside of medicine.

Faculty is there to Help You when you Need It

From my experience compared to pre-medical undergraduate studies, the UBC Faculty of Medicine cares more about my success and well-being and genuinely wants me to succeed. In medicine, students that could benefit from additional support are identified via examinations and WBAs and are given copious support from faculty, ranging from stress counselling, to creating academic plans. On top of this, students are given remedial examinations in the case of a failing grade. In contrast, during my BSc degree, I felt that if I underperformed on an examination it was completely at my own discretion to seek help and it was solely my responsibility to advocate for myself. In medicine, the faculty truly does advocate for us.

Conclusion

It is my hope that this article offers a more realistic perspective on the transition to medical school to specifically an audience of matriculating 1st year medical students from pre-medical

undergraduate studies. Indeed, acceptance into medicine and the months thereafter deserve celebration as it is often the culmination of countless years of perseverance. However, we must not forget about the stark contrasts between pre-medical and pre-clinical education, catching many off-guard each year.

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