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Challenges and strategies for navigating Australian healthcare access: experience from Chinese international students

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Abstract

Background Australia hosts over 680,000 international students, contributing $47.8 billion to the Australian economy in 2023, and Chinese students rank first among all nationalities. However, despite their considerable numbers, research focusing on their access to healthcare services is scant. This study aimed to explore barriers and supports regarding the utilisation of healthcare services among Chinese international students studying in Australia.

Methods Semi-structured interviews were conducted in Chinese between October and December 2023 with 25 Chinese international students (age range, 19–30; female/male, $n=18/7$; undergraduate/postgraduate/doctoral, $n=1/18/6$) enrolled in three Australian universities to understand the healthcare challenges they encountered and the coping strategies they recommended. These interviews were recorded, and thematic analysis was applied to the interview data. An adapted social-ecological model was used to identify barriers and pragmatic strategies to deal with the challenges at different levels.

Results Chinese international students in Australia faced healthcare barriers at different levels. Individual barriers included language and cultural disparities, lack of knowledge about the healthcare system, and reluctance to seek help. Institutional barriers involved high costs, difficulties regarding appointments, and procedures related to the referral system. Policy barriers included insurance coverage and reimbursement issues. The students interviewed for this study proposed individual-level strategies, such as trying various methods to reduce language barriers, seeking information online, and using online resources and consultations. A central appointment platform and multilingual medical service were recommended from students to medical institutions, while medical service guidance and psychological support were suggested to education institutions. Higher-level strategies were also reported, which were mainly pertaining to insurance terms and coverage for overseas students and improving the accessibility of medical information.

Conclusions Our study identifies barriers to healthcare access for Chinese international students in Australia, including culture-specific challenges. To mitigate these issues, we recommend self-directed health promotion, targeted support by education institutions, enhanced cross-cultural communication and expanded telemedicine by hospitals,

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and attention to insurance coverage. Future research should explore optimising these approaches to improve support systems and policy frameworks.

Keywords Barriers and enablers, Cross-cultural communication, Health insurance coverage, Overseas Student Health Cover, Social ecological model, University students

Introduction

According to January 2024 data, Australia hosts 687,840 international students, worth $47.8 billion to the Australian economy, with $17.1 billion paid as tuition fees and $30.5 billion paid as goods and services [1]. Among them, 148,121 are from China, representing 22% of the total international student population, contributing $11.4 billion to the Australian economy [1]. This growth significantly impacts university funding, enhances cultural diversity, and contributes substantially to Australia's economic and cultural landscape [2], while also improving cultural understanding and cross-cultural connections [3].

Studying in Australia, international students are entitled to a variety of general and dedicated support in terms of academic, employment, wellbeing, financial and safety aspects [4]. However, international students have been reported to lack social support and do not benefit from government-funded integration services compared to domestic tertiary students [5]. In addition, international students generally face high tuition fees, creating a financial burden that can lead to anxiety and health issues [6], potentially resulting in deteriorating health upon arrival in the target country [7]. Additionally, international students have been reported to encounter various challenges in adapting to new cultural, educational, and linguistic environments, leading to isolation, acculturation stress, sleep and dietary disorders [8], thus increasing their susceptibility to physical and mental health problems [9]. However, a previous report from the US has indicated that international students often receive fewer and delayed medical services compared to local students [10]. The challenges impacting the quality of life facing international students in Australia need to be brought to the forefront in government and society [11], especially within the educational institutions which undertake the role of hosting this student group.

Maintaining good physical and mental health is crucial for providing a basic quality of life for international students. However, research shows that the health of international students tends to decline the longer they stay in their country of study [12]. Compared to domestic students, international students experience poorer health and well-being and are at greater risk for engaging in unhealthy behaviours, while they are less likely than domestic students to seek help for health-related issues [13]. Therefore, it is essential to ensure these students can access appropriate medical resources while studying in Australia. However, international students usually experience significant differences regarding healthcare systems, procedures for seeking medical services, and cultural norms, which creates additional complexities as they navigate a new and unfamiliar environment [14]. In many cases, students may only familiarise themselves with the Australian healthcare system when they fall ill, which further complicates the process [15]. Therefore, understanding how the Australian healthcare system operates and how to effectively access available medical resources for international students is vital [16].

In Australia, where the healthcare system is primarily funded by taxes and medical services are supported by the national public health insurance programme known as "Medicare", the notion of citizen entitlement holds considerable importance [17]. International students in Australia are not eligible for Medicare and are mandated to purchase the Overseas Student Health Cover (OSHC) for the proposed duration of study as one of the visa conditions [18]. Under the OSHC, international students receive coverage for basic medical treatment similar to that provided to Australian citizens and permanent residents under Medicare; however, the former reportedly encounter varying frustration and vulnerability in accessing medical attention [17]. For instance, in terms of out of hospital benefits, such as specialists or medical tests, the OSHC covers 85% of the Medicare Benefits Schedule [19], which is fully available to Australian residents who hold a current Medicare card [20]. Besides, for certain types of care, such as pregnancy related condition and psychiatric care, there is a waiting period of 12 months before the OSHC benefits become effective [19]. Among this population, Chinese international students seem to experience comparatively more barriers, as based on the official Overseas Student Health Cover (OSHC) Review in 2022, the value of insurance claims made by Chinese international students only account for 11% of all claims from international students, despite being the largest population of the insurance policyholders at 25% [21].

In the current study, we focused specifically on Chinese international students, who represent the largest population (22%) of international students in Australia

while utilising the health insurance unproportionally, aiming to identify the healthcare barriers they faced as well as potential strategies they suggested through an in-depth exploration of their healthcare-seeking behaviours [15]. It is well known that the COVID-19 pandemic has significantly altered the study and living habits of international students [11], affecting their healthcare-seeking behaviours. Our study thus provides a more recent report to comprehensively understand how Chinese international students seek healthcare services. To the best of our knowledge, this is the first study focusing on the healthcare-seeking behaviours among this specific population in Australia in a post-pandemic world. We expect to provide useful information to stakeholders at different levels, so that strategies, interventions and policies may be designed to improve healthcare utilisation by international students in similar contexts.

Therefore, we conducted the study to address the following research questions:

RQ1. What are the barriers to accessing healthcare services among Chinese international students in Australia?

RQ2. What are the pragmatic strategies proposed by the Chinese international students to address the barriers?

Methods

Study design

This was an exploratory qualitative study that employed semi-structured interviews as the primary method of data collection. We drew on the multi-level social-ecological model to examine and categorise the barriers faced by Chinese international students in accessing healthcare services in Australia, as well as the strategies they adopted to address these issues.

Theoretical framework

A multi-level social-ecological model was applied as the guiding framework for this study. Building on Bronfenbrenner's ecological model [22], McLeroy and colleagues [23] proposed a social ecological model for health promotion, providing a new approach to understanding the intricate, reciprocal, and interconnected societal factors that influence people's health [24]. According to McLeroy et al.'s model, health outcomes are the result of behaviour patterns under the impact of environmental conditions at multiple levels [24], encompassing individual, interpersonal, institutional, community and public policy levels [25].

The social-ecological model has been effectively adapted and utilised in the healthcare context in previous studies, including those conducted among the migrant populations [26, 27], allowing for identifying the interplaying factors influencing health behaviours among this particular population at all levels. For instance, Mengesha et al. [26] applied the model to investigate issues faced by refugee and migrant women in Australia regarding sexual and reproductive healthcare participation, and summarised the factors into micro/individual, meso/interpersonal, exo/institutional, and macro/societal levels. White et al. [27] used a social-ecological model to study the use of contraceptives by Latino immigrants in an emerging immigrant community, and divided the influencing factors into individual, partner, social, and structural levels. Khatri and Assefa [28] conducted a scoping review on the challenges for accessing healthcare services among culturally and linguistically diverse populations in Australia, classifying the barriers into micro-(individual/family), meso-(community and organisational), and macro-(system and policy) levels.

Despite a number of available studies that have been conducted among the population of international students regarding their health service utilisation in the host country [29, 30], these studies mainly address the topic from the perspective of individual characteristics and behaviours while seldom adopting an ecological systems approach. This scope may constrain the vision needed to deal with the social issues at root, while emphasising the social ecological factors may facilitate a broader perception of the core problems [24]. Thus, in the current study, we investigated from the social ecological lens in order to improve the possibilities to tackle the issues for the entire group of the target population instead of individuals [24]. In particular, given the critical role played by the education institution for international students, and our keen desire to identify strategies which could provide advice to higher authorities, we considered Khatri and Assefa's framework [28] most suitable to be applied in our study for data organisation and analysis.

Setting

We conducted the study at three universities in Brisbane, Queensland, namely The University of Queensland, Griffith University, and Queensland University of Technology. These public comprehensive universities host international students from a great variety of countries and regions annually, encompassing Chinese international students from diverse backgrounds and disciplines.

This study was approved by the Ethics Committee of The University of Queensland (2023/HE001919). All participants provided informed written consents.

Participants

The participants were Chinese international students born in the People's Republic of China, from various academic disciplines and study levels (undergraduate,

master's, and doctoral levels) to ensure broad applicability and reliability of the study results. We interviewed 25 Chinese international students regarding their use of healthcare services, the barriers they encountered, the coping strategies they used to meet their healthcare needs, and the support they sought or needed from the external sources. The characteristics of the participants, including gender, health service experience, university, major and study level, are presented in Table 1. We deemed this sample sufficient, as we believed the themes derived from the participants would adequately address our research questions [31].

Data collection

Drawing on prior research [6, 15, 32], we crafted five key interview questions for the interviews via team discussions. These interview questions were piloted with 2 Chinese international students to ensure the feasibility and rationality of the questions; meanwhile, these pilots also provided insights for us to understand the potential directions to ask probe questions. The interview data from the pilot interviews were not included.

The first author (QM) conducted semi-structured interviews with all participants from October to December 2023. Using a snowball sampling strategy, QM, who was a visiting scholar at the School of Education at The University of Queensland, Australia at the time, initially invited the Chinese international students known from the School to participate in the interviews. These participants then referred other Chinese students, resulting in a total of 25 participants. Necessary information was provided via email to these participants, including details about the study, informed consent forms, interview format, confidentiality measures, and requests regarding their availability for the interview. Participants were allowed to choose whether their interviews were to be conducted online or in person. According to participants' preference, five interviews were conducted face-to-face, while 20 were conducted virtually via Zoom. Both face-to-face and online interviews were audio-recorded and notes were taken throughout. The duration of the interviews ranged from 35 to 62 min. All interviews were conducted in Chinese.

Table 1 Participants' characteristics (*n*=25)

Characteristics	Number
Gender	
Female	18
Male	7
Experience of utilising medical service in Australia	
Yes	21
No	4
University	
University of Queensland	18
Griffith University	4
Queensland University of Technology	3
Major	
Psychology	3
Education	9
Sociology	1
Business	6
Information technology	2
Marketing Management	1
Epidemiology	3
Study level	
Undergraduate	1
Postgraduate	18
Doctoral	6

Data analysis

All interviews were transcribed verbatim by QM. A thematic approach was employed to analyse the texts [33]. One researcher (QM) coded the data following the coding strategy proposed by Braun and Clarke [33]: (1) familiarising oneself with data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, (6) producing the report. QM engaged deeply with the data while coding the Chinese transcripts. Key words and statements were highlighted in the texts to develop the initial codes, which were then consolidated into potential themes. The NVivo software was used during the data analysis process. Upon developing new themes, previous texts were revisited to identify relevant text segments and assign the most appropriate codes. Saturation of the data was reached when no new codes emerged. Coding was conducted twice for each transcript: first for barriers and then for strategies.

The author WL, who is bilingual and can speak fluent English and Chinese, translated the codes and themes into English. During the translation process, QM and WL had extensive discussions to ensure accuracy of the translation. The trustworthiness of the coding process was enhanced through regular discussions among the research team. Codes were reviewed, refined, and determined based on unanimous agreement. A consensus was reached on the classification of the results using the applied social-ecological model. To further ensure the accuracy and credibility of our data interpretation, we utilised member checking [34] by sending a summary of our findings in both Chinese and English to the participants. Their feedback did not result in any changes.

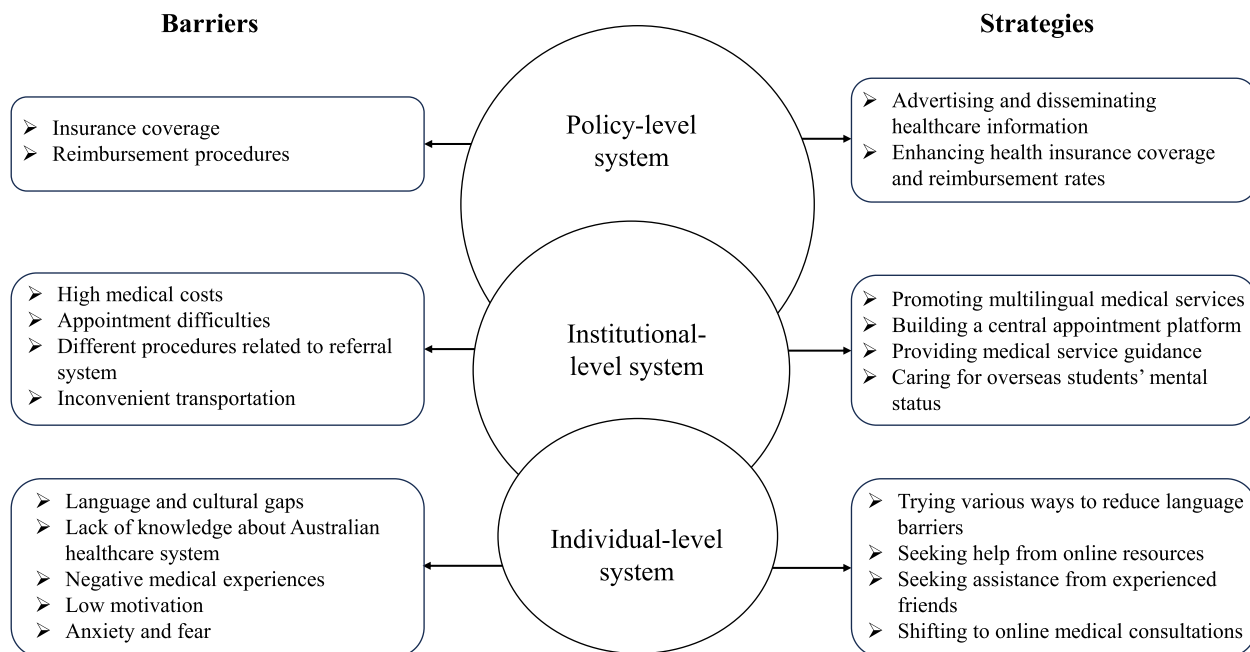

Fig. 1 A multi-level social-ecological model of barriers encountered and strategies suggested by the participants

Results

The barriers encountered by the participants as well as the strategies recommended by them were described in the following sections from individual, institutional, and policy levels. The major themes are presented in Fig. 1.

Individual-level barriers

Language and cultural barriers (24 times in 25 interviews)

All interviewees indicated encountering barriers in language and interaction within the healthcare environment. Although they might feel capable of engaging in daily English conversations, their unfamiliarity with specialised medical terminology presented significant challenges to achieving effective exchanges with healthcare professionals, potentially delaying the diagnosis and treatment of illnesses. Some interviewees highlighted particular difficulties during psychological counselling sessions, as they sensed that it seemed challenging for the Australian doctors to fully understand their issues due to the discrepancies in language, culture, and values between the two countries.

> *Due to concerns about language communication barriers, together with being ill already, and with many medical terms not being well understood, I am worried that the communication may not be smooth and there may be obstacles. (Participant 14, 23-year-old, male)*

> *I wouldn't think of going to the clinic on our campus or even in Australia first, because I feel like the culture is different, and it's not easy for the psychologist to understand the sources of my anxiety. Maybe I myself can't explain it clearly either. (Participant 17, 27-year-old, male)*

Lack of knowledge about Australian healthcare system (17 times in 25 interviews)

When discussing ways to access medical services, the most common expressions used by the interviewees were "I don't know" and "lack of guidance". The interviewees described specific confusions regarding where to seek help for medical issues, how to make appointments, and how to find doctors who could address their illnesses.

> *I'm not sure if I need to make an appointment if I suddenly get injured on campus, but what I can confirm is that if I have an emergency situation on campus, I don't know how to seek medical attention. (Participant 18, 23-year-old, female)*

Another common concern reported by the interviewees was the lack of knowledge about the procedures related to their health insurance, OSHC. Some participants seemed to lack even a basic understanding of health insurance policies in Australia, including the reimbursement rates for medical expenses and the coverage

of OSHC. As a result, they would choose to endure "non-life threatening" health problems, instead of seeking medical attention, solely because they were worried that their expenses would not be reimbursed.

> *After years of studying in Australia, I still haven't figured out how this health insurance works. It seems like you just buy the health insurance, they send you an email, but I'm not sure about the specifics of how to claim reimbursement, or which illnesses are covered. It feels like it's just there for show; I've never used it even for once. (Participant 17, 27-year-old, male)*

Negative medical experiences (6 times in 25 interviews)

Some interviewees recalled having negative medical experiences, which seemed to impede them from seeking the health service again. The differing approaches in treatment and prescriptions between the two countries seemed to pose adaptation difficulties for Chinese students. These difficulties might sometimes cause students to adopt negative bias towards the Australian healthcare system, due to the style rather than quality of healthcare delivery.

> *Last time, I went to the clinic for my skin issue, and I was frustrated by the significantly different examining and prescribing procedures. I do have concerns whether I had been misdiagnosed, although I wasn't sure. This may give me some negative impressions. (Participant 5, 23-year-old, female)*

Some interviewees cited negative medical experiences of classmates and friends as an influence on their decision to avoid seeking medical support. Many Chinese students tended to seek advice from others before receiving medical help due to the unfamiliarity of the healthcare system. Therefore, listening to others' experiences could raise doubts and reduce their confidence in the medical industry.

> *I had a friend here who made an appointment with a local doctor for a skin issue. The doctor prescribed him a medication, and he is still complaining about his allergic reactions. (Participant 8, 25-year-old, female)*

Low motivation to seek healthcare service (8 times in 25 interviews)

Some interviewees reflected that they felt unwilling to seek healthcare attention due to insufficient recognition of diseases, and they persuaded themselves to believe they could self-heal. Some interviewees mentioned that the stigma associated with psychological counselling originated in their cultural background, where it might be considered as a shameful act. This made it hard for them to accept that they were suffering from psychological issues, and they refrained from seeking psychological support.

> *I, I don't know whether I really have psychological issues or not, so I don't know which threshold I need to reach to find a psychologist to solve them. (Participant 5, 23-year-old, female)*

Anxiety and fear related to healthcare attention (6 times in 25 interviews)

Apart from the anxiety and fear caused by their specific condition, some interviewees claimed that the thought of seeing a doctor in another country intensified their worries. They were concerned that the different medical system and complicated procedures might lead to additional troubles, which, in turn prompted a hesitation to seek medical help when facing health problems.

> *Actually, I don't want to see a doctor. I'm very nervous about seeing a doctor. I am also anxious about the possible troubles involved. I feel like Chinese international students are generally worried about inconvenience. Maybe we lack social experience and tend to avoid trouble whenever possible. (Participant 9, 24-year-old, female)*

During the COVID-19 pandemic, the concern of possible infection in the hospital escalated participants' anxiety and fear. Some interviewees mentioned that they were frustrated by their failure to receive medical attention even when they were suffering from COVID-19 symptoms, as medical institutions did not accept COVID-19 patients at the time. Instead, these students had to resort to self-medication at home or seek help from emergency services in urgent situations.

> *Anyway, when I had COVID-19, I went directly to the hospital without an appointment. They didn't let me in, saying that COVID-19 patients were not allowed to get in. So, I went back to my apartment and had to recover on my own. (Participant 19, 30-year-old, female)*

Institutional-level barriers

High medical costs (23 times in 25 interviews)

Almost all interviewees described their medical costs as "very expensive". In particular, specialised treatments like dental care were so costly that students preferred to fly back to China to receive the treatment during vacations.

> *In Australia, the cost (for seeing a psychologist) is very high, which is unaffordable for most people. (Participant 11, 26-year-old, male)*

Appointment difficulties (20 times in 25 interviews)

Appointment difficulties were frequently cited by our interviewees. In contrast to the “walk-in style” in China’s hospitals, seeing a doctor in Australia requires booking an appointment, which Chinese students found difficult to adjust to. As participants were accustomed to “getting in the waiting list and obtaining consultations the same day”, advance scheduling and prolonged waiting time make them feel “confused and hopeless”. Several interviewees who had experienced medical emergencies were “surprised” to find that they needed to “wait a few hours before seeing the doctor”, which was an unexpected contrast to emergency procedures in China. In addition, students faced the new challenge of making appointments on holidays due to the limited unavailability of doctors.

> *The biggest frustration I encounter here is that the waiting seems to be endless. When I wanted to see a psychologist, they divided patients into new and existing ones. I have to wait three months to see a psychologist because I’m a new patient. (Participant 11, 26-year-old, male)*

Different procedures related to referral system (10 times in 25 interviews)

Following their previous experience directly seeing specialists in Chinese hospitals, interviewees shared their feelings about their “trouble” obtaining specialist care in this new environment. The steps of consulting a general practitioner (GP) first and being referred to a specialist based on specific conditions sometimes discouraged students from seeking medical care from the outset, due to their concern about the expected time and effort that would be required throughout the process.

> *Because GPs can only treat some simple issues, if you have a serious illness, you need a referral to see a specialist. However, this process may involve a long waiting time. (Participant 3, 25-year-old, female)*
> *I’m still struggling to understand the medical process here, especially seeing a specialist, because it feels quite different from the medical system back home. (Participant 23, 25-year-old, female)*

Inconvenient transportation (5 times in 25 interviews)

Several interviewees described the inconvenience of finding transportation to distant medical institutions which were selected subject to the availability of appointment. Given the short time frame of their studies and the distinct traffic regulations between China and Australia, many international students chose public transportation instead of buying personal vehicles, creating another reason for their hesitation to see a doctor.

> *Many international students, like me, don’t have a car, so if I were to go, I would rely mainly on public transportation, which is very time-consuming. (Participant 1, 24-year-old, female)*

Policy-level barriers

Insurance coverage and reimbursement procedures (21 times in 25 interviews)

The interviewees shared their concerns about some structural barriers, particularly the insurance coverage and the reimbursement process and rates. Their limited insurance coverage made some specialised treatments unaffordable, which impeded participants from receiving necessary treatment. In addition, the low reimbursement rates for certain conditions, as well as the complex reimbursement process also deterred interviewees from seeking necessary medical care.

> *Then there’s another issue, dental care here is very expensive. It seems that, from what I’ve researched, many dental services aren’t covered by student health insurance. (Participant 19, 30-year-old, female)*
> *The doctor I was seeing told me that, for this part, I might only get reimbursed around twenty to thirty percent. So, I thought this percentage was really low, so I didn’t bother to claim it at all. (Participant 8, 25-year-old, female)*
> *I think the biggest problem is that the reimbursement system is extremely complicated. And you need to research a lot to understand how the reimbursement works and how to register. (Participant 11, 26-year-old, male)*

Individual-level strategies adopted by the participants

Trying various ways to reduce language barriers (16 times in 25 interviews)

The interviewees practised various methods to alleviate the difficulties of language barriers. While seeing a local doctor, they tried to employ a translation software to facilitate exchanges with doctors, which greatly improved understanding. Alternatively, some students would attempt to find Chinese-speaking doctors for consultations, leading to a better medical experience.

Because of concerns about language communication barriers, I chose a doctor who speaks Mandarin. It makes communication more convenient. (Participant 14, 23-year-old, male).

Seeking help from online resources (12 times in 25 interviews)

Many interviewees listed online platforms where they sought healthcare information, such as popular online social networking mobile applications (e.g. Little Red Book), used by many Chinese international students to post their experiences and build social connections.

> *I always searched for some clinic information online in advance. There are some reviews online, which can also be referenced. (Participant 2, 23-year-old, female)*

Seeking assistance from experienced friends to accompany medical visits (5 times in 25 interviews)

Interviewees suggested that international students seek help from an English-fluent friend to accompany them during medical visits. This could improve communication with doctors and alleviate the tension and anxiety during medical appointments.

> *It would be great if there's someone who can accompany me to see a doctor. International students are alone here, sometimes it's inconvenient for them to do examinations or other things alone. (Participant 1, 24-year-old, female)*

Shifting to online medical consultations (4 times in 25 interviews)

Some interviewees stated that online medical consultations worked well for them, which could be conveniently conducted through mobile devices, thus eliminating lengthy wait times and long-distance transportation. In addition, online consultations were enhanced by sending text messages and visual images, which, according to the interviewees, resulted in improved clarity when describing their medical conditions and greater efficiency of communication.

> *Personally, I think offline consultations are very troublesome, mainly because of the appointment issues. One the other hand, online consultations are faster, and time and transportation are not restricted. (Participant 23, 25-year-old, female)*
> *I think using some apps online, with features like subtitles for communication with doctors, might be more convenient. (Participant 2, 23-year-old, female)*

Institutional-level strategies (proposed to medical institution)

Promoting multilingual medical services (13 times in 25 interviews)

Some interviewees wondered whether it was possible to have someone who could speak Chinese at medical institutions, such as interpreters or volunteers. This service would greatly facilitate communications with the doctors and improve the patients' medical experiences. These institutions' websites might also provide content in other language options, so that non-English speakers could locate the necessary information more efficiently and schedule their appointments more easily. Given the considerable number of Chinese immigrants and international students in Australia, interviewees suggested that increasing the number of Chinese doctors could serve as an alternative strategy to alleviate the difficulties experienced by Chinese patients seeking medical care.

> *It would be great if clinics could provide some Chinese services, such as someone who can help translate, or if there are one or two GPs or nurses who can speak some Chinese, it would create a lot of convenience for Chinese international students. (Participant 1, 24-year-old, female)*
> *If there are some Chinese-speaking volunteers in the hospital, it will make communication more convenient for us. Additionally, incorporating Chinese language materials into medical services, such as graphical content, would enable individuals with social anxiety to seek medical assistance independently. (Participant 19, 30-year-old, female)*

Building a central appointment platform (9 times in 25 interviews)

Several interviewees shared their concerns about the lack of a central platform where appointments to any medical institution could be made. Instead, participants had to download multiple applications to schedule appointments for different medical institutions. Therefore, building such a central platform could benefit international students in need of convenient and timely medical services.

> *It would be great to build a central platform where information from many medical institutions is available, similar to how you can directly search for hospital official accounts on WeChat in China, where you can see various hospitals and make appointments online. (Participant 12, 28-year-old, male)*

Institutional-level strategies (proposed to education institution)

Providing guidance related to medical service (14 times in 25 interviews)

Interviewees strongly recommended that educational institutions offer some approaches to guide overseas students regarding the utilisation of healthcare services in Australia. This guidance could be provided in

a variety of forms, such as information sessions introducing local healthcare systems and overseas insurance policies, medical guidance manuals containing instructions for seeking different medical services, and appointed contact coordinators to assist with confusing situations. As part of the minority community, international students seemed to feel they were in a comparatively vulnerable position and hoped to receive guidance from their institution. Upon receiving this guidance, they would be in a more comfortable place to "deal with the crisis", and their "sense of security" would also be enhanced.

Overall, I feel that there is a lack of something like information sessions. Whether it's the university or the insurance company, can there be some kind of sessions where these things are explained? I think it's quite necessary. (Participant 24, 23-year-old, female)

It would be great to have a guidance manual to introduce procedures involved in seeking medical care. Overseas students can refer to it. In case of any medical issues, they can refer to it and avoid some detours. (Participant 14, 23-year-old, male)

I think it is better if the university can have some contact persons dedicated to overseas students' medical care. If you have medical needs and don't know how to access to the services, you can consult the appointed staff. (Participant 20, 35-year-old, female)

A few interviewees specifically mentioned the need to receive more information from the university regarding the COVID-19. Unlike local and English-speaking students, Chinese students encountered obstacles to accessing timely and reliable information, so they tended to rely on their universities for professional guidance on procedures relating to COVID-19 infection.

I think the university could send us an email informing us of what to do after having COVID-19 symptoms, such as where to seek help, to reduce our anxiety. (Participant 5, 23-year-old, female)

Caring for overseas students' mental status (8 times in 25 interviews)

The interviewees voiced a need to receive more care and attention from the university regarding their mental wellbeing, especially because many Chinese students tend to neglect their psychological issues, or they feel ashamed to express their distress and seek support. To overcome these impediments, participants recommended that universities address these issues to raise Chinese students' awareness, as well as provide professional psychological counselling services in conjunction with relevant medical information.

I hope the university can pay more attention to students' mental health, actively provide assistance, and offer more help. (Participant 13, 27-year-old, male)

Policy-level strategies recommended by the participants

Advertising and disseminating healthcare information (10 times in 25 interviews)

As the interviewees mainly relied on online sources or friends' experiences for healthcare advice, they might have difficulty distinguishing correct information from incorrect information. Therefore, participants sought official advertisements or dissemination of health-related information from authorities in order to act in accordance with best practice.

I really hope that the government could disseminate the medical knowledge, especially for international students seeking medical care, informing us about which treatment options are reimbursable. Otherwise, we might have misperceptions about healthcare service and feel reluctant to seek medical attention. (Participant 20, 35-year-old, female)

Enhancing health insurance coverage and reimbursement rates (8 times in 25 interviews)

Many interviewees voiced a desire for wider insurance coverage and a higher reimbursement rate, and expressed that OSHC covered only basic medical expenses, while excluding some specialised treatments from the reimbursement scope. As international students contributing economically and culturally to Australian society, participants hoped the government could play a role in fostering a healthcare system that is more affordable and accessible to international students.

Firstly, I hope that the coverage scope of OSHC can be broader, although I think it's difficult to achieve in the short term. (Participant 9, 24-year-old, female)

Overseas students pay high tuition fees to study here. I would appreciate more comparable access to medical resources as local residents. I think this will facilitate health equity from a broader scope. (Participant 12, 28-year-old, male)

Discussion

We conducted a qualitative study to explore the healthcare experiences of Chinese international students in Australia, employing a social-ecological approach to identify the challenges they encountered as well as the strategies they adopted and suggested to manage their experiences at individual, institutional, and policy levels. The findings of our study provide useful information on access and utilisation of health services by these international students, and shed light on the essential and tailored support that can be offered to this population. In the following, we discuss the primary challenges and propose recommendations for key stakeholders at different levels.

In the study, there was a prevalent concern among our participants regarding medical examinations, clinical diagnosis, prescriptions, or treatment modalities they received or perceived to receive from the healthcare providers in Australia. This is understandable, as the clear distinctions between the two countries' medical systems may give rise to these international students' varying perceptions of their medical experiences [35, 36]. First, Chinese doctors reportedly prefer using advanced medical equipment for diagnosis [37], possibly leading Chinese students to seek reassurance through diagnostic tests. Conversely, in Australia, GPs typically perform physical checkups and may refer patients to specialists if any examinations requiring specialised equipment are needed, which can be inconvenient and time-consuming. This discrepancy may cause Chinese patients to perceive Australian doctors as less professional or thorough than expected, though it is in fact due to a different medical practice style. Second, in China, antibiotics are readily accessible over the counter [38], allowing Chinese patients to self-medicate when feeling severely ill. In Australia, the comparative difficulty in obtaining antibiotics and the resulting prolonged symptoms due to a lack of medication may clash with Chinese students' expectations and thus reduce their motivation to seek medical attention. Third, as the healthcare system in China is hospital-based while the GP-based primary care and referral system is underdeveloped [39], it is commonplace for Chinese patients to directly see a specialist doctor in a tertiary hospital. The medical purview of a GP can be quite broad, while that of a specialist is more concentrated and specialised. This may influence doctors' familiarity and in-depth knowledge of certain conditions, which consequently impacts patients' impressions of their doctors' competence.

In fact, some of these barriers are inevitable, as they are related to cross-border healthcare services and inherently cause challenges to those who need to receive medical care abroad. Apart from the structural barriers all international students have to face, some obstacles are specific to the medical culture in their home countries, in our case, the Chinese medical context. For example, in China, it is customary that patients' family members are heavily involved in the medical examination and decision-making process, with doctors informing both patients and their families about the medical condition [40]. However, international students are separated from their families, which can substantially impede their willingness to seek healthcare services and cause anxiety when following medical advice, especially for complex conditions.

Recommendations for individuals

In this study, our participants proposed a number of measures that could be implemented to effectively address challenges at the individual level. This highlights the role of individual agency and the potential of self-directed health promotion strategies, which students themselves could employ to enhance their health and well-being. This is particularly relevant for international students, who, being far from their close ones, must assume greater responsibility for managing their own health [41]. Based on our findings, we tentatively recommend several strategies, including increasing awareness of the importance of health and avoiding health-compromising behaviours [41]; actively seeking necessary information from resources or people that involve minimum language barriers, such as popular Chinese social media platforms and Chinese international student associations; and fully utilising available preventive measures, such as vaccinations and masks when appropriate.

Recommendations for education institutions

Our study identified a gap between the healthcare support participants expected from education institutions and the support they actually received. The elevated expectations for assistance from schools and faculty among Chinese students may be attributed to their collectivistic social and educational culture, where the experience of autonomy seems to be less pursued whereas interdependence be valued more [42]. We thus recommend that Australian universities may consider this cultural difference between local and certain international students, by proactively providing support at an earlier time during their education experience to help these students better prepare for potential health service utilisation, and by offering assistance during medical visits to improve their medical experiences.

For instance, institutions could design comprehensive orientation programmes, develop medical guidance

materials, organise healthcare service training sessions, and establish mentoring services, specifically for this group of students. Additionally, recognising the importance of accompaniment during Chinese students' medical visits, educational institutions could consider recruiting bilingual volunteers from the same cultural background to support medical accompaniment. By creating an inclusive environment that supports international students' healthcare needs on campus [43], it can reduce international students' anxieties, optimise their healthcare experience, and enhance their willingness to seek medical care in unfamiliar healthcare systems [44].

Recommendations for medical institutions

To mitigate the barriers caused by Chinese students' perceptions of the differences in healthcare perceptions and practices, medical institutions can play a pivotal role in enhancing the communication between healthcare providers and patients, fostering a mutual understanding of Australian treatment modalities among Chinese students [45]. Bridging these cultural divides can be achieved through several strategies. Firstly, employing multilingual staff and providing translation services can significantly mitigate language barriers, facilitating more effective communication and ensuring that students fully understand their diagnoses and treatment plans [46]. Secondly, offering cross-cultural training for healthcare professionals can improve their sensitivity to cultural differences and help them deliver care that better aligns with the cultural practices and expectations of international students [47]. These measures are expected to enhance the healthcare experiences and treatment outcomes for Chinese international students, ensuring that they feel confident and supported within the Australian healthcare system.

Telemedicine was suggested and preferred by our participants especially for those who experienced difficulties in making appointments and transportation, a convenient and efficient approach to healthcare delivery, especially after the COVID-19 pandemic [48]. This approach, according to our interviewees, has been shown to be effective, especially when information is provided via text messages and images, which is more accessible to non-English speakers. Despites its obvious advantages, concerns about privacy breaches and diagnostic accuracy limitations underscore the importance of balancing the benefits and risks of telemedicine [49]. Nonetheless, with proper safeguards in place, telemedicine serves as a valuable adjunct to traditional healthcare delivery models [50], particularly for international students facing barriers to accessing in-person medical care. Given the increasing needs of our interviewees, we recommend that medical institutions could improve their telemedicine services in both quantity and quality to benefit international students and the general population.

Recommendations for insurance providers and policymakers

One of our interviewees' primary concerns pertained to issues surrounding health insurance for international students in Australia, particularly in terms of insurance coverage and reimbursement rates. This voice deserves due attention from authorities, especially when compared with evidence from other countries. For example, a study comparing health insurance for international students in Australia and New Zealand finds that the insurance costs are higher in Australia whereas the benefits in New Zealand are superior [18]. In some other parts of the world, such as certain provinces/territories in Canada, international students and their dependents have been included in the publicly funded health insurance coverage scheme as residents and are entitled to the necessary medical services insured by their provincial/territorial medical care plans [51]. In the US, some universities provide the university insurance covering dental benefits, which is available to non-international students at graduate level with an eligible job appointment and all their international students [52].

These health policy discrepancies indicate that there is still room for improvement in Australian healthcare insurance system for international students. It has been argued that the exclusion of international students from health insurance coverage raises concerns about their right to equal and timely access to health services, potentially turning access into a privilege based on their ability to pay—particularly in light of their existing disadvantages of high tuition fees and limited access to a well-paid job [51]. This situation seems inequitable, considering the substantial financial, intellectual, and cultural contributions that international students make to the country [51]. At least, it is advisable that the government and insurance companies in Australia could collaborate to analyse and mitigate the issues that perplex international students most. Some proactive engagement with the international student community, such as focus group discussions and surveys, can be applied as effective methods to understand international students' unique needs and expectations regarding healthcare, so that the targeted improvements and promotions can be better achieved.

Conclusion

Our study identifies key barriers to healthcare access for Chinese international students in Australia, including common impediments as well as culture-specific

challenges. We recommend self-directed health promotion at the individual level, early and targeted support from educational institutions, improved communication and expanded telemedicine from medical institutions, and more attention on insurance coverage issues by relevant companies and policymakers. These coordinated efforts can enhance healthcare experiences and outcomes for international students.

Future research could further explore how to optimise these strategies by different stakeholders, such as the impact of healthcare navigation training, the effectiveness of telemedicine, the role of educational institutions in promoting both physical and mental health among this population, and the barriers to insurance utilisation, so as to provide more insights for improving support systems and policy frameworks.

Limitations

Our study has limitations. First, the relatively small sample size of our study from a single city in Australia might limit the individual and geographical diversity, although a strong variability from our sample has been observed based on our findings. Second, the study's reliance on participants' subjective interpretations of their experiences might influence the depth and breadth of the insights gathered.

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Authors' contributions
QM was involved in research design, interview script, the interviews, the analysis, and manuscript drafting. WL was involved in research design, interview script, the analysis, critical revision of manuscript. AK and RG were involved in research design, the analysis, critical revision of manuscript, and supervision. All authors read and approved the last version of the manuscript.

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Declarations

Ethics approval and consent to participate
Ethical approval was obtained from the Ethics Committee of The University of Queensland (2023/HE001919). Written informed consent was obtained from all the study participants. All methods were carried out in accordance with relevant guidelines and regulations.

Consent for publication
All participants gave informed consent for publication of their data.

Competing interests
The authors declare that they have no competing interests.

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