

International Students and Their Experiences Navigating Through On-Campus Healthcare Services: A Mixed-Methods Study

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ABSTRACT

Background: There is limited information on international students' experiences and access to the Canadian healthcare system at the University of Alberta.

Objective: The main objective of this research project is to characterize the experiences of international students navigating on-campus healthcare resources at the University of Alberta from multiple perspectives (e.g., international students, healthcare providers, student advisors) and determine factors that influence it, including knowledge, attitudes, and perceived barriers.

Methods: This exploratory, descriptive study employed a mixed-method approach to produce qualitative and quantitative data. Through snowball sampling, starting with targeted contacts from the International Student Centre (ISC), interviews were held using a semi-structured interview guide. Interview data was explored using thematic analysis. A 44-item survey was developed to measure the University of Alberta specific experiences including: help-seeking preferences, perceived cultural barriers, and attitudes towards using on-campus health resources. A descriptive analysis was used to characterize the data.

Results: Results draw from nine interviews with international students, on-campus healthcare providers, and ISC advisors in addition to 59 survey responses from international students. The study determined three categories associated with international students: the Gatekeeper healthcare system, insurance imperatives, and the unique challenges with medications. Quantitative findings support the categories. For example, more than 50% of students were not knowledgeable about the Canadian healthcare system.

Conclusions: Explaining the values and the structure of Canada's healthcare system is a crucial step in ensuring international students' access to healthcare services, as well as reconciling their expectations and realities of publicly funded healthcare of Canada. The University of Alberta should support initiatives that better help international students to explore the Canadian healthcare system.

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Background

In 2018, 721,205 international students at all academic levels studied in Canada, which made up 14.7% of all university enrolments (Immigration, Refugees, and Citizenship Canada, 2019; Frenette, 2020). International students make up 23% (9000 students) of students at the University of Alberta, a post-secondary education institution located in Edmonton, Alberta, with over 40 000 students from 156 countries represented in its student body ("Facts," 2020). According to the University Health Centre Director, 2200 visits (13.36% of the total service users) to the centre in 2016 were made by international students (Killips, 2017).

International students are accustomed to the healthcare systems in their home countries, which often differ from the Canadian healthcare system. There is scant information on the patient experience of international students studying in Canada. Still, several articles describe Canadian immigrants' healthcare experience, which may be comparable to the students' given their shared socio cultural norms. Immigrants may face difficulties interacting with Canada's healthcare system as they may not be familiar with Canadians' acceptance of long wait times, lack of direct access to specialists, or system 'norms' (Ahmed, 2016, p.1522–1540; Wu, 2005, p. 369–373). In a systematic integrative review of thirty-one papers to identify unmet healthcare needs among different migrant populations (e.g., immigrants, refugees) in Canada, researchers determined that these groups must contend with socio cultural differences, communication difficulties, and a lack of information (Chowdhury, 2021, p. 353–372) when accessing the healthcare system. Dunn and colleagues found that health conditions of immigrants who have lived in Canada for ten years or more were worse than those of recent immigrants, indicating worsening immigrant health status over time (2000, p. 1573–1593).

On-campus health care services often serve as the primary health resource for international students

when they require healthcare in Canada. However, there is limited information on international students' patient experiences, including their access to healthcare, at the University of Alberta.

Objective

This research project's main objective is to characterize the experience of international students navigating on-campus healthcare at the University of Alberta. The study characterizes the accessibility of healthcare services for international students from their perspectives, as well as from on-campus healthcare providers, and student advisors. This study will contribute to developing new tools and on-campus practices at the University of Alberta that would better cater to international students.

Methods

The study employed a mixed-methods, sequential exploratory design to generate qualitative and quantitative descriptions of international students' experiences in accessing healthcare services at the University of Alberta. The mixed-method approach was chosen for this study because it capitalizes on data reflecting lived experience of multiple individuals, which supports the interpretation of quantitative results (Regnault, 2018).

Qualitative Methods:

A qualitative content approach was used to gather and analyse the interview data (Bengtsson 2016). Through snowball sampling, starting with targeted contacts from the International Student Centre (ISC), interviews were conducted in-person by the first author using a semi-structured interview guide. Open-ended questions were used to gain an in-depth understanding of the international students' experiences of accessing on-campus health care services. Participants were eligible if they were able to: (1) speak and read English, (2) provide consent, and (3) describe experiences related to the use of on-campus health care services by international students. One-on-one interviews with three international undergraduate students, two international graduate students, and four healthcare providers and

international advisors on campus lasted between 30-60 minutes. Interviews were recorded using a hand-held voice recorder and were transcribed verbatim by the first author. There were minimal risks to the individuals participating in the interviews: potential discomfort from time spent consenting and participating in the interviews and feeling stressed when discussing negative experiences of accessing healthcare in Canada. Interviews were scheduled based on the availability of both the interviewee and the investigator and took place at the University of Alberta. All participants received a gift card (\$5) for their contribution to the project. Interview data was analysed using a combination of manifest analysis to describe what was said at the surface level and latent analyses to capture the intended meaning or deep structure (Vasimoradi, 2019; Bengtsson, 2016, 8-14). The first author first reviewed the data and deductively created codes to capture manifest and latent meanings and the principal investigator reviewed the analyses. Together, researchers discussed areas of agreement and disagreement and used consensus to resolve any discrepancies. Finally, researchers grouped codes into subcategories and categories then selected representative quotes (Guirguis, 2019, p. 333–335). Leveraging the strength of a mixed-methods research design, the first set of qualitative data helped researchers to generate an in-depth survey for the second round of data collection. The two pieces of data informed each other.

Quantitative methods:

The study also used a self-report, cross-sectional

online survey which gathered quantitative data on the healthcare services accessed at the University of Alberta. A 44-item survey was developed to measure the University of Alberta specific experiences including: help-seeking preferences, perceived cultural barriers, and attitudes towards using on-campus health resources. The research instrument used in the study was a questionnaire developed specifically for the project in consultation with the advisors and student members of the International Student Advisory Committee at the University of Alberta. Piloting of the draft questionnaire, together with ISC advisors, resulting in a modified, final questionnaire (Table 1). A full version of the survey is available online as supplementary material (Supplementary 1). Participants were eligible to participate if they were: (1) international students enrolled at the University of Alberta, (2) able to speak and read English, (3) willing to provide consent, and (4) willing to answer survey questions related to their accessibility to on-campus health care services. The survey asked for the participants' consent before proceeding to the survey and protected the participant's anonymity by not collecting any identifiable data. The survey was distributed using the ISC and Faculty Student Services mailing lists. Data was collected and managed using Qualtrics Software provided by the Faculty of Pharmacy and Pharmaceutical Sciences without additional costs, and descriptive statistics were used to analyse the data. The Principal Investigator and supervisors had access to the data, and all forms and electronic databases generated from the study are kept in a secure computer for five years.

Table 1. Example of survey questions.

Help seeking preference	"How comfortable are you with your knowledge of the Canadian healthcare system" with Likert-scale responses, including extremely comfortable, moderately comfortable, slightly comfortable, somewhat comfortable, uncomfortable, extremely uncomfortable, and prefer not to answer
Knowledge	"Do you know the type of services that are covered/ not covered by your healthcare insurance plan?"
Attitudes towards on campus healthcare services	"Please indicate how you feel about the following: I could easily access healthcare services at the University of Alberta" with likert-scale responses, including strongly agree, agree, somewhat agree, somewhat disagree, disagree, strongly disagree, and prefer not to answer

Results

Results draw from nine interviews with international students, on-campus healthcare providers, and ISC advisors in addition to 59 survey responses from international students (Table 2), collected between Oct 20, 2017, to May 30, 2018. The study determined three categories associated with international students: Challenges in Navigating the Canadian Healthcare System, Insurance Imperatives, and the Unique Challenges with Medications.

Qualitative analysis

The first category was *“Challenges in Navigating the Canadian Healthcare System”* and captured difficulties experienced by international students seeking healthcare. In Canada, most individuals seek routine care from their primary care provider, which is often a general practitioner (GP). Canadians can only access a specialist physician after receiving a referral from their primary care providers. Thus, the primary care providers act as gatekeepers to the specialists. In contrast, international students appear to struggle the most with the concept of the “gatekeeper” healthcare system of Canada and saw language as a secondary hurdle (Table 3). A student advisor reported some students mistake the referral process for discrimination, not routine procedures (Table 3). Interestingly, healthcare providers at the University of Alberta focused on commonly perceived challenges that international students face, such as language barriers (Table 3).

The second category that arose from the interview was *“Insurance Imperatives.”* Canada has a publicly funded healthcare system, which provides universal coverage for medically necessary healthcare services for all residents (Government of Canada, 2017); however, healthcare in Canada is not free for international students. All international students studying at the University of Alberta for less than 12 months must pay premiums to obtain the University of Alberta Health Insurance Program (UAHIP) before the start of their studies (International Student Service, 2017). Students who are

Table 2. Demographics for quantitative analysis

Demographic	%	Count
Gender		
Female	54.29	19
Male	40.00	14
Other (please specify)	5.71	2
Age		
18-21	28.5	10
22-25	28.5	10
26-29	25.7	9
30-50	17.1	6
Language most spoken at home		
English	45.71	16
Others	54.29	19
Perceived English proficiency related to the use of health care services		
Very proficient and proficient	82.86	29
Somewhat proficient and not at all proficient	17.14	6
Region of origin		
Africa	8.57	3
Latin America and the Caribbean	28.57	10
Europe	11.43	4
South Asia	11.43	4
East Asia	17.14	6
Southeast Asia	22.86	8
Number of years studying abroad		
Less than 6 months	31.43	11
6 months - 2 years	34.28	12
2 years or more	34.29	12
Student status		
Undergraduate	48.57	17
Graduate	51.43	18
Family status		
Single	73.53	25
Married	26.47	9
Dependent Family		
Yes	23.53	8
Dependent family members who are under the respondent's health insurance plan		
One or more (N=8)	87.50	7

studying in Alberta for 12 months and longer can qualify for the Alberta Health Care Insurance Plan (AHCIP), a provincial insurance plan which covers all eligible Albertans for insured hospitals and physician services in Alberta.

Table 3. Representative quotes from interviews regarding the issue of the Challenges in Navigating the Canadian Healthcare System category.

The Gatekeeper Healthcare System	
Interviewees/ Subcategories	Quotes
Healthcare providers: Focus on Language and Culture	<p><i>University Health Centre Director: "For international students, filling out forms in English could be challenging. In Alberta, hardly any other languages are spoken."</i></p> <p><i>Healthcare provider 1: "I feel that the cultural difference is the number-one challenge. Explaining the importance of patient confidentiality or the concept of privacy to an international couple [...] or discussing basic rules, such as waiting in line before walking up to the counter for medical service. The language barrier is a challenge too, but we never fail to communicate what needs to be done using Google Translate or other technology."</i></p>
International students: Navigating the System + Gatekeepers	<p><i>International student 1: First of all, I have to find a family doctor to access specialized doctors. Second, being referred is a frustrating experience. More time off from school [...] and making more appointments. [...] If I wasn't in the health sciences faculty, I would not know where to start."</i></p> <p><i>International student 2: it was easier to access specialist services back home [in South Korea]. Being referred to another physician from a walk-in clinic is a long process, which costs time. As a university student, time and cost are very important to me.</i></p> <p><i>International student 3: When I visited a Medi-Centre, the doctor said I have to see a hematologist for [the type of anemia I had]. From then on, it was months of trying to make appointments with a hematologist, visiting laboratory facilities, and locating the doctor I saw at the walk-in clinic. It took [many] months before I could begin the actual treatment."</i></p> <p><i>International student 2: Language barrier issues should be fixed right away. The best ways to [address the gap in health information] is having brochures in different languages and holding small workshops that explain the Canadian healthcare system to international students.</i></p>
International student advisors: Navigation Issues	<p><i>International student advisor: Some students think that they are denied [the healthcare service], just because they are international students."</i></p>

Three subcategories described the Insurance Imperative (Table 4). When asked about their insurance plans and associated costs, most interviewees reported "a high level of satisfaction with the publicly funded healthcare system of Canada" and the benefits that they would receive as insurance holders (Table 4). Secondly, although international students were generally satisfied with their insurance plans, some students fell through healthcare gaps due to "limitations of conditional health coverage", leaving students without healthcare insurance coverage for months (Table 4). For the third sub-categories, it is also important to note that although the University of Alberta Healthcare Insurance Plan (UAHIP) strives to provide the best coverage for all students, there are healthcare costs that are not covered. International students demonstrated resilience by seeking "healthcare services elsewhere for cost-effectiveness" (Table 4). In these cases, students sought care in their home countries.

The third category was "Challenges with Medications" which had three sub-categories. International students, healthcare providers, and relevant stakeholders identified medication as an area of challenge in their interviews, including possible "Medication Sharing." Medication sharing is defined as the borrowing or lending of medications, where the recipient is someone other than the person for whom the prescription is intended (Daniel, 2003, p.1167-1170). The second subcategory was "Finding the Canadian Equivalent". International students also experienced difficulty finding the Canadian equivalent of their medications, which could be easily mitigated through open and honest discussions with Canadian healthcare providers (Table 5). Finally, prescription medications are currently not covered by Canada's universal healthcare system. Although international students have some coverage through their university health insurance plans, financial considerations influence their decisions to fill and pick up their prescriptions from a pharmacy (Table 5).

Table 4: Representatives quotes from interviews regarding the insurance imperatives category.

Insurance imperatives	
Sub-categories	Quotes
A high-level of satisfaction with the publicly funded healthcare system of Canada	<i>International student 4: My husband and I chose to study in Canada, [particularly Alberta], because it has the best healthcare coverage for a growing family. When I had my first child, I only paid 200-300 dollars for the labour and delivery, even when I stayed in the private hospital room for 3 days after the Caesarean section. [My husband and I] decided to stay in Canada when we finished our PhD studies because of the public healthcare system.</i>
Limitations of conditional health coverage	<p><i>International student 2: During my second year in university, I thought I had developed a serious medical condition. [This was during a period of time when I did not have any insurance coverage because] I was awaiting for the final approval for the study permit extension. The hospital staff in the emergency unit told me that the treatment would cost more than 1000 dollars, and I could not afford it right away. [Similar experiences] happen to a lot of international students who are waiting for their study visa in Canada. If the permit does not come in time, then [international students] have no healthcare coverage for weeks, and even months. We must be extra cautious during these times."</i></p> <p><i>International student 4: It is unreasonable to expect that a single graduate student's healthcare plan could guarantee enough coverage for the entire household: [significant other, child, parents, and others].</i></p>
Seeking healthcare elsewhere for cost-effectiveness	<p><i>International student 1: I was first diagnosed with fibroadenomas (a benign tumor in the breast) while studying abroad in Canada. The doctors recommended that I receive surgery to remove the tumor, but as a young woman, I did not want huge scars on my breasts. The type of surgery that I wanted cost extra because it [...] was deemed a non-essential healthcare service. I chose to receive [medical treatment] in Korea because they had better cost-to-quality treatment options. Also, it was easier to get information.</i></p> <p><i>International student 4: I feel dissatisfied with the university dental coverage, which only covers up to 500 dollars per year. It's cheaper to fly back to Iran and get the dental treatment than to get dental services in Alberta.</i></p>

Table 5. Representative quotes from interviews regarding challenges with medications category.

Challenges with medications	
Sub-categories	Quotes
Medication sharing	<p><i>Healthcare provider 2: I don't know [the prevalence of] medication sharing among international students, but I would think that it certainly happens. [Borrowing and lending prescription medications] impact pharmacy services in many ways: [pharmacists must consider] drug interactions, [subtherapeutic outcomes and others...] Best that it does not happen.</i></p> <p><i>International student advisor: in one of the [interculturalist] teaching sessions I was leading, 5 out of 18 international students said that they have "a pharmacy in their backpack." They were carrying "big-gun" medications, like antibiotics. From this, an extrapolation could mean [medication sharing] among international students.</i></p>
Finding the Canadian equivalent	<p><i>International student advisor: [International students] fill medications back home and ask their parents to send them over, even when they could easily get the same medication by walking into a pharmacy. It is a convoluted process, but they have not found the Canadian equivalent.</i></p> <p><i>International student 5: I asked my friend from India to bring my asthma inhalers to Canada. I could not find the specific inhaler that I was using back home [in Canada], and I was scared to change my medication that [had] worked for me since I was a child.</i></p> <p><i>Healthcare provider 2: "International students come to pharmacy to find the Canadian equivalent for medications they were taking back home. It's usually not difficult to find the equivalent product."</i></p>
Cost of medications	<p><i>International student 1: "When I felt the lump in my breast [...] it was a scary experience. Biopsy and ultrasound cost a lot in Korea, but it was free in Canada. It's good that essential healthcare services are free. However, medications go along with the treatment, and they are expensive."</i></p> <p><i>International student advisor: [international students] walk into a pharmacy, expecting to pay 50 cents for their medications. When they are told to pay 50 dollars upfront, [it becomes a] shameful interaction [...] for students] who didn't know that drug would cost so much."</i></p>

Quantitative analysis:

The survey demonstrated that 57% of international students perceived themselves as “not at all knowledgeable” or “not too knowledgeable” about the Canadian healthcare system (Figure 1). Just over half of survey respondents were aware that they could visit the University Health Centre to ask general health inquiries, and less than half of students were aware they could access the same service centre for a regular health check-up (Figure 2). More students reported experiencing difficul-

ties navigating the Canadian healthcare system to receive the care they needed compared to language difficulties or sociocultural barriers (Figure 3).

The survey also captured various healthcare insurance types that international students have while studying abroad in Canada (Figure 4). Different methods that international students obtain medications while studying abroad in Canada were also identified in the study. About a quarter of students reported that they brought medications from home,

How knowledgeable are you of the Canadian healthcare system?

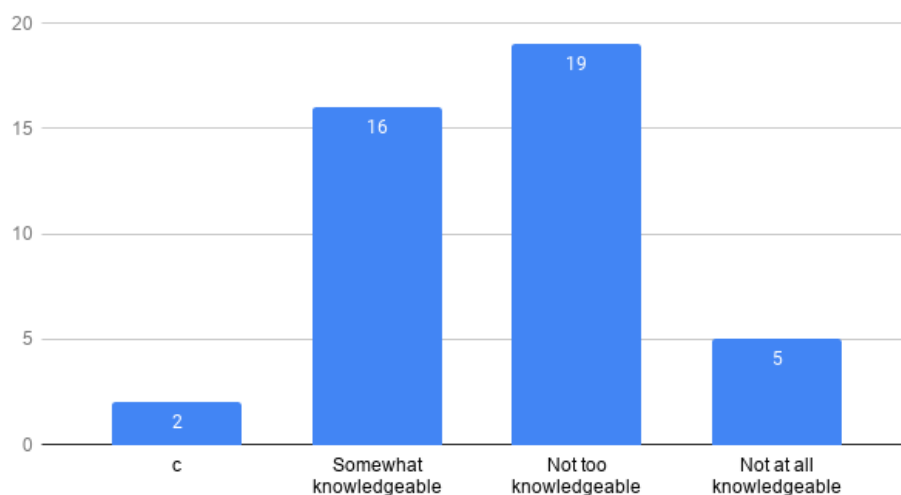


Figure 1. How knowledgeable are you of the Canadian healthcare system

Did you know that students can visit University Health Centre...

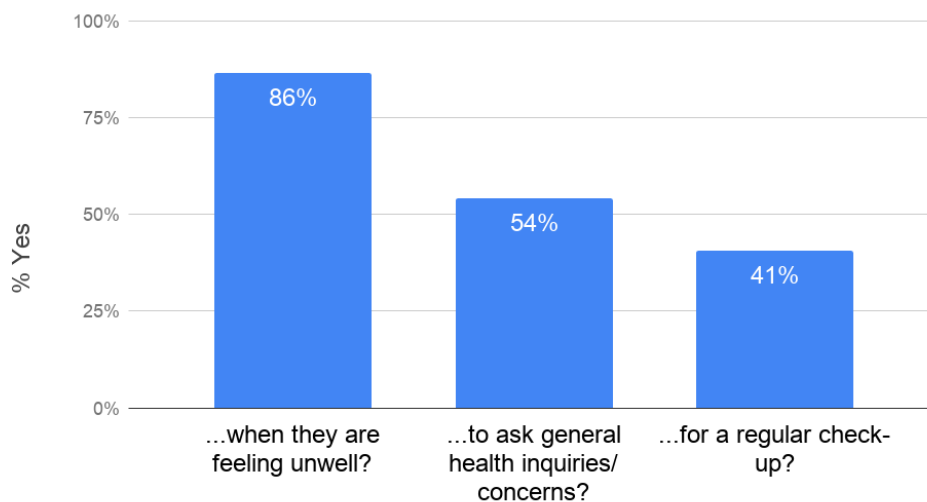


Figure 2. General knowledge of University Health centre.

Have you experienced any of the following challenges when you tried to access health care services in Canada?

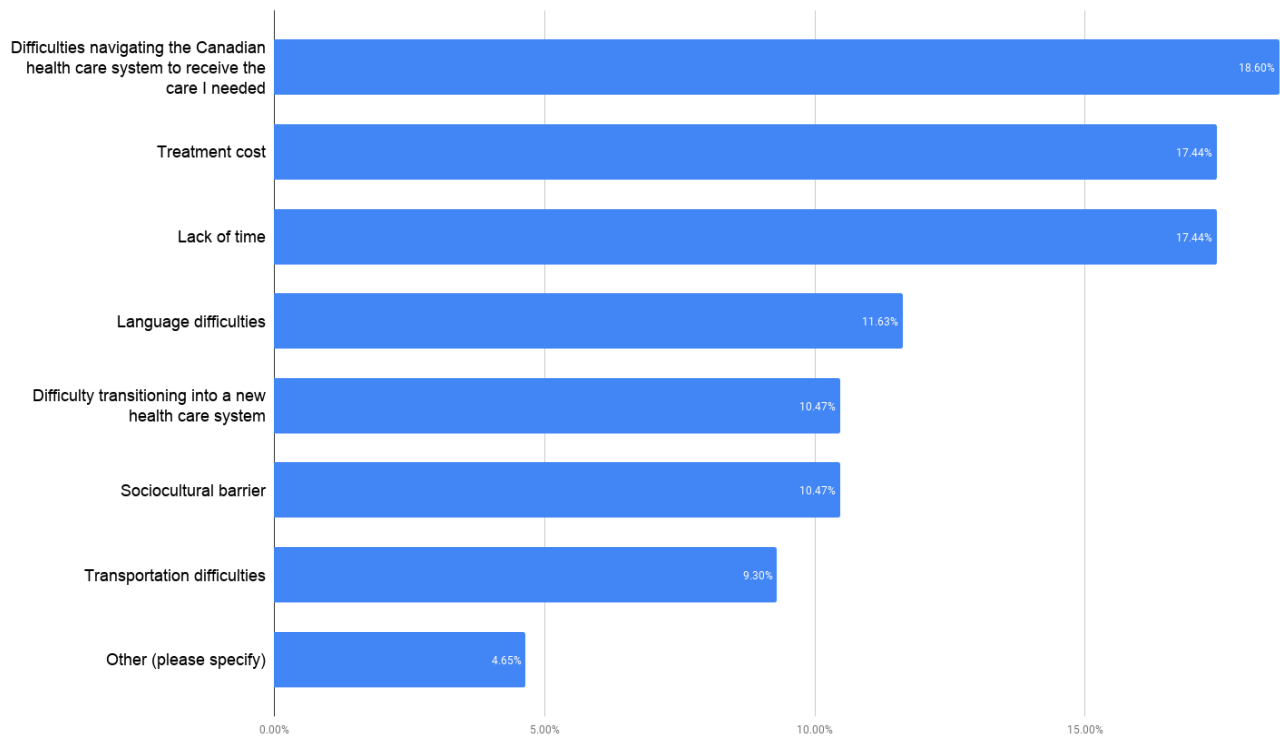


Figure 3. Challenges experienced by international students

while about 60% of students reported obtaining medications from local pharmacy stores or on-campus pharmacy (Figure 5).

Discussion

In contrast to popular belief that language is the most significant cultural impediment to healthcare access, on-campus patient experiences of international students at the University of Alberta suggest that students' unfamiliarity with the unique Canadian healthcare system is the most limiting factor, as described by the category of *Navigating the Canadian Healthcare System*. This finding builds upon the conclusion from a systematic review conducted by Ahmed and colleagues, who identified barriers to accessing primary healthcare including the immigrants' lack of knowledge on the healthcare system structure (2016, p. 1522–1540) In many countries, patients can directly access specialist clinics without referral ; thus, the process of navigating through different levels of Canadian healthcare can be jarring for international students. Primary

healthcare is the gateway to the healthcare system in Canada (Health Canada, 2020). The concept of a family physician is foreign to many students, who must first find a family doctor to access secondary healthcare services (e.g., specialist services) while studying abroad. Our findings reinforce the notion that on-campus healthcare providers should re-orient their focus from language translation to effective knowledge translation and explain the values and the structure of the Canadian healthcare system to international students, who are negatively influenced by a sense of frustration and perceived failure to access quality healthcare.

The university healthcare system sends a clear overarching message to international students studying abroad: *students must have healthcare insurance* (Carmack, 2016, p. 52-72). Such a statement is reaffirmed by the depth of findings described in the category of the *Insurance Imperatives*. Limitations of conditional healthcare coverage resulting from study permit-related issues or other administrative issues

related to studying abroad can leave students without healthcare coverage for months, significantly impacting international students' health behaviors on-campus. Chowdhury and colleagues describe similar unmet needs of immigrants related to their immigration clauses, such as healthcare coverage being a condition to work permit renewal (2021,

p.353–372). When international students are dissatisfied with the quality-cost breakdown of healthcare services, they have the option of returning to their home countries for treatment. Although this results in delays in medical treatment, international students appeared more comfortable receiving healthcare in familiar healthcare environments.

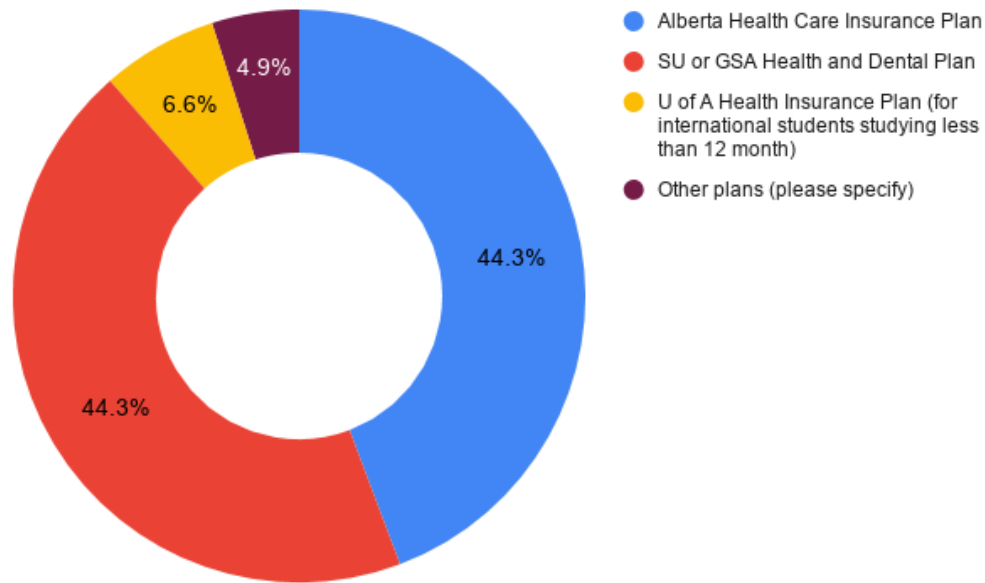


Figure 4. Types of health insurance used by international students

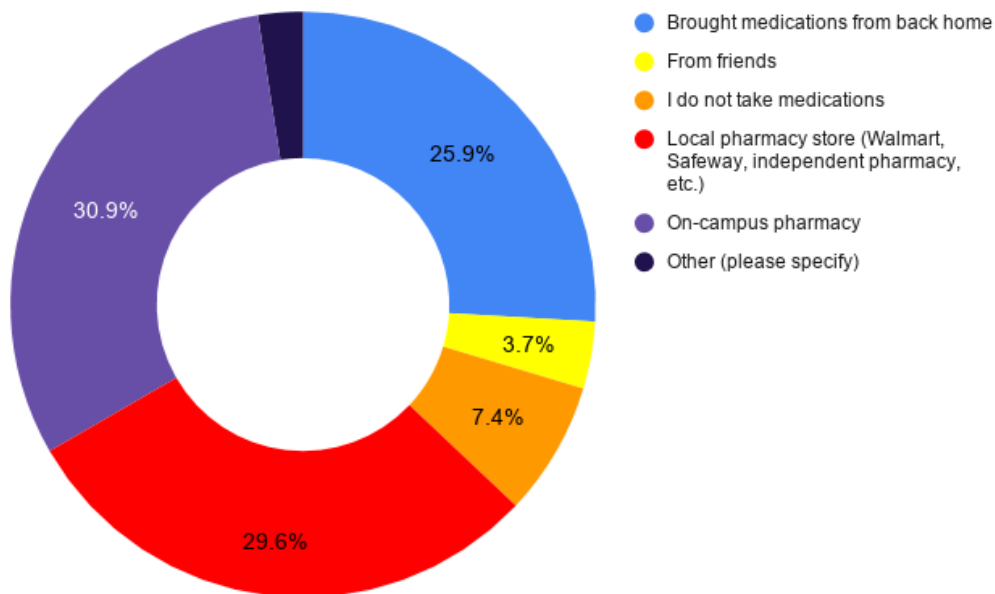


Figure 5. How do you obtain medications when needed?

The study identified three phenomena associated with medications and international students: medication sharing, struggling to find the Canadian equivalent, and cost concerns. Firstly, both qualitative and quantitative data indicate that medication sharing occurs among international students. Secondly, international students often undergo a convoluted process to obtain their medications due to their misunderstanding of drug categories or their lack of interactions with Canadian healthcare providers (Table 5). Although their approach demonstrates resilience, such methods result in delayed treatment. Lastly, a challenge associated with medication is the cost. International students are confused by the mixed messages surrounding the “free healthcare” in Canada because they must pay for their medications while the diagnosis from a physician was obtained without a charge.

Recommended Solutions:

We found that many international students lack healthcare knowledge, which can result in treatment delays. As such, this research calls for immediate action. The University of Alberta should adopt strategies and support student initiatives that better help international students explore the Canadian healthcare system. Explaining the values and the structure of Canada’s free healthcare is crucial in reconciling the healthcare expectations and realities for international students.

Upon receiving the project grant from the Heroes for Health Challenge 2018, the Wellness Competition at the University of Alberta, the First Author (Dillon Lee) has developed an up-to-date, accurate, and targeted guide for international students entitled “Questions: About Alberta’s Health Care System” (2019). The guide explains the principles, values, and structures of the Canadian healthcare system. It also covers information on what healthcare services are covered under different insurances (e.g., AHCIP, SU plans, etc.). The online and the paper guide address international students their commonly asked questions regarding Alberta provincial health care system, in twelve different languages spoken on campus.

Limitations

The key limitation of this study included generalizability to all international students as a whole. The demographics of students who have completed the survey, most notably the response rate from graduate students and students from Latin America and the Caribbean, do not accurately depict the demographics of international students studying at the University of Alberta, which as a greater number of undergraduate students and an increased number of students from East Asia. Furthermore, the small sample size for the survey and the interviews raises the possibility of nonresponse bias, and data saturation likely did not occur. Secondly, snowball sampling to find the interviewee might pose a threat to selection bias. Self-referred participants may have pre-existing attitudes towards healthcare services on-campus, including intense positive or negative experiences and interactions with the system. These interviewees are also prone to recall bias, sharing inaccurate patient journeys during the interviews. Thirdly, the study is limited by the lack of formal analysis of validity for the questionnaire. Lastly, there are potential threats to trustworthiness in the qualitative component of the study, which was interpreted by the study researchers. The use of interview quotes in verbatim strives to mitigate potential bias in interpretation.

Conclusions

The journey of international students at the University of Alberta as they explore and interact with the Canadian healthcare system available on-campus boiled down to the following categories: navigating the Canadian healthcare system, insurance imperatives, and the unique challenges with medications. As per our findings, international students’ most significant healthcare gap is their lack of knowledge of the Canadian healthcare system and its structure and values by which the system operates. Understanding international students and their on-campus patient experience is the first step towards creating a supportive healthcare system at the University of Alberta, which contributes to the positive campus culture built on resiliency and acceptance.

Disclosure Statement

The authors report no potential conflict of interest.

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