


Student Reflections on the Queen's Accelerated Route to Medical School Programme

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ABSTRACT

CONTEXT: Since its inception more than 150 years ago, the School of Medicine at Queen's University has aspired 'to advance the tradition of preparing excellent physicians and leaders in health care by embracing a spirit of inquiry and innovation in education and research'. As part of this continuing commitment, Queen's School of Medicine developed the Queen's University Accelerated Route to Medical School (QuARMS). As Canada's only 2-year accelerated-entry premedical programme, QuARMS was designed to reduce training time, the associated expense of medical training, and to encourage a collaborative premedical experience. Students enter QuARMS directly from high school and then spend 2 years enrolled in an undergraduate degree programme. They then are eligible to enter the first-year MD curriculum. The 2-year QuARMS academic curriculum includes traditional undergraduate coursework, small group sessions, and independent activities. The QuARMS curriculum is built on 4 pillars: communication skills, critical thinking, the role of physician (including community service learning [CSL]), and scientific foundations. Self-regulated learning (SRL) is explicitly developed throughout all aspects of the curriculum. Medical educators have defined SRL as the cyclical control of academic and clinical performance through several key processes that include goal-directed behaviour, use of specific strategies to attain goals, and the adaptation and modification to behaviours or strategies that optimize learning and performance. Based on Zimmerman's social cognitive framework, this definition includes relationships among the individual, his or her behaviour, and the environment, with the expectation that individuals will monitor and adjust their behaviours to influence future outcomes.

OBJECTIVES: This study evaluated the students' learning as perceived by them at the conclusion of their first 2 academic years.

METHODS: At the end of the QuARMS learning stream, the first and second cohorts of students completed a 26-item, 4-point Likert-type instrument with space for optional narrative details for each question. A focus group with each group explored emergent issues. Consent was obtained from 9 out of 10 and 7 out of 8 participants to report the 2015 survey and focus group data, respectively, and from 10 out of 10 and 9 out of 10 participants to report the 2016 survey and focus group data, respectively. Thematic analysis and a constructivist interpretive paradigm were used. A distanced facilitator, standard protocols, and a dual approach assured consistency and trustworthiness of data.

RESULTS: Both analyses were congruent. Students described experiences consistent with curricular goals including critical thinking, communication, role of a physician, CSL, and SRL. Needs included additional mentorship, more structure for CSL, more feedback, explicit continuity between in-class sessions, and more clinical experience. Expectations of students towards engaging in independent learning led to some feelings of disconnectedness.

CONCLUSIONS: Participants described benefit from the sessions and an experience consistent with the curricular goals, which were intentionally focused on foundational skills. In contrast to the goal of SRL, students described a need for an explicit educational structure. Thus, scaffolding of the curriculum from more structured in year 1 to less structured in year 2 using additional mentorship and feedback is planned for subsequent years. Added clinical exposure may increase relevance but poses challenges for integration with the first-year medical class.

KEYWORDS: education, medical, undergraduate, education, premedical, curriculum, education, models, education, measurement

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Introduction

The standard model for admission to Medical Schools in North America requires a minimum of 3 years of post-secondary university education, and many applicants complete 4 years of undergraduate education, and some also complete graduate education. These additional years of training prior to medical school contribute to the significant cost and amount of debt that many medical students face at the start of clinical practice. In an attempt to counter

increasingly prolonged premedical education, Queen's School of Medicine developed a 2-year high-school entry premedical programme, the Queen's Accelerated Route to Medical School (QuARMS). The first group of 10 high-school graduates was admitted in September 2013.

The QuARMS learning stream differs from other entryways to medical school because it shortens the minimum length of undergraduate training for students before entering



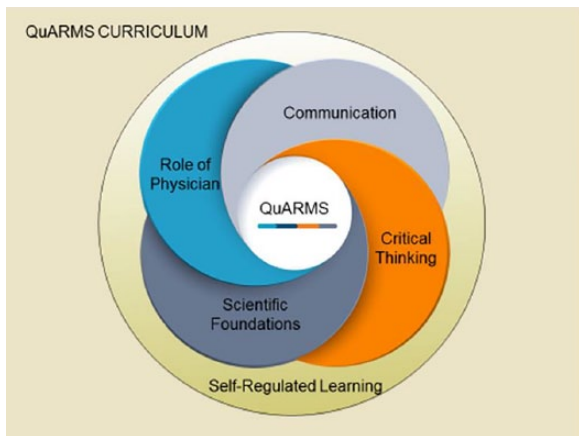


Figure 1. The 4 pillars of the QuARMS learning stream. QuARMS indicates Queen's Accelerated Route to Medical School.

medical school, while enriching and focusing their university experiences to prepare them for medical training.¹ To be eligible to apply for the QuARMS learning stream, prospective students must apply to a Queen's University undergraduate programme (in the Faculty of Arts and Science), must meet the admission requirements for their chosen programme, and be nominated for the Chancellor's Scholarship by their high school. Each high school in Canada can nominate only 1 Chancellor Nominee for QuARMS. Prospective QuARMS students must be Canadian Citizens or Permanent Residents. All Chancellor's Scholarships are vetted (university-wide) and ranked, and from those, approximately the top 200 (of those nominated as a QuARMS candidate) are invited to submit a supplemental application. The supplemental application is vetted and ranked by the School of Medicine Admissions Committee. From these, the top 40 to 50 candidates are invited for an on-site interview. The performances of these candidates are ranked and offers are made to the top 10.

The focus of the QuARMS premedical programme is to prepare high-school entry students for medical school, while also providing the flexibility for students to pursue individual interests. The curriculum is designed to balance coursework, fieldwork, and extracurricular activities while providing students with skills in self-regulated learning (SRL). The curriculum is planned based on 4 pillars: communication, critical thinking, the role of a physician, and scientific foundations (Figure 1).

Together, these pillars are designed to prepare students to understand their future roles as physicians and to provide them with the skills necessary to succeed in medical school.^{2,3} All aspects of the academic curriculum are mandatory and include traditional and experiential approaches to learning such as undergraduate coursework, seminars, informal fireside chats with experienced faculty, service learning projects, and clinical shadowing. The scientific foundation pillar, for example, consists of traditional first- and second-year courses (lectures, labs, examinations, etc) that must include biology, chemistry, math,

and physiology to ensure that QuARMS students are exposed to a broad-based science background that meets the American Association of Medical Colleges (AAMC) guidelines for readiness for medical school. Formative and summative assessments are integrated into most of the sessions. Foundational skills are emphasized in the programme, for example, written, verbal and non-verbal communication; presentation skills; giving and receiving feedback; how to set effective goals; the elements of critical reflection; and group dynamics. Assessments are designed to build on these foundational skills and integrate the pillars of the curriculum. For example, students were required to write a reflective essay based on artefacts from their learning portfolio at the end of the first year describing growth in their perception about the role of a physician compared with what they recorded in their portfolio during the first month of the programme. This assignment integrated elements of written communication, critical thinking, and the role of a physician. Another assessment included interviewing patients about their illness experiences in small groups. The focus of this session was verbal and non-verbal communication, giving and receiving feedback, and gaining an appreciation of the role of a physician from the patient perspective. Students provided peer feedback about communication, supported by rubrics and observing faculty coaches, received peer feedback, and debriefed on the patient perspective. Students are supported by faculty, including explicit mentorship, throughout the programme (Figure 2). The QuARMS seminars running parallel to the undergraduate degree programme consisted of 24, three hour sessions per year including time for completing course-work resulting in about 72 hours /year. The QuARMS students join 90 other students who will be admitted to year 1 in the School of Medicine, provided they have met the QuARMS admission criteria. QuARMS admission criteria include a minimum cumulative Grade Point Average (GPA) of 3.5 after the first 2 years, selection for the Dean's list in year 2, and successful completion of the QuARMS learning modules.

The goal of the QuARMS learning stream is to prepare students for success in medical school. We report on the first 2 cohorts of students' experiences as perceived by them at the conclusion of the QuARMS learning stream.

Methodology

After year 2, before entry to medical school, the first and second cohorts of students in the QuARMS learning stream (N=20) were invited to participate in a survey and focus group; 20 out of 20 students completed a 26-item, 4-point Likert-type instrument with narrative. Consent was obtained from 9 out of 10 and 10 out of 10 participants to report the results of the 2015 and 2016 surveys, respectively. Focus group questions were developed based on the questionnaire results to explore emergent issues. Consent was obtained to report results from 7 out of 8 and 9 out of 10 participants from the 2015 and 2016 focus groups, respectively. All data pertaining

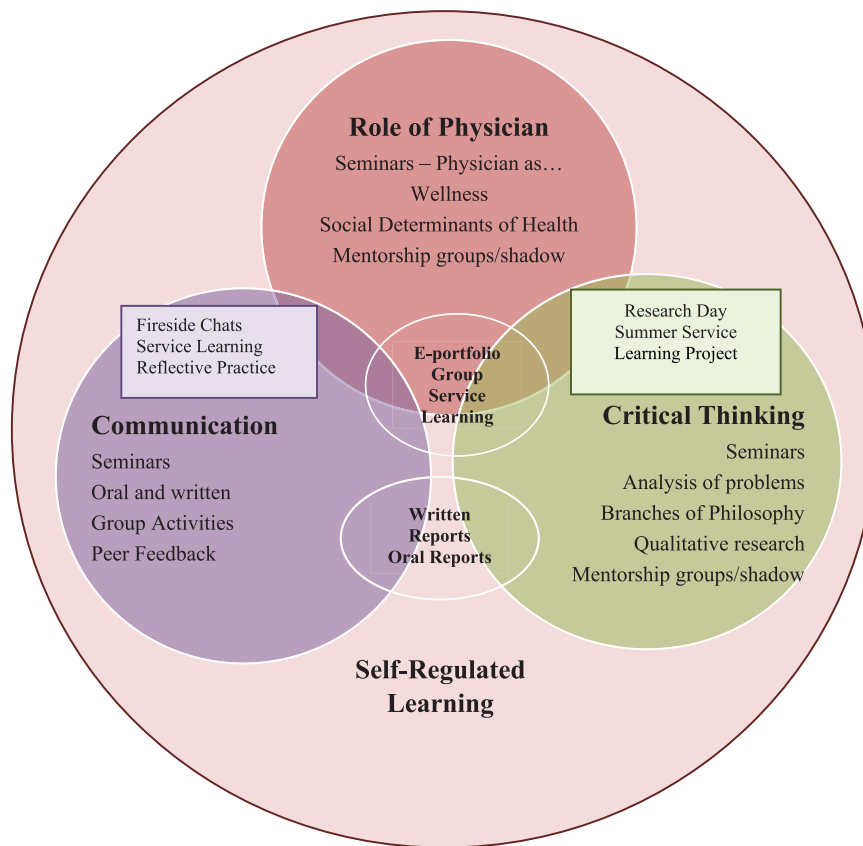


Figure 2. QuARMS modules and activities.

to participants who did not consent to have results reported were removed from the transcripts prior to analysis. Focus group data were analysed using thematic analysis and a constructivist interpretive paradigm. A distanced facilitator, standard protocol, and dual approaches assured consistency and trustworthiness of the data.

Ethics compliance was received from the Health Sciences and Affiliated Teaching Hospitals Research Ethics Board at Queen's University.

Results

The pillars of the QuARMS learning stream taught in the non-traditional portion of the academic curriculum primarily consisted of communication, critical thinking, and the role of a physician. While some activities/assessments had a focus on 1 pillar, many were designed to combine multiple learning objectives (Figure 2).

Role of the physician

The undergraduate years are often when students finalize their future career paths. As Wang et al⁴ have identified, university undergraduates often have a limited knowledge and understanding of what it means to be a physician. Given the psychological and financial cost of a medical education, the more opportunities that undergraduates have to engage with what it means to be a physician, the better informed they can be about

their decision to pursue a future in medicine. Overwhelmingly, students enrolled in the QuARMS learning stream indicated that they learned a great deal from sessions that were designed for the role of physician pillar. Nine students in 2015 and 10 students in 2016 agreed or strongly agreed with the statement 'I learned a great deal in the sessions on Role of Physician'.

Course content such as fireside chats and mentor groups allow students to engage with physicians outside the classroom, while service learning allows students to apply theories and develop skills learned in the classroom.

Across both cohorts, students indicated that the fireside chats were a beneficial opportunity to gain a better understanding of the range of careers and experiences from practicing physicians. Guest physicians met with the group of 10 students per year in an informal setting, to share their personal and professional experiences including the strategies they employ to manage the challenges/stresses of a medical career. Students are provided with the opportunity to ask questions and are required to provide a 1-page reflection after each chat. Reflections are reviewed by faculty and feedback is provided on the reflective process:

I found the fireside chats the most useful in the QuARMS experience. Coming into the program, I had little knowledge of the work/personal demands of a doctor. . . I enjoyed that we were able to get their advice on medical school, how they knew what area they wanted to specialize in, and their level of satisfaction on their career choice. (Questionnaire 2015)

Speaking to the fireside chats I think it was also helpful to get physicians experience and not just as a physician but within their life in general. So how they were able to have a family and are able to balance that with their job. And that made me critically think about specific areas of medicine and evaluate whether that area is right for you or one of your friends. So trying to figure out where you fit in based on critical evaluation and experiences. (R8 2016)

Sometimes, I found myself getting so caught up in academics that I would become stuck in my own bubble. Fireside chats gave me a glimpse into what lies ahead and reminded me of what my goals truly are. (Questionnaire 2016)

In addition to exposing students to practicing physicians, students were expected to develop skills in self-reflection. A short, written reflection was required after each fireside chat to support this learning goal, which was added to their learning portfolio. Students reported less benefit from fireside chats in the second year although they were all still developing their reflective skills:

I personally was not as favorable of the fireside chats. In 1st year I would say I was very favorable but then in 2nd year I found that they seemed repetitive to me. And in particular reflecting on every one I found that I was searching for things that sometimes were not there. (2016)

A key component of the QuARMS learning experience is the scaffolded approach to community service learning (CSL). Students experience 3 different service learning projects during their 2 years in the QuARMS programme, moving from individual service in their first year to a summer project they present early in their second year and finally to a longitudinal group service learning project in their second year.

A few students expressed that they felt that service learning work in the first year of the programme was unnecessary because this work was something that QuARMS students engaged in outside of the programme regardless. Although in-class sessions focused on the application of self-reflection, social determinants of health, and ethics as they related to their experiences, some students felt that requiring a service learning experience within the programme made it less enjoyable:

Volunteer [service learning] work in the first year of QuARMS is necessary, but it is also something that all ten of us would have pursued regardless of whether it was in the QuARMS curriculum or not. A way of building on this would be to do a service learning project that encompassed 2 years rather than 1 year, which could have allowed for more complex projects to have arisen. . . (2015)

Students expressed feeling some discomfort during their summer CSL projects due to a lack of communication with their mentors and a perceived lack of clear expectations:

I think one of the greatest challenges not only with the summer project but also more noticeable with the group service learning project was sort of the lack of follow up and feedback during the course of the project itself. So I remember for the summer project there had been some initial

discussion I think before we left for the summer about regular check ins with all the students to see how the project was going and that ended up not happening. [. . .] I think for our group where there were times I think we felt uncertain about how to proceed, especially when we faced obstacle.

Of interest, students were provided with written objectives and were encouraged to contact faculty throughout their projects, but it was left to their discretion and few did so.

While students found different aspects of the CSL curriculum useful, students' perceptions about the quality of the group SL project sometimes depended on the organization with which they were paired:

I think the agency is wonderful and the project that we were given totally has application. It is just I think sitting down . . . and conveying clearly what is expected of us. Were given a very broad outline of what was expected. I understand that is the way we were supposed to learn and to navigate through things but I think to some extent there was a little more clarification required because it took away from our outcomes. (2016)

In general, students wanted a more goal-directed learning plan with specific outcomes listed. This discomfort has been described in other experiential service learning environments where students find themselves in a less structured situation and need to make decisions about how they will achieve their learning objectives in the context of the project (see <https://meds.queensu.ca/ugme-blog/archives/2927>).

Each student in the QuARMS learning stream was placed in a mentorship group with medical students, residents and practicing physicians. These mentorship groups provide students with flexible levels of support while creating opportunities to help them develop professional relationships with other group members. When discussing the mentorship programme in the questionnaire and in the focus group, students were evenly divided in their perceptions of the usefulness and frequency of this experience. Part of the reason for this is reflected in differences in the groups themselves. Some groups met more frequently than others and were more accepting or made more of an effort to engage QuARMS students:

I am glad that we were integrated into the mentorship program with the medical students and have met some wonderful people in upper years who I feel comfortable around. It didn't have a huge impact on my experience because there aren't a lot of mentorship events, but I still think it is a great feeling to feel part of a community especially because QuARMS sometimes sits awkwardly on the fence between arts and medicine. (2015)

I think it totally just depends on your mentorship group to be very honest with you. Some of them met once a month, some of them do not meet once a month and some of them meet once a semester and this is something that is completely unavoidable, but the undergraduate [program]. . . and med school. . . have two completely different schedules. (2015)

The students who participated in the 2016 focus group also suggested that QuARMS students might feel isolated within

their mentor groups or that they may experience resentment from medical students:

I think it can be kind of intimidating. . . I did not personally experience this in my group but I know people who have experienced this and there is some hostility from some of the people within the mentorship groups to the QuARMS program. So that can be difficult. With that being said I think it also depends on the group you are in. (2016)

So knowing who to contact and also normalizing a culture that you are equally as valuable within your mentorship. . . or in some ways that you are allowed to be there and you should interact with them fully. I found sometimes that I just stopped getting emails and I was kind of like, well maybe I don't know who I should reach out to. (2016)

The mentorship programme was intended to provide a group and a one-on-one buddy system for the QuARMS students, something that did not occur for most of the students, but which 1 student found incredibly rewarding:

I think I'm the only one; the physician in my group . . . assign[ed] me with one mentor as an individual, so [. . .] she was a second year student then, and she said this is going to be your mentor, I would love if you could meet on your own time because this is who you're going to be. . . because if you do go into med school, she is going to be a great resource for you. So that way I felt that whenever I needed to I just texted her and said, you know, can we go for coffee when you have time, when you have a break, and that gave me more of an opportunity to ask the questions that I might not have asked in my mentorship group, get to know her as an individual, and her context within the medical school. (2015)

Recruiting upper year mentors or pairing first-year medical students with first-year QuARMS students may help to provide a more equitable peer mentorship experience for all the students in the programme.

Communication

Overall, both cohorts of students indicated that they learned a great deal in the sessions on communication; 9 students in the 2015 cohort and 10 in the 2016 cohort agreed or strongly agreed with the statement 'I learned a great deal in the sessions on Communication'. For 1 student, the inclusion of more humanities-based content in the curriculum encouraged self-reflection:

I cannot emphasize enough how important it was to me that arts and humanities were incorporated into the QuARMS curriculum. Through essays that we read and discussed, as well as through writing exercises we were assigned, I found an outlet to help me think through my own relation to medicine, disease and illness. I gained insight into what the medical career is like: which parts are rewarding and which parts are challenging. Difficult topics – like witnessing the death of a patient or going into the morgue for the first time – were expressed through essays and literature/poetry in a way that really moved me. (2016)

Other students appreciated the emphasis that was placed different forms of communication:

A lot of communication feedback that I had received in things like English were more . . . grammatical and structure based and how an essay should be structured. But this was more of actually communicating with other people and I found that helpful. (2016)

I think going into the undergrad I was thinking of communication as only verbal. But Dr. . . . also emphasized the importance of developing listening skills and I really appreciated that. It had never really been introduced to me as something to develop and I recognize how that is some important in the practice of medicine and life in general. (2016)

I think as a group we learned a lot about both verbal and written communication, be it with peers, supervisors, organizations, etc. (2016)

One student found the communication modules helpful, but would like to see more diversity in the content. The student suggested options like

simulate[d] phone conversations with patients, talk about the elevator pitch, talk about how to interview well (because this will be important for residency and job applications). Could also focus more on listening strategies – perhaps this is true of medicine as a whole. I feel there is a lot of emphasis on how to communicate your ideas but not enough on how to interpret/understand what someone else is saying – it would be nice to learn specific strategies to digesting what a patient, teacher, or peer is saying. (2016)

Other students found the content related to giving presentations helped them feel more confident with their public speaking:

I really enjoyed [the] session in first year about giving presentations. It completely revolutionized the way I create PowerPoints and deliver my presentations, and gave me confidence in my other courses as well. (2015)

I think the best part about that project . . . was the feedback that we got. So we got to present our projects and then we got feedback and then present them again. So the continuity within the structures, that was really the best asset of that presentation component. (2015)

Many students suggested that more feedback in this area would be helpful in spite of receiving feedback on a practice session, doing a revision and receiving feedback again:

Giving presentations was a useful experience, as it allowed us to develop our public speaking skills. These sessions could be enhanced slightly if feedback was provided for all presentations. (2016)

Critical thinking

Individual sessions on critical thinking focused on analysis of problems as well as branches of philosophy. Students were confronted with ethical dilemmas and were asked to research the history of diseases as way to think about how culture and history can influence the ways that disease and treatments are understood. Students also participated in sessions outlining the basic principles of qualitative and quantitative research and were asked to provide a limited literature review about their summer and group service learning projects. Both cohorts

identified that they learned a great deal in these sessions; 9 students in the 2015 cohort and 10 in the 2016 cohort agreed or strongly agreed with the statement 'I learned a great deal in the sessions on Critical Thinking'.

Students found that holding discussions in small groups, along with researching and writing a paper, challenged them to think about things from other perspectives:

I really enjoyed the Critical Thinking sessions with Dr. . . . Given that the majority of our classes in undergrad are lecture-based, I found the discussions we had as a group . . . to be a refreshing change that really encouraged us to think outside the box and appreciate the variety of opinions we all hold. . . . The process of writing the disease essay, although it took time, gave me an opportunity to consolidate my ideas about disease and formulate into a (more or less) cohesive essay, which differed from the type of writing expected of us in our English course (i.e. there was little focus on structure and more on the thought process). (2015)

For some students, an approach to critical thinking was a skill set that they had not learned in high school, but which they perceived as very valuable for medical school:

I found the session on reading and analyzing scientific papers highly useful and wish that he delivered that module in Year 1. I find that we are often expected to have this skill set already, even though it is not formally taught anywhere (to my knowledge), and I think it is a very useful tool to have before entering medical school. (2015)

Those sessions helped me to see medicine and illness/disease in a new light. The sessions also sparked an interest in learning more about philosophy and history and where they intersect with medicine . . . Being exposed to the Museum of Healthcare and learning to ask how/why medicine evolved the way it has was important. It caused me to think more critically about the state of the medical field today and to examine disease/illness from a philosophical lens. (2016)

A few students indicated that they would have liked more time spent exclusively on critical thinking skills, although this may also indicate that students need the critical thinking aspects of assignments made more explicit, as they may not be obvious to students with little practice in this area:

Although we did have sessions focused on learning how to write scientific reviews, there was less focus placed on critical thinking as compared to the other skills and I do not [think it was as] thoroughly covered as it could have been. (2015)

Could use a lot more on this – I cannot name one specific module where we focused solely on critical thinking. This sort of ties in with the session we had on ethics but truth being told, we more just talked about ethical dilemmas in medicine – we never really addressed what principles to use when addressing a generic ethical dilemma. (2016)

Student experience

Students reported that they had an increased sense of community as their focus shifted from competition to cooperation:

I think it affords us the opportunity to be a little bit more cooperative with our peers . . . it's no longer a zero sum game, you know you're no longer concerned about someone else's gain is your loss. You're a little bit more willing to help out your peers, a little bit more willing to step back and take a little bit of time to just do the things that you enjoy rather than doing the things that you think would look good on the med school application. (2015)

As part of the survey, students were asked about faculty support, assessment fairness, and whether or not they would recommend the QuARMS experience to high-school students (Table 1).

Conclusions

QuARMS students identified a number of strengths and weaknesses related to the instructional pillars role of a physician/CSL, communication, and critical thinking. Students highlighted positive aspects of the programme including development of critical thinking skills, communication, and exposure to practicing physicians. Although they did not explicitly discuss SRL, they reported a benefit of learning to self-assess and reflect on their experiences, as well as reduced anxiety and stress. Future research could explore the development of SRL within the QuARMS curriculum. Most of the students believed they learned a great deal from the learning modules and indicated the most useful and enjoyable sessions included: fireside chats, in-class sessions, shadowing, critical thinking, and giving presentations. While students in the QuARMS learning stream are required to maintain a 3.5 GPA to be considered for entrance into medical school, most QuARMS students exceeded this requirement. For the 2015–2016 cohort, all students were offered admission to the medical programme after completing the QuARMS learning stream.

Students indicated that they thought that they were well equipped to understand the role of the physician. The AAMC emphasizes the importance of service learning, especially taking advantage of service learning opportunities related to health care as these opportunities give students 'a chance to see if you enjoy working in the health or medical field, network with like-minded peers, take on increased responsibility and leadership roles, and build your resume'.⁵ QuARMS students value service learning, yet ranked this as one of the least useful aspects of the curriculum. This may be because the students already had a history of service learning, felt that they would have completed service learning on their own time even without it being part of the curriculum, and including it as part of the programme seemed redundant. The debriefing of their service learning experiences introduced students to the concept of CSL that may need to be made more explicit. Students were divided about the CSL experience, possibly because, from their perspective, the quality of the experience largely depended on the organization they were paired with, and whether they felt they had mentorship support throughout the process. Formal check-ins were scheduled but

Table 1. Frequency of student agreement with statements about faculty support, assessment fairness, and programme recommendation.

	STRONGLY AGREE		AGREE		DISAGREE		STRONGLY DISAGREE	
	2015	2016	2015	2016	2015	2016	2015	2016
The faculty were available when I needed them.	4	9	5	0	0	1	0	0
The faculty were supportive of my learning needs.	5	8	4	1	0	1	0	0
The assessments in the programme were fair.	3	7	6	3	0	0	0	0
I would recommend the QuARMS experience to high-school students.	6	9	2	0	1	1	0	0

Abbreviation: QuARMS, Queen's Accelerated Route to Medical School Programme.

students felt additional check-ins would be beneficial. In addition, they suggested professional development workshops and more structure to the projects would be of benefit.⁶ Of interest, the discomfort they describe is consistent with other CSL curricula.

Students in the QuARMS learning stream were able to take advantage of mentorship opportunities built into the curriculum. Students considered shadowing a physician, as part of their programme, to be a highlight although it was 1 afternoon out of the 2-year programme. Feedback on the shadowing experience included wanting additional opportunities available to them throughout the year, although some students sought out these experiences individually. Similarly, students identified the fireside chats as one of the most useful aspects of QuARMS because it provided them with insight into a variety of physicians' lived experiences. Requiring students to reflect on the fireside chats had the benefit of enhancing reflective skills and of considering the perspectives of different physicians. Overall, QuARMS students welcomed opportunities for mentorship, but were divided on the effectiveness of their formal mentor groups, as there was variability in frequency and quality of interactions; 1 suggestion was to incorporate a buddy system that would pair a medical student with a QuARMS student to provide more one-to-one near peer mentoring.

Students valued the communication curriculum and in particular highlighted the sessions on giving presentations. Although specific sessions were provided on verbal, non-verbal, electronic, and written communication, these skills were required throughout the programme. Students reported that additional sessions on written communication would have been of benefit, which was taken into consideration for future programme design.

The sessions on critical thinking were valued by most of the students especially if they gained new insights into their skills. In addition to the formal sessions on critical thinking, there was an expectation for a literature review as part of the CSL projects. Students reported that they would like additional sessions on scientific inquiry and critiquing as well as clinical research.

Students described a feeling of disconnect between some of their experiences and the perceived goals of the programme

and were unclear, at times, about the learning goals for each session in spite of an electronic system with curricular details for each session. They also felt the continuity between sessions needed to be more clearly articulated. However, the discomfort they felt in some areas might have been due to the curricular goal of guiding students towards developing their own problem-solving strategies. This less structured approach is in contrast to the typical undergraduate experience, which is highly organized and goal directed. Students described a need for more in-depth, consistent, and timely feedback and assessments. The assessment strategies were designed to support the move from a competitive entrance to a collaborative curriculum but the pass/fail system was disconcerting to some who wanted to know a numeric grade or at least their standing in the class. Therefore, additional instruction about the learning and assessment goals and programme design may help students understand the connections between different aspects of the curriculum. In medical school and future practice, students will be expected to adjust to many different instructional and clinical settings, so learning various methods of adaptation will only enhance their ability to succeed. The QuARMS curriculum was well received by the students, and student experiences aligned with the intended pillars with 17 out of 19 students endorsing a positive recommendation for incoming students.

Limitations

This study was conducted with a small number of students before they have entered medical school. Future research will look at how these students fare in comparison to their traditional entry colleagues and whether their current perspectives align with their future reflections.

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Author Contributions

All authors contributed to the conceptualization, writing, and editing of this paper.

Informed Consent

Patient consent was not required for this study.

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