

Youth perspectives on healthcare careers: contextual influences, supports and constraints

Sean B. Maurice, PhD^{1*}, Alishia Lindsay, BSc² and Neil Hanlon, PhD³

¹ Northern Medical Program, Division of Medical Sciences, University of Northern BC, 3333 University Way, Prince George, BC, V2N 4Z9, Canada; and Department of Cellular & Physiological Sciences, Faculty of Medicine, University of British Columbia, 2350 Health Sciences Mall, Vancouver, BC, V6T 1Z3, Canada

²MSc student, School of Health Sciences, Faculty of Human and Health Sciences, 3333 University Way, Prince George, BC, V2N 4Z9, Canada

³Geography Program, Faculty of Environment, University of Northern BC, 3333 University Way, Prince George, BC, V2N 4Z9, Canada

*Correspondence: sean.maurice@unbc.ca

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Abstract

Recent literature suggests that experiential forms of learning are an effective means to promote healthcare careers as options for youth in secondary school, and that such efforts are especially important in recruiting youth from groups underrepresented in the healthcare workforce. Yet, little is known about how youth obtain information about career options, nor about the influence that contextual factors, such as rural or smaller population centres, have on the formation of career aspirations. This study reports on results of an online survey questionnaire distributed to students in the mid-senior years of high school (i.e., Grade 10) at four high schools across British Columbia during the 2020-21 academic year. Students were generally aware of a range of healthcare career opportunities, but desired additional exposure and information. They obtained information about these career options from an array of sources (i.e., family, friends, teachers, popular culture, social media). Students in small centres appear to have more reservations about their own abilities to pursue healthcare careers. The cost of post-secondary education was the most cited barrier to pursuing a healthcare career across all populations and students suggested that costs should be lowered or eliminated to increase the number of youth working towards a career in healthcare. Finally, our data suggest that youth impressions about healthcare career planning and opportunities were largely unaffected by COVID-19, at least in the early stages of the pandemic, though students in small centres were more likely to be shy of a healthcare career due to the pandemic. In light of our findings, we offer recommendations to educators and policy makers.

Key words: youth, career choice, healthcare education outreach, health workforce, rural population, smaller urban settings.

Introduction

Successful healthcare career pathways require considerable investment of time and effort on the part of students, beginning with planning and preparations necessary to gain entry into relevant post-secondary education and training programs. There is growing evidence that greater levels of support and encouragement from parents, educators, and mentors each play an important role in guiding youth to healthcare careers (Zayas & McGuigan, 2006; Holden, et al., 2014; Gerard & Booth, 2015; Oomen, 2016).

The future diversity of the healthcare workforce requires that efforts be made to promote healthcare education and training to students in traditionally underrepresented social circumstances and contexts, such as low-income neighbourhoods, Indigenous students, and rural areas (Brownrigg, et al., 2020; Fonseka, 2018). Rural youth may be less likely to have confidence that they can get into medical school, and face greater barriers (Rourke, 2005; Whalen, et al., 2016). Importantly, in the context of current and historical rural healthcare provider shortages, there is strong evidence that healthcare professionals who were raised in rural and smaller urban settings are more likely to practice and remain in such settings (Cosgrave, et al., 2019; Hughes, et al., 2005; Maurice, et al., 2019; Rourke, 2008; Rourke, 2010; Malatzky, et al., 2020).

For these and other reasons, it is important to ensure youth are informed about healthcare education and career options, and to do so as early as possible for high school students, particularly among groups that are historically underrepresented in the healthcare workforce (Rourke, 2005; Lauver, et al., 2011). In spite of this urgency, there is little consideration in the healthcare human resources literature about how youth from underrepresented social categories perceive healthcare careers as personal options. Likewise, little is known about the influence of contextual factors such as family, peers, schools, popular and social media, and current events, on the career aspirations and planning of youth.

In British Columbia (BC), Canada, in response to a persistent maldistribution of physicians, the province's lone metropolitan-based medical school expanded its annual intake of students and added three regional medical campuses over several phases of growth, beginning in 2004 (Snadden, et al., 2005). New admissions processes were developed to increase the numbers of rural, Indigenous and Black medical students (Fabian, 2008; University of British Columbia). However, there remains a physician maldistribution with half as many physicians per capita practicing in rural vs urban environments (Snadden & Kunzli, 2017). Similar challenges exist with respect to other health professions and the COVID-19 pandemic has only exacerbated pre-existing workforce shortages and healthcare provider burnout (Maurice, et al., 2019; MacLeod & Place 2015; Manahan, et al., 2009; Murthy 2022). Clearly, more concerted efforts are needed to recruit future medical and allied health professional students from traditionally underrepresented populations.

In this study, we surveyed high school students in a sample of schools throughout the province of BC. The schools were located in a range of settings, two in small population centres, one in a medium population centre, and one in a large urban population centre. Each of the schools are in communities served by the three regional medical campuses of the province's distributed

medical education program (Figure 1). Our objective was to obtain baseline data from youth in each region and in different sized population centres, about healthcare career options. We wanted to provide an opportunity for youth to share their knowledge and impressions of healthcare opportunities, where and how they receive information about healthcare career options, whether they and/or their peers are considering post-secondary education and training in the healthcare field, and what barriers they perceive to such education and training. We were also interested in whether these views and impressions were influenced by contextual factors such as location and size of population centre. We distributed the survey during COVID-19, so we included questions about the impact the pandemic had on their impressions of healthcare careers.



Figure 1. Map of the province of BC, Canada, with the UBC medicine main campus and regional campuses shown, along with provincial health authorities (note the province also has a First Nations Health Authority, but it is not limited to a particular geography so is not shown here).

Methods

We created and pilot tested an online questionnaire on youth attitudes and awareness of healthcare career opportunities. We chose to use Qualtrics software as this tool was flexible for our purposes, straightforward to use, and compliant with the BC Freedom of Information and Protection of Privacy Act (QualtricsXM, <https://www.qualtrics.com>). The questionnaire was intended as an exploratory tool to solicit input from students in mid-upper secondary education (ISCED level 3 (UNESCO, 2011)), namely grade 10 students in BC, across a range of populations in the province. This cohort was chosen in order to hear from youth who are expected to be in the early stages of considering future education and career opportunities, when “career-life interests and possibilities start to become meaningful considerations” for many (Government of British Columbia, 2021). In terms of location, our primary interest was students in schools in different sized population centres, served by one of the three small sites of the provincial distributed medical education program.

We ran the Qualtrics survey from mid-December 2020 until late April 2021. We initially had commitments from six schools to help us recruit participants and distribute the questionnaire to an audience of 150 – 200 in each population. Four of the six schools were in small population centres (populations 1,000 to 29,999), one school was located in a medium population centre (population 30,000 to 99,999) and one was located in a large urban population centre (100,000 or greater) (Statistics Canada, 2022). Two of the schools in small centres later withdrew from the research. For reasons of confidentiality, the names of participating schools are withheld and their locations are reported at the regional health authority level. As reported in Table 1, we received a total of 71 completed surveys, with approximately 28% (n=20) of the respondents located in the large centre, 37% (n=26) located in the medium centre, and 35% (n=25) located in small centres. While the objective was to survey grade 10 students, one respondent was in grade 11 and we chose to include their responses.

Table 1. Schools attended by respondents

Regional Health Authority	Setting Type	Count	%
Interior	Small centre	12	16.9
Northern	Medium centre	26	36.6
Northern	Small centre	13	18.3
Vancouver Island	Large centre	20	28.2

The gender self-identification of respondents is summarized in Table 2. The majority of respondents identified as female (65%), followed by males (30%), and non-binary (3%). Two respondents (3%) chose not to answer. The higher rate of replies from females was consistent across all three populations.

Table 2. Gender identification of respondents

Gender	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	N	%	N	%	n	%	n	%
Male	21	29.6	9	36.0	6	23.1	6	30.0
Female	46	64.8	14	56.0	18	69.2	14	70.0
Non-binary	2	2.8	1	4.0	1	3.9	0	0.0
Prefer not to answer	2	2.8	1	4.0	1	3.9	0	0.0

The sample size prevented us from undertaking any multivariate analysis of the data. The questionnaire included open-ended questions that enabled respondents to add additional insights, and these data were coded using NVivo for Mac version 11.4.3 which allowed us to code and organize the qualitative responses, and identify themes in the data (QSR International, <https://www.qsrinternational.com>). Where appropriate, we include excerpts of open-ended responses to add depth to findings, but the data were insufficient to undertake thematic analysis. All quotes are anonymized and only information about population type (small, medium, or large centre) is included.

Ethics approval

Following buy-in from teachers and/or counsellors at the schools, we gathered administrative support from the 6 schools between August 2019 and October 2020. This study received approval (H20-00837) from the University of British Columbia, the University of Victoria, and the University of Northern British Columbia research ethics boards.

Results

The findings concerning sources of information for respondents are presented in Table 3. Respondents were instructed to select as many responses as they deemed relevant. Overall, family members (80%) and various forms of entertainment media (75%) were the most common sources of information to learn about healthcare careers. The next most commonly cited sources of information were social media, friends, and teachers (approximately 60% of respondents). Guidance counsellors, on the other hand, stood out as being much less commonly cited sources of information for these youth.

In terms of the influence of setting type, the number of responses per respondent was higher in the small and medium centre settings, whereas students in the large centre setting tended to cite a lower number of information sources. The responses from students in the large centre setting differed in other ways. For instance, the large centre was the only setting in which popular media was more frequently cited than family. Likewise, the frequency with which friends were cited as information sources was lower in the large centre setting.

Table 3. Sources of healthcare career information

Source	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	N	%	N	%	N	%	n	%
Family	57	80.3	21	84.0	22	84.6	14	70.0
TV Shows, movies, books	53	74.7	20	80.0	17	65.4	16	80.0
Social Media	44	62.0	15	60.0	19	73.1	10	50.0
Teachers	44	62.0	15	60.0	18	69.2	11	55.0
Friends	43	60.6	18	72.0	17	65.4	8	40.0
Guidance Counsellors	10	14.1	4	16.0	4	15.4	2	10.0
Other	6	8.5	0	0.0	3	11.5	3	15.0
Total citations			93		100		64	
Citations per respondent			3.7		3.8		3.2	

In terms of sources of inspiration to pursue a healthcare career (Table 4), family was cited most frequently (58%) as a source of inspiration and encouragement. Students in the medium centre were particularly likely to cite family as a source of inspiration. While the proportion of family citations was much lower in the other settings, this category was still the top choice in these settings. Otherwise, most other sources of inspiration received between 24% and 40% (depending on population type), with the exception of guidance counsellors who were cited very sparingly.

Table 4. Sources of inspiration to pursue a healthcare career

Source	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	N	%	N	%	n	%	n	%
Family	41	57.8	12	48.0	21	80.8	8	40.0
Friends	26	36.6	7	28.0	14	53.9	5	25.0
TV Shows, movies, books	24	33.8	9	36.0	7	26.9	8	40.0
Teachers	22	31.0	6	24.0	11	42.3	5	25.0
Social Media	20	28.2	8	32.0	7	26.9	5	25.0
No options selected	9	12.7	6	24.0	2	7.7	1	5.0
Other*	7	9.9	2	8.0	3	11.5	2	10.0
Guidance Counsellors	5	7.0	3	12.0	2	7.7	0	0.0

*Other (N=7): no information provided (6), Google (1)

We were interested in collecting views about pursuing post-secondary education generally, and healthcare education programs in particular. The responses to these survey items are presented in Table 5. Most respondents were intending to attend a college or university in the future, although there was marginally lower support for this view among students in the small centre settings.

Approximately 30% of respondents indicated an interest in healthcare education and training, with the highest proportion recorded among students in the medium centre (42%) and the lowest proportion among the students in the small centre setting (20%). Respondents who indicated they had no desire to pursue offered a range of reasons. A few indicated that they already had other career goals in mind or indicated that they felt in one way or another not suited to a healthcare career. For instance, four respondents expressed some aspect of queasiness, such as “I don’t do well around blood” [record 19, large centre], “I’m a very anxious person” [record 21, large centre], and “It is a very good career choice in my opinion, but I get light-headed at the sight of blood and most needles” [record 44, medium centre]. Others expressed feelings that they weren’t personally equipped to handle the stress of healthcare; in the words of one student from the medium centre context, “I’m unsure of whether or not healthcare would be a thing that I would be comfortable doing due to the nature of such jobs and some of the risks that may come with it” [record 40, medium centre]. Others cited the lack of interpersonal skills, confidence, or qualifications, “I am not very good at math so I wouldn’t be able to be one” [record 30, small centre]. Approximately one-third of respondents indicated “maybe or undecided” to the question about healthcare education, and this was consistent across the three school setting types.

Table 5. *Desire to go to College or University or to pursue a healthcare career*

College/University	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	N	%	N	%	n	%	N	%
Yes	56	78.9	17	68.0	22	84.6	17	85.0
No	3	4.2	1	4.0	1	3.9	1	5.0
Maybe/ Undecided	12	16.9	7	28.0	3	11.5	2	10.0

Healthcare Career	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	N	%	N	%	n	%	N	%
Yes	21	29.6	5	20.0	11	42.3	5	25.0
No	27	38.0	11	44.0	8	26.9	8	40.0
Maybe/ Undecided	23	32.4	9	36.0	7	30.8	7	35.0

We were especially interested in student perceptions about the feasibility of pursuing a healthcare career for themselves and their peers (Table 6). The most common response to both questions was “yes,” although less than a majority expressed this view about themselves, while the majority of students across all settings felt that this was feasible for other youths in the community. Students in the medium centre were the most positive about these questions (58% concerning themselves and 85% concerning their peers), whereas students in the small and large centre settings were more mixed in their responses between yes or uncertain.

A quarter of the students felt that a career in healthcare was not a practical possibility for them. The view that a healthcare career was not in the cards was most prevalent in the small centre setting (36%), and least so in the medium centre setting (15%). Students in the two small centres were also most likely to indicate they were “unsure” about their own prospects for a healthcare career.

Table 6. Views about the feasibility of a healthcare career

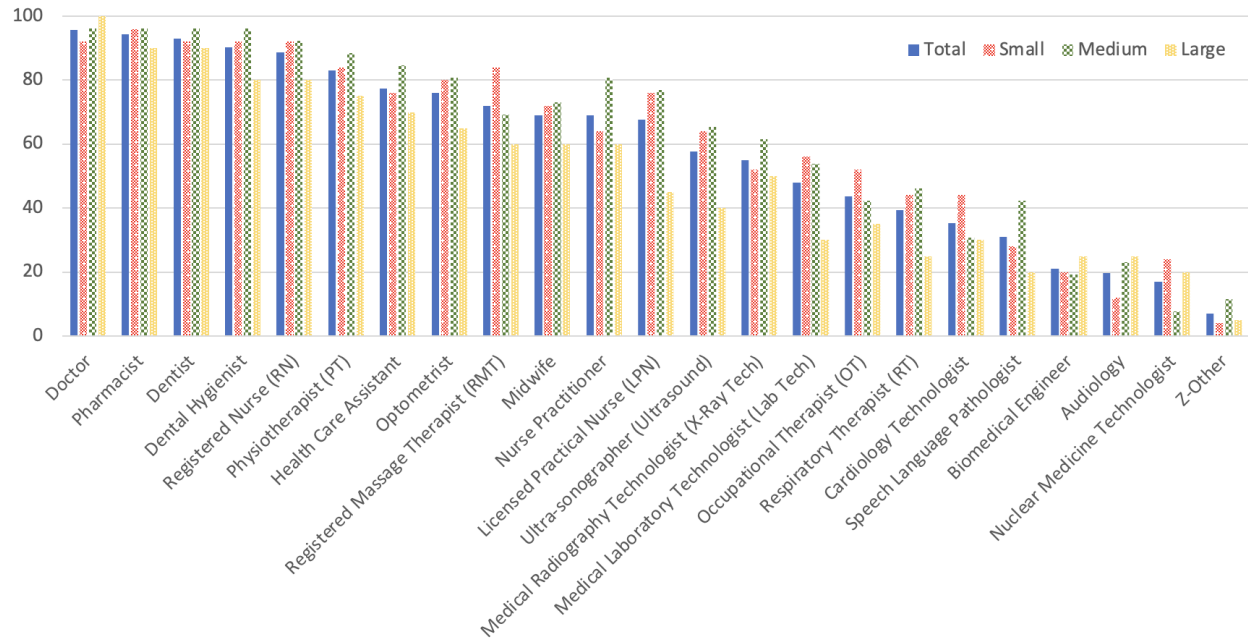
For Self	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	N	%	N	%	N	%	N	%
Yes	30	42.3	7	28.0	15	57.7	8	40.0
No	18	25.4	9	36.0	4	15.3	5	25.0
Unsure	23	32.4	9	36.0	7	26.9	7	35.0

For Others	Total (N=70)		Small centre (n=24)		Medium centre (n=26)		Large centre (n=20)	
	N	%	N	%	N	%	N	%
Yes	44	62.9	12	50.0	22	84.6	10	50.0
No	5	7.1	3	12.5	1	3.9	1	5.0
Unsure	21	30.0	9	37.5	3	11.5	9	45.0

Note: **the N value of the bottom table is different from other tables in this report because there is a missing answer from one small centre student*

We asked respondents to identify how many healthcare careers they were aware of, from a list provided. Most respondents had heard of doctor, pharmacist, dentist, dental hygienist, and registered nurse ($\geq 80\%$), and many had heard of a variety of other healthcare careers as shown in Figure 2. The responses were largely similar across populations, indicating that students have heard these career titles before, to a greater or lesser extent.

Figure 2. Awareness of healthcare careers



However, students also described a lack of awareness about healthcare careers saying “... I know very little about healthcare careers because [we] receive little to no exposure at school or in the community” [record 26, small centre], indicating that the awareness of different careers in healthcare may be fairly superficial and not sufficient for making a decision about a potential career.

Views about personal barriers to a healthcare career are summarized in Table 7. Many of the more commonly cited reasons related to economic barriers (e.g., cost of education, moving to a city, cost of application, number of years involved). Some of the more commonly cited barriers related to perceived personal shortcomings (e.g., not smart enough, not qualified). In these cases, students in small centres appear more apt to list these perceived shortcomings as barriers. Only a small percentage of respondents indicated that they did not want to live or work far from home, with the proportions inversely related to settlement type (i.e., population size). Finally, about one-third of respondents cited lack of personal healthcare experiences and connections as a personal barrier, with those in the medium centre setting most likely to cite this as a barrier.

Table 7. Personal barriers to pursuing a healthcare career

Barriers	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	n	%	N	%	n	%	n	%
Cost of education	41	57.8	16	64.0	12	46.2	13	65.0
Number of years I would need to be in college/university	33	46.5	14	56.0	8	30.8	11	55.0
Don't think I am smart enough	31	43.7	14	56.0	11	42.3	6	30.0
Cost of moving to a city to study	27	38.0	10	40.0	8	30.8	9	45.0
Cost of application	24	33.8	12	48.0	5	19.2	7	35.0
Lack of personal experiences or connections with others in the healthcare field	23	32.4	6	24.0	11	42.3	6	30.0
Don't think I would qualify	20	28.2	11	44.0	7	26.9	2	10.0
Don't want to live or work far from home after I finish high school	14	19.7	6	24.0	5	19.2	3	15.0
Other	11	15.5	3	12.0	6	23.1	2	10.0
No options selected	4	5.6	1	4.0	1	3.9	2	10.0

Other (N=11): No (4); I don't like blood/needles (2); Competitive field (1); Not a priority (1); Lack of interest (2); Stress/Anxiety (1).

Respondents were also asked to indicate barriers facing their friends, and these data are summarized in Table 8. Overall, patterns of response were similar to those concerning personal barriers as reported in the preceding table, with not much variability between settlement type, although the frequency of citations was generally higher for this question. That is, various economic barriers again emerged as the most commonly cited responses (i.e., approximately 40% to 70%). One important difference was that, just as respondents from the small centre setting appeared more likely to feel they would not be smart enough or would not qualify for a healthcare career, they also appeared more likely to feel their friends would not be smart enough or would not qualify for a healthcare career.

Table 8. Views about barriers friends face to pursuing a healthcare career

Barriers	Total (N=71)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=20)	
	N	%	n	%	n	%	n	%
Cost of education	47	66.2	18	72.0	17	65.4	12	60.0
Cost of moving to a city to study	40	56.3	15	60.0	15	57.7	10	50.0
Number of years they would need to be in college/university	38	53.5	15	60.0	10	38.5	13	65.0
Cost of application	30	42.3	13	52.0	9	34.6	8	40.0
Lack of personal experiences or connections with others in the healthcare field	28	39.4	10	40.0	10	38.5	8	40.0
Don't want to live or work far from home after finishing high school	26	36.6	10	40.0	10	38.5	6	30.0
Don't think they would qualify	23	32.4	12	48.0	7	26.9	4	20.0
Don't think they are smart enough	22	31.0	11	44.0	6	23.1	5	25.0
Other	6	8.5	3	12.0	2	7.7	1	5.0
No options selected	4	5.6	2	8.0	1	3.9	1	5.0

Other (N=6): no (3), Yes (1), Probably not (1), I don't know (1)

When asked to elaborate on perceived barriers, students emphasized that they had concerns about the costs of post-secondary education and suggested “Maybe not have it be as expensive,” [record 11, large centre], “Make secondary education free or low of cost,” [record 15, large centre], or “Make it more affordable,” [record 70, small centre]; and expressed that the cost of the education was not justified for such a demanding job: “Traditional healthcare is high stress and odd hours, as well as requiring long and expensive schooling” [record 26, small centre].

When we asked students what could be done to encourage more rural youth to go into healthcare careers, they articulated the importance of providing more exposure and information: “Introduce the healthcare careers and give lessons on what they do and how to pursue them. It is difficult to know this information and would make it easier if we were taught about them. We need resources to know if it’s what we are looking for and if it is, then we need information on how to create that path” [record 46, medium centre]. Others shared similar sentiments: “If the school systems keep on encouraging the medical occupations, I think the youth of this generation would continue to be interested in going to find what healthcare positions interest them most” [record 49, medium centre] and “I think that if we were taught more about all of the different aspects and careers in the healthcare field, there would be more kids that are interested in those jobs” [record 9, large centre]. Other respondents suggested that their own schools should do more to promote healthcare careers, such as the following statement: “If there would be more teaching in schools, they teach a little bit about health care but I don’t think they do enough. I think kids should get put into programs that you have to take about healthcare because in my opinion that would get more kids interested, and also encouraged” [record 51, medium centre]).

Respondents who had been exposed to such experiential activities attested to the efficacy of these efforts. For instance, one student in a small centre setting stated, “I’ve done many healthcare workshops and I can see myself pursuing nursing as a career” [record 67, small centre]. Similarly, other students said, “a career in healthcare would be a practical possibility for me because I have done a lot of projects on this subject and it interests me,” [record 57, medium centre] or “Yes, a career in healthcare is something I have been looking at for quite a while now. I have been doing things to set myself up to be able to pursue a career in healthcare such as keeping my grades up, being active in my community by volunteering, doing many extracurriculars like air cadets and music lessons, and more,” [record 52, medium centre].

The final section of the survey asked students to share their impressions about the impact that COVID-19 has had on their educational and career aspirations and planning. In consideration of the fact that some may not have wanted to answer these questions, we created a screening question to ask if respondents wished to deal with COVID-related questions. A large majority of students (81%) chose to proceed, with not much variability in response according to settlement type (Table 9).

Table 9. Willingness to answer questions about the impacts of COVID

Answers	Total (N=70)		Small centre (n=25)		Medium centre (n=26)		Large centre (n=19)	
	n	%	N	%	n	%	n	%
Continue to COVID-19 Related Questions	57	81.4	20	80.0	23	88.5	14	73.7
Skip the COVID-19 related question section	13	18.6	5	20.0	3	11.5	5	26.3

Students were then asked about the impact of COVID-19 on their career decision making in general (Table 10). The majority of the 57 students who completed the COVID questions suggested that their decision making had not been affected, or else only a little. These responses were consistent across the three types of school settings. In terms of decision making about healthcare careers, the most common response was that students felt “about the same” about a healthcare career as they did prior to COVID. Here, however, there was less agreement from students in small centres, with half of small centre respondents indicating they would be somewhat or much less inclined to enter healthcare because of the pandemic.

Table 10. Impact of COVID-19 on career decision making

Various Careers	Total (N=57)		Small centre (n=20)		Medium centre (n=23)		Large centre (n=14)	
	n	%	N	%	n	%	n	%
A great deal	2	3.5	1	5.0	1	4.4	0	0.0
A lot	4	7.0	2	10.0	0	0.0	2	14.3
A moderate amount	6	10.5	2	10.0	4	17.4	0	0.0
A little	19	33.3	6	30.0	6	26.1	7	50.0
None at all	25	43.9	9	45.0	11	47.8	5	35.7
Prefer not to answer	1	1.8	0	0.0	1	4.4	0	0.0

Healthcare Careers	Total (N=57)		Small centre (n=20)		Medium centre (n=23)		Large centre (n=14)	
	n	%	N	%	n	%	n	%
Much more	2	3.5	1	5.0	0	0.0	1	7.1
Somewhat more	8	14.0	4	20.0	3	13.0	1	7.1
About the same	26	45.6	5	25.0	14	60.9	7	50.0
Somewhat less	11	19.3	6	30.0	3	13.0	2	14.3
Much less	8	14.0	4	20.0	2	8.7	2	14.3
Prefer not to answer	2	3.5	0	0.0	1	4.4	1	7.1

We then probed students a bit more closely about the impact of COVID on their considerations of a healthcare career (Table 11). Approximately half of those responding to the question felt that COVID had not affected their decision making at all. Approximately 28% expressed fear of contracting COVID, although this response was considerably more common among the students in the small centre settings and least so among students in the large centre setting. It was generally more likely that respondents would be less rather than more inclined to enter a healthcare career because of the pandemic. Here again there is a fairly pronounced urban gradient, with reservations about a healthcare career tending to increase as the setting size decreases.

Several students indicated that they were especially grateful for healthcare workers during the pandemic, stating “I really admire the healthcare workers, I really admire their patience and their courage to facing the virus,” [record 8, large centre], and “... I would just like to say that my family and I are so thankful to have healthcare workers in this covid-19 pandemic,” [record 22, large centre].

Table 11. How COVID has affected decision making for healthcare careers

Answers	Total (N=57)		Small centre (n=20)		Medium centre (n=23)		Large centre (n=14)	
	n	%	N	%	n	%	n	%
COVID-19 has not affected my decisions	29	50.9	9	45.0	13	56.5	7	50.0
Fears of contracting COVID-19 if I work in healthcare	16	28.1	9	45.0	5	21.7	2	14.3
Because of COVID-19 I am less likely to go into healthcare	11	19.3	6	30.0	4	17.4	1	7.1
I am motivated to help solve and work through COVID-19	10	17.5	3	15.0	5	21.7	2	14.3
Prefer not to answer	5	8.8	2	10.0	2	8.7	1	7.1
Because of COVID-19 I now want to go into healthcare	3	5.3	1	5.0	2	8.7	0	0.0
Other	4	7.0	2	10.0	1	4.4	1	7.1

Other (N=4): no (1), Never considered Healthcare (1), Did not affect opinion (1), Kind of scared away but still willing to do (1)

Discussion

The findings reported here were intended to provide baseline data about healthcare career aspirations in school districts served by UBC's distributed medical education program, and to inform current and future university-high school outreach initiatives. The timing of the survey distribution, a year into the COVID pandemic, was clearly a factor in the lower levels of school and student participation than we had anticipated. The small sample size precludes us from providing rigorous statistical or thematic analysis of results beyond a descriptive analysis and basic proportions, but there were enough responses to warrant some attention about healthcare career aspirations among groups of students historically underrepresented in healthcare education seats and practice. Where possible, we share anonymized excerpts of comments and cursive notes shared by respondents at various points in the online survey questionnaire to offer additional insight about the topics explored.

The data suggest that students have a fairly broad understanding of healthcare career options and receive information and encouragement about healthcare career options from numerous sources. Students appear at least as likely to learn about healthcare careers from teachers and family members as they were from arguably less reliable sources such as social media and entertainment venues. We are mindful not to presume that the information and impressions imparted by parents and educators are necessarily accurate and evidence-based, or that media and popular culture representations are necessarily distorted. But we do posit that enhancing access to career counselling programs and experiential forms of career guidance are a means to compliment other sources of information and insight, and are most likely to help youth make better-informed decisions about higher education and career planning.

Our data show that only a small number of students in the early senior years of high school receive information about career options from their guidance counsellors at the high schools we surveyed. This may well be because counsellors are not asked to play a major role in career and post-secondary education planning until students are in their final year of high school. Alternately, it may be that in many schools guidance counsellors are part-time positions, and teachers who have these roles also teach other classes, and thus some students may think of them more as teachers. Nevertheless, the findings suggest that guidance counsellors may be underutilized in efforts to promote healthcare careers amongst youth. In that case, there is an opportunity to engage guidance counselors in providing more accurate and evidence-informed information about healthcare career options at critical stages of youth career development.

Respondents also appear to believe that they would benefit from more educational outreach and professional mentorship programs that teach them about healthcare career opportunities and options. Such activities might emphasize the attainability of healthcare careers, especially for those schools serving social groups that are traditionally underrepresented in the healthcare workforce (e.g., rural, lower-income households, Indigenous self-identification). There is a growing literature that suggests that the promotion of healthcare careers in schools serving underrepresented groups is important to overcoming perceived or experienced barriers (Brownrigg, et al., 2020; Lauver, et al., 2011). Such programs should be designed to expose students to the full range of career opportunities in healthcare, and not just those in the medical and nursing professions (Maurice, et al., 2019; Berk, et al., 2014).

Across all three types of population centre, students felt strongly that the cost of post-secondary education collectively was a significant barrier. Participants suggested that lowering the cost or even having post-secondary education be free, would go a long way to getting more students to pursue healthcare careers. Here too, guidance counsellors may be in a position to make students aware of what financial opportunities exist in the forms of scholarships, governmental programs, grants or other such opportunities; and this education is likely more important for youth from groups underrepresented in healthcare.

Interestingly, the COVID pandemic did not seem to have much impact on career decision making, although it did appear to promote positive views of, and appreciation for, healthcare providers. This seems to support the notion that career aspirations and plans are fairly robust and not easily altered, whether that be those who have a career in mind or those who are uncertain. As with our findings more generally, however, we must be careful what is inferred from the responses to this questionnaire. For instance, while most students chose to respond to COVID questions, we should be mindful that some or all of the 13 respondents who chose not to answer the questions about COVID might in fact be deeply impacted and troubled about their future in the midst of the pandemic.

We did note some trepidation from students in rural settings, and the responses we received from students in these settings suggest that more might be done to help boost confidence and self-esteem in rural schools. Career aspirations are often closely associated with a greater sense of self-efficacy, hopefulness and overall healthier behaviour (Dudovitz, et al., 2016). The larger barrier for students in smaller centres, however, appears to be concerns about the money and time required to complete post-secondary training, as well as a sense of unworthiness (feeling not smart enough or not qualified), as has previously been reported (Whalen, et al., 2016; Aird, et al., 2007). This speaks to the need for greater encouragement and outreach to youth in these less populous settings. We should also note that teachers and guidance counsellors more generally might play an important role in addressing the underlying anxieties (e.g., queasiness, intellectual inadequacies) expressed by our respondents.

A sizeable segment of the respondents indicated they were interested in pursuing a career in healthcare. In fact, the ~30% of survey respondents interested in a career in healthcare is proportionate to the share of the total Canadian workforce engaged in healthcare. There is a well-established literature demonstrating that those with close family or friends in the medical profession are positively predisposed to pursue a healthcare career, for instance because they enjoy various types of “insider” knowledge about medical school entry (Simmenroth-Nayda & Gorlich, 2015). At the same time, there is growing evidence that the presence of “weak ties” of social capital are also an effective means to extend the advantages of knowing a healthcare insider (Nicholson & Cleland, 2017). Beyond positively influencing career choices, the amount of informal interaction a youth has with healthcare professionals or providers is likely to determine the accuracy and realism of the youth’s impression of the field. This might include, for instance, impressions and expectations about course requirements, entrance examinations, and the importance of gaining extra-curricular experiences that are highly valued in securing placement in competitive programs. It has been shown that students are greatly influenced by parental views about the importance of post-secondary education, including as a means for youth

to make long-term contributions to rural development after graduation (Abbott-Chapman, et al., 2014). The compliment of this is that efforts should be made to bridge the gap for those students who do not enjoy the benefits of a close family member or family friend in the field, perhaps by means of providing career mentoring and guidance services in schools serving students from traditionally underrepresented household and geographical contexts (e.g., low-income households, Indigenous households, rural and small-town settings).

Conclusion

It is important to hear from youth about their career aspirations and how they gather information that helps them choose a particular path. It is equally important to know more about how youth obtain information about healthcare education and career options. The findings reported here reinforce the notion that youth are influenced by a variety of sources, each with their own strengths and limitations. If nothing else, this speaks to an important role for educators to help ensure that youth have access to accurate and realistic information about career options, whether these relate to healthcare or other sectors. Our findings also offer support for the importance of taking context into consideration when designing and delivering career counselling and higher education recruitment exercises, particularly when the aim is to encourage greater diversity in future healthcare workforces.

If there is interest in promoting healthcare as a career option to youth in rural and smaller centres, our findings suggest that greater use might be made of the services and programming offered by guidance counsellors, especially for students in the early senior years of high school (i.e., grade 10). The data we collected suggest an interest in having more workshop programming, outreach (e.g., healthcare education “roadshow” events) and experiential opportunities (e.g., day visits to hospitals, job shadowing events) to learn more about healthcare careers. Schools in smaller and more remote regions, as well as those serving lower-income areas and Indigenous communities, often face a number of barriers and challenges in offering such programs and opportunities. This should give pause for school administrators and school district planners to consider ways in which various forms of communications technology and/or added resources and specific programming might be employed to close these gaps in access.

Limitations of this study include the small sample size which limits our ability to make generalizations beyond the populations studied. Additionally, we used a convenience sample, so the study was subject to selection bias because we relied on youth who chose to participate.

Finally, we would be remiss not to comment on the potential impact of COVID on youth attitudes and aspirations concerning healthcare careers. A majority of the youth we heard from had apparently not altered their career interests one way or the other, at least at the pandemic’s one year mark. However, youth from small centres were more likely to have been turned away from a healthcare career because of the pandemic. It is also worth noting that 1 in 6 of our respondents chose not to answer questions about COVID, and we have no way of knowing the reasons for not wanting to do so. As of the writing of this manuscript, the evolving COVID pandemic is still on our minds. It would be wise to continue monitoring closely the impact that COVID may have on future educational and career aspirations of youth, especially among groups traditionally underrepresented in the healthcare workforce.

Recommendations

Given the importance of expanding our health workforce and increasing the numbers of healthcare providers from traditionally underrepresented groups, we offer the following policy recommendations:

1. School district officials and secondary school administrators should seek to enhance access to career counselling programs and experiential forms of career guidance.
2. Guidance counsellors and teachers should be encouraged and supported to develop or enhance educational outreach and professional mentorship programs to provide greater exposure to diverse healthcare careers.
3. Federal and provincial governments should consider ways to reduce or eliminate the costs of post-secondary education, and/or improve financial assistance options and enhance awareness of these options.

In each case, an emphasis on rural and Indigenous communities is needed to help youth from these traditionally underrepresented groups overcome potential barriers to healthcare career pathways.

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