

Health Care Service for International Students in Turku

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Thesis for Novia UAS

The Degree Programme of

Service Design Turku, Finland

2024

DEGREE THESIS

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Degree Programme: Masters of Business
Administration Specialization: Service Design

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Title: Health Care Service for International Students in Turku

Date: 11.11.2024 Number of pages: 93 Appendices: 5

Abstract

This study looked at the problems that international students have getting medical care in Turku, Finland, especially when they try to make appointments. Language barriers, regional differences, and complicated procedures make it harder for people to get care quickly. Service design techniques, such as Customer Journey Mapping, were used to identify these problems and find solutions.

By utilizing service design tools like Customer Journey Mapping, this study visualized the entire service experience for the students. Key findings showed that to improve the user experience and cut down on wait times, there needs to be help in more than one language, easier booking processes, and platforms that are driven by technology. Workshops and qualitative research showed that the current method is not fully inclusive or efficient enough.

This study also provided guidance to students on how to navigate the healthcare system of Turku, Finland.

Language: English

Key Words: healthcare accessibility, service design, appointment scheduling, international students

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1 Introduction

Access to healthcare facility is one of the most important means of achieving the development of a good society. This means that people in that community cherish their well-being and are able to respond to many aspects of people's health. It is crucial to have adequate healthcare services to a city where many people from different country visit and settle. One such city is Turku, the liveliest and southwestern city of Finland. Everyone comes to Turku to work, to study and of course to have fun during their spare time. But along with Turku's cosmopolitan appeal comes a challenge: ensuring equitable access for health services for all people, including immigrants. Determining the scalability of a foreign healthcare system is difficult for international students due to the problems such as language barriers and complex procedures. Making appointments is crucial to ensure that students receive medical attention when they need it. However, it is not an easy task for many international students in Turku. Not only do they struggle to access appropriate medical care appropriate medical care when they need it, but they often face delays as well.

Since these problems are supposed to be solved immediately, this study starts a journey attempting to improve the healthcare access for students in Turku, with a focus on making the appointment scheduling system less problematic for them and sharing with them about the whole appointment process to lessen the hassle they face after coming to Turku. Service design is the process of thinking, picturing and putting

together the best way to provide service experiences. This way of thinking works especially in the medical field.

This study will investigate the problems international students face while making an appointment in the hospitals of Turku. Additionally, this study will generate ideas on how to make the process more engaging and inform international students how to make appointments for non-urgent care or in the cases of emergency because most of the international students in Turku lack knowledge about the healthcare system of Finland. The goal of this study is to enhance healthcare access of Turku for the Students by adapting to the needs of the students by addressing their needs.

1.1 Background of the study

This study aims to explore options available for international students to access healthcare in Turku, Finland. Since Turku is cosmopolitan and has some of the best universities of the world, it attracts students of different nationalities seeking a better education. Although these students are temporary residents in the context of other countries and come to local communities as internationals, they often face significant challenges in accessing healthcare, such as language barriers, cultural differences, and omit bureaucratic practices and procedures and lack of knowledge.

One of the main challenges is the appointment making process in hospitals which is not very convenient for the international students. Because of the lack of knowledge and other problems faced by the students while making an appointment, it is often difficult to get the right medical care at the time they need it. Not getting the right medical care at the right time causes stress and physical pain.

The goal of the study is to apply service design principles to identify challenges in the appointment scheduling system in the hospitals of Turku and provide solutions that are feasible. This study aims to enhance the experiences of the students within the healthcare system of Turku and provide them with the knowledge of the entire appointment making process, hence making the services more efficient and accessible.

1.2 Problem area -Aim (Who, How, What)

In Turku, people from many nationalities live together, and, in general, there is a high level of tolerance towards other races and cultures. But this can become a problem for the growing number of students, because making an appointment in the hospitals of Turku is not easy, and this is one of many challenges they face. The process of making an appointment might be difficult for international students to understand due to the norms and regulations in place. Language barriers, complex paperwork and culture diversity further complicate the situation, leading to delays, misunderstanding and frustration.

This situation often causes stress, particularly among students who may be deprived of urgent medical attention, jeopardizing their physical and emotional health. The primary aim of the study is to identify the problems students face while seeking medical care by implementing service design processes and find ways to alleviate them. Furthermore, this study will inform students about the system and the process of making an appointment in the public and private hospitals of Turku.

The solutions will benefit both the students and healthcare providers who treat them by knowing the challenges students face while making an appointment and by gaining knowledge of how to make an appointment in the Finnish healthcare system. Knowing these challenges will allow the healthcare providers to make the appointment system more user friendly and transparent, which will ensure a smoother process for both students and healthcare providers.

1.3 Purpose of the Study

The purpose of this study is to identify the challenges international students face when attempting to schedule appointments in Turku's hospitals. By using service design methods, this study aims to identify the challenges, propose feasible solutions and educate the international students about the whole process of healthcare appointment system. Through this approach, the goal is to enhance healthcare accessibility and service quality for international students by reducing administrative barriers,

improving communication, and streamlining processes. Ultimately, this research seeks to ensure that the healthcare system in Turku is more inclusive and accessible, providing equitable care for all residents, regardless of their cultural or linguistic background.

1.4 Research Questions

This study is guided by the following research questions:

1. What problems do foreign students face when they try to make appointments at Turku hospitals?
2. How can service design make it easier for foreign students in Turku hospitals to keep their appointments?
3. What are the best ways to improve the access to healthcare for foreign students in Turku hospitals through service design?

1.5 Healthcare system in Turku

Turku is an old city located in South Western region of Finland and it provides education, entertainment and health care services. As a regional capital, Turku hosts a number of significant healthcare organizations and facilities to cater for growing a local as well as increasingly cosmopolitan patient population. An additional and constant reason for this demand is the city's temporary and permanent population, which includes international students, expatriates and workforce involving more and more people needing quality, affordable and culturally sensitive behavioral health services. Health care organizations in Turku employs a relatively high percentage of non-Finnish speakers; consequently, the healthcare system in Turku has to provide all students with equal opportunities in terms of language and culture.

Tyks is one of the largest hospitals in Finland and acts as a teaching hospital in Turku which is part of the Turku Health Care District. Tyks is a tertiary healthcare center which

offers many types of treatments in different specialties such as surgery, cancer, heart and brain disease, and child health and so forth. The hospital is also a teaching and research hospital affiliated with the university of Turku making it one of the most renowned for medical innovation and excellence in the delivery of health services in the region (Turku University Hospital, 2023). Serving both local as well as international patients, Tyks has an international patient unit that minimizes the cultural and language differences that are quite often an issue for students coming from abroad. Other than the Turku University Hospital, Turun Kaupunginsairaala focuses on elderly and long-term chronic care students. The hospital is more of a health facility that specializes in the treatment of elderly students and those with chronic illnesses, and treatment and care from other hospitals in the region is coordinated ensuring that the patient gets the best attention. City Hospital plays a vital role here in meeting the healthcare needs of aging population in Turku and also in supporting individuals with chronic diseases (City of Turku, 2023).

Besides public hospital groups, Turku has private health care companies such as Mehiläinen Turku and Terveystalo Turku. A number of people prefer these private facilities as the means of quicker access to health services as well as a number of options preferred by the locals and foreign individuals who might have experienced private healthcare services from the developed countries they came from (Kangas, 2019). Private healthcare facilities are particularly popular among many international residents, due to the language barrier as well as flexible working model. Although Finland boasts both the public and private healthcare facilities, they have been proven over and over again to be complex for the international patient. Private healthcare facilities include interpreter services, culture, structure of the health care system, and procedures of making appointments that are frequently cited. Many hospitals nowadays, including Tyks, have introduced tools such as multilingual support and translation services; however, what they sometimes do not realize is that these tools do not adequately meet all the needs of non-Finnish speaking people (Turku University Hospital, 2023). The growth of travel across borders and immigration, especially in the realm of education and employment, makes it more and more necessary to maximize the use of health care systems for an international population.

This thesis aims to solve these challenges with the help of service design approach and implement the best changes into the existing appointment scheduling system in the hospitals of Turku. As this research follows the paradigm of the user-oriented approach, the goal is to decrease the number of obstacles that international students experience while navigating the Finnish National health system, such as language barriers, booking systems' misunderstanding, and long waits. Service design is a systematic way of addressing these challenges since it incorporates the various consumers, (i.e., the students as well as the providers of the health services) in the design process to arrive at viable, effective and user-centered solutions. In this respect, the establishment of further effective appointment scheduling in the Turku's hospitals can contribute to improving the conditions for the people, both Finnish and foreign, in order to receive the necessary health care services with high quality and on time. Additionally, as many other hospitals like Tyks and Turku City Hospital are becoming more encompassing in terms of a population cover, such services will go a long way in enhancing the general perception of the end consumers with a view to delivering quality services to all consumers across demographic dividing lines.

1.6 Frame of Reference

Foreigners already have problems getting medical care in any other country. Therefore, they face the challenge of having a limited understanding on how to contact health centers in the new community. These problems are mainly language barriers, cultural gaps, and non-ability in the system which creates the problem of always getting the right medical care, at the right time (Jones and Smith, 2019; Patel et al., 2020).

Service design, as a solution, encompasses the concept of favoring user experience and meeting people's needs. It has been a novel principle in terms of coping with ineffective healthcare systems (Kim & Lee, 2018). The co-creation, empathy, and rapid prototyping apply and assist in finding problems and improving how services are delivered. This helps to make the process more accessible, efficient, and user satisfying (Kim & Lee, 2018; Stickdorn & Schneider, 2011). In addition, the recently published

studies have shown that technology can help foreign students get better medical care. Digital platforms such as online appointment booking system and multilingual patient portals have the prospects of bringing about healthy collaboration (Liu et al., 2020; Ong et al., 2019). Therefore, the use of technology and service design can be the means and instruments for facilitation of medical treatment of foreigners.

Jones and Smith (2019) state that foreign students encounter difficulties making appointments in the healthcare systems because they may not be able to speak the language or understand how the system functions. Last but not least, Patel et al. (2020) point out that cultural differences are also critical to the success of international students when receiving medical care. Research methodologies of service design strives to effectively enhance patient satisfaction with the way they are treated and access health services (Kim & Lee, 2018). Using a client-oriented approach, design service helps us to see where the appointments are scheduled wrong and how to develop customized solutions for these issues (Stickdorn & Schneider, 2010). International students will not find it convenient to visit medical centers when they need medical services from another health care system that is different from the system they are used to. The future generations would strike on to face environmental issues which have no immediate solutions to be found. Sadly, this simply makes the situation more complex due to the occurrence of language barriers escalating the cultural differences and the involved anxiety and uncertainty. A striking indication of the necessity to customize the measures that are meant to address this group is the situations, where these individuals struggle to secure access to healthcare.

1.7 Conceptual Analysis

This thesis concerns itself with the conceptual elements of service design concerning international students and how the applied methodologies can be used to solve the difficulties encountered when seeking healthcare services in Turku, Finland. There are also limitations to the communication and to the appointment booking, language barrier, cultural difference, and bureaucratic procedures which affects the growth of

this sector. Design techniques, like Customer journey mapping, Service Blueprinting, and value proposition canvas are used to put the patient at the focal point and fully grasp all of their needs and feeling. These approaches enhance the involvement of students in the development of the strategy that will enhance access to services.

The anticipated results include more efficient appointment systems, improved communication and service delivery to the clients, and more appropriate health care for international students as a population of equal value to local citizens. Moreover, a complete guidance to the students will be given for easily accessing the current healthcare system. This way, this framework demonstrates how service design can help remove the issues that make it difficult to gain access to healthcare and enhance the overall systems of healthcare.

1.8 Service Design Theory

The Double Diamond Method, a widely used service design framework, consists of four phases: Of the 4D learning cycle model known as Discover, Define, Develop, and Deliver, this thesis can benefit from the application of this model. During the Discover phase, the goal is to identify today's problems of foreign students in the healthcare sphere of Turku. Some of the activities include; Interviews and surveys with the international students on their experience, observational research on the current appointment system in the hospitals, data collection of specific issues such as language, complicated bureaucratic procedures etc. In the Define phase, the intention is to get to know the essence of the problems and the scope of the solution, where appropriate data from the Discover phase will be used to clearly define problems, such as the absence of multilingual support and overly intricate appointment processes. There is the formulation of problem statements, and personas and user journey maps are used in establishing key patient interaction points. When in the Develop phase, emphasis is laid down on developing possible solutions to the revealed problems. This consists of discussion of ideas from healthcare providers and service designers to come up with

solutions to the current appointment system comes up with, testing some of the solutions like developing an online booking platform that can be translated into several international languages or simplified forms of the appointment forms, and holding co-design sessions with stakeholders that comprise of international students and healthcare providers to fine-tune these prototypes. In the last phase of the approach, called Deliver phase, the objective is to assess and deploy the solution in live environments. This includes using a pilot approach to implementing the new appointment system by seeking feedback from the students and healthcare workers to improve the new solution from time to time. When this is validated, then the solution can be rolled out to every hospital in Turku. Using the Double Diamond Method, the thesis has a structure of how to solve the problem which is centered around the users and iteratively tested for the greatest benefit to both the international students and the healthcare system.

Service design theory revolves around value creation resulting from the process of consuming a particular service, and provides tools and strategies that are unique to the faces of the users of such service. So, before analyzing and optimizing, service design is the practice of positioning the customer experience or need at the center of every process, especially in services that can affect human lives such as healthcare services. While increasing complexity of healthcare organization and delivery requires adopting service design strategies aimed at enhancing patient centeredness especially where students are international residents (Stickdorn & Schneider, 2011). The values all anchored on the principle of user-centered design is one of the basic tenets of service design. This concept lays emphasis on the patient as an individual and takes into consideration the needs, problems and behaviors of the students from the onset of their periodic courses strongly focused on treatments. Through the effective use of tools like user analysis, persona, and prototyping, designers could design models that helped develop healthcare services that are not only effective but easy to use and more importantly impactful. In user-centered design, healthcare providers are able to identify actual patient requirements in healthcare delivery to create solutions that improve the general patient experience. For instance, the user-center design concept has been observed to have positive features like; Efficiency in service provision, enhanced patient satisfaction within the health sector, and improved resource utilization within the health care facilities. An effective approach

to achieve this is the involvement of students in developing the services that meet their needs and solve their pain, for example, uncertainty about scheduling an appointment, or extended waiting time.

Co-creation, which is one of the most important aspects of the service design process that involves interacting with students, clinicians, managers and support workers, in order to implement the services that students are to receive. This one offers the fundamental premise for improved and more comprehensive approaches to negotiations because it encompasses the complete assimilation of all the client's interactions. Co-creation is useful in developing innovations because it involves engaged involvement and leads to highly pertinent services, according to Stickdorn and Schneider (2011). In healthcare this can be done in workshops or that involve joint redesigning by students and clinicians of certain aspects of a service, for example hospital visits or the communication process between clinicians and students (Sanders & Stappers, 2014). Using this method entails that services are not only provided for users but with users hence developing solutions that can suit healthcare setting better.

The other key artefact in service design is the so-called Service Blueprints which would enable the designer to graphically capture the service from the viewpoint of the patient from the time of his/ her first contact all the way to the back end operations required for the effective functioning of the service. Service blueprint enables one to clearly see all the touchpoint, interaction or interface, and entities in the provision of health care related services. This tool is very much applicable in healthcare since it helps out in defining the concerns or the issues on patient satisfaction improvement. For instance, a service blueprint may uncover the ignorance between different departments, which leads to even patient care delays (Løvlie et al., 2008). By identifying both visible AND hidden activities in service delivery, healthcare providers can be more informed about patient journey and address both service quality and operation excellence simultaneously to realize the improvement.

Healthcare service design theory is a valuable framework for understanding and optimizing the spectrum of a patient's experiences. It provides a comprehensive view of patient's engagement in healthcare service, provides information on problems of a healthcare delivery system and ideas on improvements to services. This is particularly appropriate bearing in mind the number of the international students who in any case have a number of challenges inclusive of language and cultural issues that can greatly affect their probability of gaining adequate health care services. The likes of user journey maps and personas used in service design discipline are useful in explaining these complexities and finding relevant solutions that cater for different students and patient groups (Patrício et al., 2018). For instance, by watching the movement of an international patient trying to find his or her way in a healthcare system in a different country, the designers can easily look for points where misunderstandings often arise, and then come up with ways of fixing those.

However, with advancement of digital technology and incorporation of digital technology within the implementation of healthcare services, students' access to services has been influenced in some ways. In regard to digital solutions like online booking systems, and patient portals, that are crucial for saving costs, enhancing patient experience, and increasing work efficiency, service design has the most critical function. This paper shows that through the implementation of service design, user needs and digital services offered in the healthcare sector can be well understood as well as address needs of different students (Onget al., 2019). This is especially valid concerning the difficulties of the International students, as the modern technologies provide the main advantage in distance appointment booking, records viewing, and doctors or nurses contact.

Cognitive model analysis also helps to understand and enhance the delivery of healthcare services through application of service design theory which incorporates user need orientation, co-creation, and service blueprint application. These principles help healthcare providers think about and meet the needs of the population of customers responsible for achieving goals more successfully, leading to the availability and efficiency of the services. including service design in the healthcare

sector positively impacts both patient satisfaction and elements in the back end that impact both the consumer, and the care provider. Service design will be an important tool that will help all healthcare systems adapt and address the needs of students who are living in diverse societies.

2 Challenges to Access Healthcare

2.1 Cultural theory of Interpersonal Communication in Healthcare

Cultural theory of interpersonal communication is important when trying to comprehend how people of different cultures engage themselves and share information. This theory is especially relevant if it is applied to health care as it majorly targets on the difficulties arising when interacting with the people of other cultures. Such complexities therefore originate from dissimilarities in language, culture, beliefs and attitudes that on one hand may cause misunderstanding and/or; misinterpretation and on the other may even result in misdiagnosis. This theory assists to explain not only the patterns of interaction between students and/or caregivers related to culture, but also their attitudes to such systems and their anticipated behaviors from healthcare organizations (Betancourt et al., 2003). Why communication is imperative in the context of healthcare delivery? The primary idea

is that communication has the remarkable power to directly predict the quality and safety of care and students' satisfaction levels as well as overall health outcomes. Another area of conflict in cross-cultural healthcare communication that any cross-cultural scholar would identify is language difference. Communication is a vital factor in the way that students describe their symptoms and that through language students comprehend doctors' instructions. When the patient and the medical provider are not on the same side of the language barrier, then the probability of wrong conveyed information rises, which leads to poor treatment (Flores, 2006). The barriers it contributes to can be as follows Some students cannot even go to the doctor due to communication barriers this contributes to failure in early diagnosis and treatment. Language is also related to health literacy- which defines a patient's informatics capacity or their capability to grasp and decide on proper health information. Of most concern, students who have comparatively low proficiency in the major language of the healthcare setting tend to have lower health literacy level hence poor health (Schiavo, 2014). Apart from language, culture strongly influences the reception of disease and therapy among students. Acceptance and cross cultural beliefs about illnesses and Symptoms can vary significantly. Cultural Diversity is also reflected in the community's belief about diseases, their symptoms, causes, treatments, and the role of healthcare providers. For instance, in some cultures religious, folk or medical practices supersede modern medical practices. In such cases, the medical professionals practicing with such students have no clue about such cultures and may find themselves delivering a kind of care that the patient did not expect to receive (Kleinman & Benson, 2006). Therefore, culture is gender roles, decisions regarding marital dilemmas, and family role can determine communication with a physician. This is quite contrary to many cultures where the family is usually involved in the decision making process of the patient, contrary to the more liberal views of patient self-determination common to western societies. By understanding these cultures, healthcare providers are in a position to develop an understanding on how to manage the patient by using his or her cultural backgrounds hence embracing good doctor patient relationship this leads to patient compliance with doctors recommendations leading to better health outcomes as noted by Betancourt et al.,(2003).

Cultural sensitivity is the ability of any given care giver to deliver health care service to persons from different cultural backgrounds in an appropriate way. A culturally competent worker understands that there are differences among people of different cultures, and also recognizes that these differences should be valued, and that practice behavior should reflect the understanding of such differences. Along the same line of understanding cultural competence, Betancourt et al. (2003) posit that cultural competence is not simply the process of not offending the cultural beliefs of the patient and his/her community but going a notch higher and embrace the patient's cultural beliefs as a plus to applying care. For example, knowledge of cultural taboos regarding diet can help in developing a working treatment plan that will respect the patient's culture and therefore, follow the plan given by the health care professional (Betancourt et al., 2003). It has been established that the healthcare stakeholders, who have a high level of cultural competence, are more capable of building confidence in their students, which in the present globe is a major factor that defines healthcare delivery systems. Communication openness and trust empowers clients to disclose information about a health condition that they may not reveal because they feel the provider will stigmatize them or misunderstand them (Saha et al., 2008). In addition, there are further benefits regarding patient satisfaction because students gain the experience that they were understood and respected. This consequently leads to proper health since students are always comfortable to follow the treatment advised to them by their preferred doctors (Betancourt et al., 2003).

Healthcare workers should learn culturally competent communication as it will let them speak to the students of foreign origin and it also helps to respond to the inequality regarding the quality of care in students from different cultural backgrounds. Cultural competence training programs are meant to educate providers on cross cultural variations in belief systems of health, language and conduct. However, these programs also develop the willingness to take responsibility for recognition and understanding of the author's culture and potential impact on students (Betancourt et al., 2003). The same authors revealed that cultural competence training facilitates effective communication between students and providers, improves organizational patient satisfaction and decreases the healthcare

disparities in the minority populations. Here, patient-centeredness a factor that concerns the notion that a patient's culture and language and social and LEP status should be valued by the health care delivery systems is basically equivalent to cultural competence. This approach ensures that those in the health care facility not only treat the clients' diseases, but also they are also able to create rapport with the same clients. When culture is a component of patient care delivery, healthcare workers will be in a position to embrace students as equal and unique individuals. This improves interpersonal interactions and produces improved patient concordance with professional health care advice as well as generalized health outcomes (Epstein, & Street, 2011).

Reflected from the cultural theory of interpersonal communication, cultural and language barriers should also be considered while handling clients in health care. One of the big focuses is the lack of cultural competence in the health care training, and of having culturally diverse students. This competence is not only about recognizing the cultural differences and also about how the health care workers must modify their 'self-presented characteristics' to best suit the needs of the students. The approach hence fosters cultural competency since it provides for the way in which health care providers have the capacity to meet, interact and care for students from different cultural backgrounds in a way that positively impacts the health of those individuals.

2.2 Healthcare Access Theory

Healthcare access theory covers all those aspects, which stand as barriers or facilitators to healthcare access by an individual when he or she needs it. This theory assumes a large number of factors, geographical, financial, cultural, and organizational, which define or influence when, where, and how people obtain treatment. These factors can be analyzed with the Andersen's Behavioral Model of Health Services Use which categorize them and their interactions in terms of health care access. The model categorizes the determinants of healthcare access into three primary components: federal predisposing characteristics, federal enabling

resources, and federal need factors. These components stress that the matter of the access to the necessary healthcare is not limited by the reckless behavior of a patient but also connected with systemic and structural factors.

This is because geographical barriers are a major determinant of health care access particularly in the rural or isolation areas due to laboratory limitations. Proximity to medical centers and lack of appropriate means of getting there is a barrier to receiving care on time and leads to deterioration of health (Guagliardo, 2004). For example, students in districts tend to have difficult in accessing these healthcare facilities than those in urban areas. Lack of healthcare facilities in such areas widens inequalities in healthcare leading to a low quality of life among the people who are located far from the health facilities.

There are also financial factors that hinder access to healthcare services; of them, financial barriers are also considered to be essential. In this aspect, the issue of cost is a major determinant to whether one will seek medical advice, ready to pay for consultations, drugs or treatments. The paper aims have found that health insurance coverage reduces the impact of potential financial constraints while discriminations still persist. The individuals not covered or with limited coverage may miss or avoid some required medical procedures due to the expensive costs of treatment (Peters et al., 2008). Further, where there is absence of health insurance the cost involved hampers the health care in delivery to the less privileged in society hence the challenges facing low health equity category.

Cultural factors also have an impact on the availability of and demand for medical care based on how students look at those systems, if and how they trust those who provide care and if they will seek such care. Students' cultural beliefs and practices can hinder or enhance the necessary engagement with perceived health and illness and the proposed and applicable Western healing model, due to assumptions and expectations (Kleinman & Benson, 2006). For example, some cultures may use traditional healers, or have different perception of disease and this influence the

times they seek formal health care. Cultural sensitivity into the facts of the healthcare practitioners is thus crucial in order to ensure that students from a variety of cultural backgrounds feel comfortable with their attendants hence improving their availability of health care services (Betancourt et al., 2003).

A part of the determinants of access is organizational and pertains to organization functioning and health systems organization. The specific concerns raised by different students include delay, poor method of setting appointments and lack of accommodation for multicultural students which mal align could deter students from seeking healthcare treatment. For example, the students who are coming from another country are fated to encounter the challenges due to language barrier, and poor understanding of health care system in a certain country. Among strategies that enhance access for disadvantaged populations include maintenance of appointment schedules, providing interpreters and culturally competent care (Brach and Fraser, 2000).

Healthcare access theory are about the right of the people all over the globe to have equal chances of getting healthcare services without discrimination. This means health equity comes up where disparities affect vulnerable or disadvantaged groups, including the poor, race, and ethno-linguistic minorities, and immigrants. Andersen (1995) opines that health systems should accustom themselves to aiming at eradicating barriers that deny these populations adequate timely and proper care. Here one encompasses transport problems and solutions, delays caused by financial issues, and the influence of the distinct culture on the healthcare provider-to-patient relationship and vice versa to enhance equality of care.

Health equity which has five dimensions, this shows that social determinants of health must also be known and eradicated. Factors like, income, education, housing all have a large influence over a person's ability to successfully gain access to health care. Measures for enhancing health care utilization must consequently go further than health system reforms and respond to other forms of social injustices contributing to

health inequities (Marmot & Wilkinson, 2005). For instance, education, especially for extension of to the affected vulnerable groups and cash support offered also raises the overall health literacy as well as the condition in those societies.

Obstacles which include geographical access to health facilities, funds available for health and organizational may limit access to health services especially to special needs groups in the society. Bath and Palmer (2007) have established that in comparison with the students from the local health care systems, the foreign students in the health care systems of the other countries face other barriers of accessing the health care in besides those mentioned above which result from language barriers as well as bureaucratic procedures arising from cultural diversity. Therefore, elimination of such factors could hopeful affect the health of the populace while at the same time available of expanded coverage of health care hence a better population health in the future. For example, where utilization of telemedicine and online appointments in the health sector, then there are few reduction of geographic and administrative partitions, implying that persons in the rural or the under-served can easily access health services (Penchansky & Thomas, 1981).

Health care access theory provides a strong explanation of the contextual factors that affect the probability of an individual to gain appropriate health service. Healthcare concerns with geography, finance, culture, and structure would be useful to promote fairness in systems pertaining to the health of people particularly those categorized in the disadvantage category. The feature of this theory here marks the fact that, in increasing the status of access to healthcare, it is not only within the health care system, but also in the social aspect to undertake.

2.3 Technology adoption and Healthcare theory

The implementation of technology in the healthcare sector environment does not occur in vacuum; technology adaptation depends on different factors such as

technology type and characteristics, user, and contextual factors. According to Rogers (2003) Diffusion of Innovation theory explains the rate at which technology is adopted defining characteristics like relative advantage, compatibility, complexity trial and observability. In healthcare, these principles are somewhat crucial since technology plays a huge difference in the performances well as health of students, and the availability of healthcare services. The promotion and implementation of EHRs, telemedicine, and other similar applications require not only the readiness of the client to incorporate the healthcare app into their routine activities and the readiness of the healthcare system to launch mobile applications.

Anyone may not raise eyebrows over the fact that technology plays a crucial role in the current health care improvements, observing the influence to the aspects regarding delivery, communication and access to health care service. For instance, patient digital tools including, online appointment booking applications, patient's personal account access, telemedicine solutions have linearized students 'access to medical care especially for individuals from remote areas or foreign viewers who may have little knowledge of the local health system. Based on Gagnon et al., Such technologies should violate existing obstacles like geographical, financial, and language in order to be implemented massively. Telecommunications enables the patient to make appointments, attend a doctor's consultation, or organize the records themselves, in other words, to minimize physical visits. However, to be useful, these technologies have to be easy to use, secure and have to fit well into the overall healthcare delivery system.

Convenient use is one of the most critical components of technology acceptance models. According to the Rogers (2003), a technology is accepted if it is perceived to be user friendly. This is especially important for healthcare because many of the students are either unable to comprehend the languages spoken or are otherwise unfamiliar with healthcare systems. Mobile applications or a telemedicine patient portal in Spanish for example is a major advancement that will improve healthcare access for the patient. Of the suggested methods, the one in the middle simplifies the technology

use and provides the requisite help reducing the technology adoption rates to a minimum hence improving the Technology adoption rates (Venkatesh et al., 2012).

The factor that vary in relation to healthcare is compatibility, and this refers to how well the new technology aligns with the individual or group values, past experiences and needs of the users. Healthcare technologies need to be compliant with the end user with the relevance being the integration within healthcare institutions. For instance, electronic health record systems that allow the integration to hospital information systems within existing environments are likely to be accepted because they do not interrupt most ongoing practices (Boonstra & Broekhuis, 2010). Likewise, regarding students, it means that healthcare technology should be suitable for their daily life and choices. For example, the use of health applications in which students can check their chronic diseases status through remote application can enhance students' adherence to the recommended treatment plans.

Another factor about the adoption of a particular technology in the health care sector is trial ability, which is the capability of the technology to be tested on a limited scale first. The entities most likely to embrace change are the various healthcare providers and students who are in a position to pilot test various technologies that are most likely to be cost effective only after some testing and demonstration of their efficiency to the healthcare providers. Examples of limited rollouts include testing of telemedicine in some hospitals to determine its reliability due to limited trials or a certain digital health solution for pre-selected patient groups before extending its use to many facilities. This approach minimizes the chances of failure and maximizes the confidence in actually implementing the technology (Rogers 2003). Real life demonstrations reveal that when both the doctors and the students are aware that a particular technology can successfully complete a trial, the chances this technology will be adopted in the long run are high.

Another critical factor that determines adoption is observability or the extent to which the gains accruing from the technology are visible to others. This factor is

particularly significant in healthcare since it provides evidence of the gains that come in instances of adoption by the healthcare stakeholders. For example, the use of telehealth has become widespread because the experience of its use has shown an increase in the availability of care services, especially in the conditions of isolating measures connected with the COVID-19 virus. Studies which have been done show that telehealth therapy is not only an efficient manner of seeking consultations, but also increases the satisfaction of the patient due to time and waiting time one has to spend when attending the appointment physically (Mann et al., 2020). The positive results as seen in the use of telehealth coupled with the fact that it fits in perfectly with the current practicing models of healthcare make its uptake rapid in many settings.

However, there are limitations of entry that continue to hinder widespread use of technology in healthcare. Such barriers are availability of funds, resistance to the new system, lack of structure and privacy. The initial investment in new technologies including EHRs systems or tele-medicine can be very expensive in setting up and hence practice can be Ability or expertise in the extensive use of EHR systems many a times can be hindered by the high costs of implementing these technologies in organizations offering health care services especially those in the developing nations. In addition, there is evidence that doctors and nurses may be persistent to change if they believe that new technologies will upset the existing organizational structures and that training will be time-consuming (Greenhalgh et al., 2017). Therefore, the growth of the staff should be provided by the healthcare institutions so that they can be at ease when implementing the new technologies. Though, in order to fend off privacy and security questions that surround IHE, the patient's trust needs to be earned if their medical information is to be treated.

Technology innovation in this aspect of healthcare delivery depends on factors such as relative advantage, compatibility, perishability, and observability. Refocusing on the Rogers' Diffusion of Innovation theory, this article provides insights in the framework in which new healthcare technologies are adopted and points out the need to consider barriers to entry as critical factors to help explain the phenomenon. Further understanding the healthcare systems' administration and development will

show the successful additional of the technology's primary need, which is to create solutions designed for students and doctors that improve the delivery of healthcare rather than hinder it.

2.4 Service Quality

Service quality theory relating to the delivery of health care is based on the belief that services are characterized by their inextricable nature, their inability and their variability. This proves very important in the health sector due to the fact that the service offered determines the outcomes, Students satisfaction and patient loyalty. The idea of service quality in healthcare setting is location beyond the positive outcome of the treatment; instead, it encompasses all processes through which the patient comes into contact with the healthcare facility. Grönroos (2007) and Zeithaml, Bitner, and Gremler (2009) are two scholars who have expounded widely on the concept of service quality, especially concerning customer relationships, ongoing service enhancement, and the totality of the experience as required for organizations in the service domain.

According to Grönroos (2007), service organizations which encompass healthcare providers, have one among many core duties, which is to systematically observe and satisfy customer or in this scenario, patient needs. In healthcare, this means the students' prior expectations about healthcare or the issues arising from students' perspective throughout the process of treatment. According to Grönroos, there is a real need to build a service-dominant logic to deliver an extended suite of connected services to students through the creation of valuable relationships with them before, during and after the treatment. This way, students are more trusting, and willing to stay loyal, which results in higher patient satisfaction (Grönroos, 2007). Health care organization is one area where creation of goodwill through long-term patient

relations add value not only for business but also for general well-being of individuals. Health care consumers who trust their physicians are more likely to follow physicians' recommendations, to attend subsequent appointments and to engage in preventive measures (Dagger, Sweeney, & Johnson, 2007).

Zeithaml, Bitner, and Gremler (2009) go further in further appending the work of service quality through categorizing that the customer is involved in the whole process of service design, delivery, and evaluation. Their work also underpins the need for innovation of healthcare systems where this time patient needs must be taken into account to be met wholly, every time the patient engages the health care sector. Patient involvement is what the Socratic approach to getting knowledge is about, therefore the given customer centered approach is suitable. In the context of the health care industry, this means engaging students in decisions for their treatment and care; explaining to them their state of health; and encouraging them to be champions of their own health (Zeithaml et al., 2009). This engagement is particularly important if one has to provide not only services in dealing with the medical condition, but also in improving the level of satisfaction as well as the prognosis of the patient (Berry & Bendapudi, 2007).

Grönroos (2007) has identified that his service quality model notably makes a point of varying between technical quality and functional quality; where the former would be technical quality is the actual delivery of the service. Therefore, technical quality in the context of healthcare is the ability to diagnose, treatment efficiency and the level of medical knowledge, while functional quality constitutes to how patient is being treated, or how he is received by the healthcare system, and whether his needs are being met. Both are critical for offering quality health care services in modern practice environment. For instance, a hospital has high technological capacity medical personnel (process quality), while its employees are rude and have no time for students (outcome Quality). Grönroos also notes that there is serious need to balance the technical and functional elements so that students can feel a total caring.

Zeithaml et al. (2009) further introduce the SERVQUAL model, which identifies five key dimensions of service quality: them are reliability, assurance, tangible, empathy, and responsiveness. Of these dimensions, the two are especially significant in the field of healthcare. Reliability means constant effectiveness and dependability in delivering health care services while assurance is the professional assurance of the health care practitioners who are involved in delivery of services. There are features such as overall cleanliness and myself and other students get when evaluating the kind of medical tools and equipment's which are updated. Empathy includes attending to the patient care needs as people and making them feel special. Lastly, responsiveness could therefore be defined as the healthcare providers' capacity to ensure that the students' questions are answered promptly, and their appointments timely scheduled and the treatment tendered in a similar fashion (Zeithaml et al., 2009).

In the context of healthcare, therefore, it is clear that not only the technical quality of the service but also the functional quality of the physical environment need to be improved to offer the best possible service to the target market. Berry & Bendapudi, 2007 pointed out that students may not be in a position to judge the technical quality of the care they receive, but they are well capable of assessing the functional quality, or the patient perceived doctor patient relationship. Therefore, HCIs have to realize the meaning of quality is not only clinical qualities which include the quality of students' experiences whereby service may be influenced by interpersonal talk, emotional support, and availability of service.

However, service recovery is another important factor of service quality in healthcare organization. Bearing this in mind, people's health is at stake, and therefore, it is easy for a healthcare service provider to provide substandard services. Zeithaml and colleagues (2009) stressed that service failure can result in losing patient satisfaction require quick solutions. In healthcare this may include dealing with patient complaints to the patient's satisfaction, being honest with the patient and correcting any wrong doings. Service recovery, when done appropriately may help improve patient loyalty and trust even in the aftermath of service failure situations (Berry & Bendapudi, 2007).

Service quality in health care delivery includes need identification, strong customer relationship, technical and functional quality. Grönroos and Zeithaml et al have pointed out that services received not only the results of caregiving, but also how the service is delivered to the patient. Healthcare organizations who give due attention to both factors have a competitive advantage of providing very high standard service delivery hence enhancing high levels of students' satisfaction, students' loyalty, and better health status.

3 Methods of Research

3.1 Qualitative Interviews

Among methods of social research, qualitative interviews rank extremely high and are particularly useful when studying the participants' perceptions, their experiences and meanings (Seidman 2013). Unlike quantitative or other structured surveys, qualitative interviews provide an unstructured format in which to have open ended conversations with people from which you can gather more rich, detailed data. Determining the level of flexibility needed by the researcher, these interviews can be semi structured or unstructured (Cohen & Crabtree, 2006). Semi structured interviews are conducted using a list of pre-determined questions to guide the conversation but the interviewer can break away depending on the flow of responses (Bryman, 2016). Such flexibility is important as a means to enable participants to express themselves fully and lead to unexpected insights (Kvale & Brinkmann, 2009).

Qualitative interviews are one of the main advantages because we can get the depth and complexity of a human experience, according to Patton (2015). They also, however,

must have excellent interviewing skills to direct the conversation, establish rapport, and create an atmosphere with the interviewee that allows him or her to answer personal questions (Seidman, 2013). The interviewer's responsibility is to listen actively, ask in depth questions that will bring out deeper responses, and keep the conversation focusing on the research point.

Qualitative interviews generally collect the data which is then analyzed thematically (patterns, themes) from the participants' answers (Braun and Clarke, 2006). Although time consuming, analysis of this type is important because it helps shed insights on characteristics that speak to nuanced perspectives and new theoretical insights (Riessman, 2008). Qualitative interviews typically cover subjects that are sensitive so also important are the ethical considerations, such as informed consent and confidentiality (Creswell, 2014).

On September 22, I reached out to 11 participants through email, asking for data that I collected using semi structured questionnaires for my study. An introductory email was sent to participants that included a short description of the research, clear directions on how to complete the questionnaire and then a request to complete it within a set time period. Appendix A provides a screenshot of the initial email sent. Within a day I got a few responses to my message but within a week the response rate remained low. In addition, to motivate more people to respond, I sent an email follow up reminding them why their response was so important. I worked directly with participants through messenger apps and phone calls, providing answers to any of their questions related to the questionnaire, and asking them to complete it. Those having experienced challenges with the written format were given the opportunity for face to face interviews in Turku where I explained in more detail the questions and where the response was not so long written but more conversing. This allowed for a direct interaction that allowed participants to feel like they work in a lovely company and gave richer insights. Furthermore, some interviews were conducted via WhatsApp calls, where verbal real time communication took place, because participants who liked it could still engage without the wired hassles. Consequently, this multi-channel approach to receive feedback allowed me as to collect different perspectives and at the same time ensure that the collected data was holistic. I did not lose professionalism, kept throughout the

process the participants informed about the objectives of the study and the confidentiality of their responses.

3.2 Interview Summary of the International Students

The study aims to determine the preferences of intercultural health nomadic clients and their feelings about receiving healthcare in Turku, as well as to identify any potential hurdles or challenges they may face. The people being interviewed were asked a variety of questions. Here are those questions:

1. Experiences with the booking process

Question: How would you describe your experience when it comes to communication through the appointment booking process? Were you caught off guard by language or instructions in any way?

The goal of this question was to find out what challenges and frustrations that participants faced in making an appointment and specifically whether there was a language barrier and clarity problems with instruction. Seven out of eleven people who answered said there were language problems, especially when the default language was Finnish, even on the phone. Six said it was easier to talk to a healthcare worker in person, since most of them know English. Still, five of the people who answered said that the online instructions were not clear or were not enough to help them understand.

2. Difficulties to Navigate the booking System

Question: What were your experiences when trying to navigate these healthcare appointment systems in Turku? Were they easy or difficult? Did there seem to be any point along that process where you were not certain of what to do?

This question was to understand how participants used the healthcare appointment system, and to determine if they had any confusion or difficulties while using healthcare appointment system. Eight people said it was hard to use the healthcare scheduling system, especially for first-time users. Five said it was not clear how to make appointments, mostly on online platforms. Three said they had to explain health problems over and over because of processes that were not working together.

3. Waiting Times

Question: Have you had appointments in Turku that always run late or hard to book? If these delays affected your health or well-being, explain how they affected you?

By asking this question, I aimed to analyze the consequences of appointment delay on participant's health and to find out whether participants sought other private healthcare alternatives as a result of the delays. Most of the people who answered (six out of eleven) had to wait a long time to get appointments, sometimes weeks. Four of them said this hurt their health or meant they had to get private care. One of the responders was upset that there were not any emergency appointments available.

4. Comparison of Turku's Healthcare system

Question: What do you think of the healthcare system in Turku compared to that one in your home country? Which ones were the most different?

In this question I wanted to find out how international students perceived Turku hospital's health care system compared to their own country's health care system

especially with regard to the organization and efficiency of their own country's health care system. Eight of the eleven people who answered said that Turku's healthcare system was better organized than the one in their home country, but that services were slower. Three of the people who answered said that services in their home countries were faster, but not as secure.

5. Experiences from online system

Question: Did you ever book an appointment through any online or app based service? Did you use login masking? If so, what did you find helpful or challenging to use?

By asking this Question, I wanted to learn how students used digital tools to book healthcare appointments and in what ways, if any, students struggled with language options and usability. Six out of eleven had made appointments online or through an app. Four of them said it was hard to use because there weren't enough language choices and the interfaces weren't clear. Five said they hadn't used online tools before because they weren't familiar with digital systems and would rather make reservations in person or over the phone.

6. Transitioning between healthcare providers

Question: Could you have seen more than one healthcare provider (GP, specialist), and did the changing over to one obviously connected with the other go well? What challenges did you face?

Students were queried about their experiences making the transition from seeing a general practitioner to a specialist, and arranging care between providers. seven out of eleven respondents said it was hard to go from seeing a general practitioner to seeing a specialist, and five said they had to try more than once to understand. Two respondents said that disconnected systems that promote medical history were a big problem because it took too long to send referral information.

7. Recommendations for improving healthcare Access

Question: What would you recommend that would promote more accessibility to the current healthcare appointment system for international students who seek treatment?

By asking this question, my objective was to gather suggestions that aim to improve the allocation of international students to healthcare appointment system. Six out of the eleven people who answered suggested making a standardized digital platform for booking. Five suggested getting real-time information on appointment availability and better multilingual support, and three suggested training staff to be more sensitive to different cultures.

8. Technological tool for facilitating Healthcare access

Question: Can you imagine which technological tools (such as mobile apps, websites, telehealth services,) would facilitate access to healthcare for you?

This question looked at which digital tools or technologies participants thought could help them access healthcare easier and in multiple languages. Four of the eleven people who answered said they would rather book through mobile apps or websites, but they are mostly interested in multilingual interfaces and easy-to-use designs. Three of the eleven people who answered said they needed features like appointment reminders and cancellation notifications. Four of the eleven people who answered said they would need to be shown how to use any new technology.

9. Desired Improvements in the healthcare Appointment System

Question: What changes or improvements would you like to see in the healthcare appointment system in Turku?

I asked this question to look to specifically find ways we could make the healthcare system better, specifically on reducing wait times, having language support, and communication barriers. Six of the eleven people who answered agreed that the top

three things that should be done to improve the appointment system are to cut down on wait times, improve multilingual support, and make it easier to make plans over the phone. They also said that rules for people who are using the health system for the first time should be made clearer and easier to follow.

10. Cultural Sensitivity and Equality in Healthcare

Question: Were you treated as an equal (culturally or individually) by the healthcare system of Turku? What ways can healthcare providers proactively improve service that caters to students of different backgrounds?

The last question was related to the general issues of culture and equality in health care encounters to know about the ways to enhance health care services for culturally diverse students. Out of the eleven people who answered, five thought that the system partially met their cultural needs by giving them ways to contact multilingual staff, and six thought that more attention should be paid to meeting cultural and linguistic diversity-based needs, such as the needs of students who don't speak Finnish.

3.3 Workshop

Workshops are gatherings of people from different backgrounds who are working together to solve problems or come up with new ideas. It is thought that workshops are the best way to encourage creativity and allow people to work together to find answers in educational and research settings. Using a social construction method, people from different groups, like health care workers, students, and service designers, can get together in workshops to talk about different points of view on how to improve the quality and delivery of services. When it comes to healthcare, service design groups work best when they involve both the patient and the healthcare provider. During the class, some of the most common things that happen are: Ideas generation: In this step, people come up with ideas and share them at a certain time. This makes people more aware of how to plan, build, and run services that meet the needs of international students. "Journey mapping" is a method that helps people understand and map out a unified process that produces a visual structure at

the participant's experience levels when designing the services that people need. This year, Stickdorn et al. Also, keep in mind that workshops are an important part of service design because they encourage co-designing, which means that everyone involved will help make the ideas better.

Another good thing about using groups to plan healthcare services is that they give the people who have a stake in the services a chance to model them. During the simulation, for example, people can imagine themselves making an appointment and can think about the problems they might face and what answers might work in theory. The workshop will offer answers based on analysis and real-life examples, so the ideas will not only be theoretical but also based on facts. Workshops are also helpful for figuring out what everyone wants from the new service, which helps both students and healthcare workers be happy with the outcome (Blomkvist, 2015).

In addition, we saw that workshops get rid of most of the problems that people know present when they try to talk to each other. For example, classes help hospital staff learn about the problems that foreign students are having, which is especially helpful in hospitals that get students from other countries, like those in Latvia and many other places. This fits with the idea of "participatory design," which says that the person who will use the solution should be involved in every step of the process, from coming up with ideas to receiving the end service (Sanders & Stappers 2014). When people are free to talk about their experiences, problems, or suggestions, in workshops, academics can also get qualitative data. The wants of the users can be used to make another change to the service design process based on this information. As healthcare systems need to provide excellent services to students, a participatory and cyclic design approach like this one makes sure that services like appointments are easy to get to and work well. It was also created with input from students. While workshops are a good way to design services and find out what students need in terms of care, they are also a great way for everyone involved to work together to find the best answers. When they're coming up with ways to offer services, they need to take both the patient's and the provider's points of view into account, because the workshops lead

to valid solutions that work. When looking for ways to improve the current methods for making appointments, holding workshops can be found to solve many problems and bring about changes that will benefit all customers. The workshop in Turku to improve the systems for making medical appointments for foreign students was a chance for people to work together and share their ideas. Turku gathered the people from other countries. Even though the student wants to get help, the focus is on how to get around problems like language hurdles, long wait times, and systems that are hard to use. First, these problems were talked about in an introductory presentation that set the scene and made it clear what the workshop's goals were.

At the start, an outline of the study results was given. One of the problems that was brought up was that it was hard for international students to make appointments because there weren't any unified app or website where they can find all the information for different hospitals. This opening helped people focus on how to solve problems. The thinking session was broken up into two parts. During the first part of the workshop, people were asked to share the problems they faced while booking an appointment. They shared as many thoughts as they could. Then on the next session, they asked to brainstorm the solutions of the problems. Some of the ideas that were put forward were to create a digital platform that could work with multiple hospitals, give real-time information on wait times, and make the documentation process easier. In the next step, these ideas were ranked by how likely they were to work and how much they would change things. One of the main things that were done was journey planning. Visualizing the patient process, from making an appointment to getting care, was done by the participants. They found problems like instructions that aren't clear, they get mixed up, and it takes a long time to make an online appointment. It pointed out things that needed to be fixed. The workshop led to a number of useful suggestions. A suggestion given by the participants is making a unified digital healthcare app by which student can make appointments in public and private hospitals of Turku. Also this healthcare app would make scheduling meetings easier, send reminders, and let people know right away if an appointment is canceled. Another thing was making forms that are easy for people to use and available in more than one language or in one form written in Finnish and English.

Lastly, we talked about how to put these ideas into action. They decided to test the ideas and get hospital administrators involved. They stressed how important it was to get feedback from both students and providers so that the answers could be better. The workshop was a good way to use service design concepts to come up with useful solutions. This showed how important it is to work together and have a common goal for better, more open healthcare in Turku.



Figure 1: Customer Journey Mapping and pain Points Created by the Participants

This figure illustrates a journey map of the patients who seek treatment in the hospitals of Turku. The touchpoints and Pain points are also highlighted in the different stages of the service.

4 Findings and Analysis

The current section presents the outcomes of a thematic analysis of interview, and workshop materials. This chapter elaborates on the main issues that arise from the

findings of experiences and barriers that international students encounter in accessing health care services in Turku. The conclusions bring answers to the outlined research questions by analyzing participants' awareness and experience, which could be helpful in increasing healthcare availability and diversity. According to Creswell and Poth (2018), the themes developed by a predefined coding method offer a broad perspective on the patient process and unveiled current systemic problems. The implications drawn from these results, therefore, form a basis for a set of interventions aimed at eliminating disparities in healthcare systems.

4.1 Approach to Thematic Analysis

A structured thematic method was used to look at the data for this thesis, with insights from workshop and interviews. The first step was to get really into the data by reading the transcripts over and over again to look for trends. Eleven foreign students living in Turku, along with other people who took part, gave their opinions in the interviews and eight students give their opinions in s.

To make the first codes, parts of the data were highlighted and given short, descriptive names like "language barriers," "long wait times," and "technology challenges." Then, these codes were put into bigger groups that dealt with similar problems. For instance, the category "communication challenges" included codes that talked about unclear booking directions and having to use translators. From these groups, overarching themes were found that summed up the most important lessons from the data. Some of the subcategories under the theme "Language Barriers" were "language challenges" and "translation gaps." Each theme was carefully looked over to make sure it was clear and that the facts strongly supported it. Quotes and examples that correctly reflect the experiences of the participants were chosen to make the analysis more real and in-depth.

"Cultural and Systemic Issues," "Complexity of Appointment Systems," and "Language Barriers" were the main themes that fit well with the study questions. In the results chapter, these themes were looked at in more depth, and real-life quotes were used to

show how the participants felt and what they thought. This organized and methodical method made sure that the analysis made sense, was clear, and was in line with the study's goals. Using a variety of data sources and improving themes over and over again gave us useful information about the problems foreign students in Turku were having with the healthcare system.

4.2 Key Themes from the analysis

Several areas stood out, which showed the concerns that the healthcare system of Turku has as it seeks to meet the needs of the international students. There is also a delay in the average time for an appointment whether physical or through clinics or by receipt of follow up calls from health care providers. Securing an appointment also means that a patient may require treatment and it might take as long as months before within they get an appointment. One of the most serious problems is that all systems are rather separated from each other. There are no single digital tools for managing healthcare services so it is hard to have a coherent approach in this sphere and provide students with effective organization of proper services. New students in this field increase pressure on a system that is already stressed, and it often takes time before students in need can access the services.

These problems are however compounded by language diverseness since many people cannot use the booking systems or even easily communicate with the Finnish healthcare staff. This is made worse by poor respondents and poor clarity exhibited by some providers making the patient feel helpless and lost. However, telehealth options are not without their shortcomings and many of these blunt the efficiency and effectiveness of the service. It also means that students lose an opportunity to opt for virtual care which is also limited to them. All of these themes come together to note the need for enhancements to make an effective change in the structure of the healthcare industry. All these areas would help in improving the general well-being of the international students as well as providing equal opportunity with respect to their health care needs.

4.3 Analysis of the key themes in Turku's Healthcare System

A breakdown of major concerns present in the health care sector of Turku shows some of the experiences faced by international Students. Gaining initial access is still a major barrier, and it is frequently accompanied by unreasonably long waiting times. enhanced interaction between health care organizations and systems is a major concern in achieving effective and efficient care delivery as they are not well integrated. However, for those who do not understand Finnish, such as language, communication, and directional difficulties are an extra problem. Missing integrated Cloud Solutions and poor availability of telemedicine and teleconsultation make healthcare more fragmented and less convenient. Consequently, there is a pressing need for patient-centered reforms in the healthcare system in Turku with a view to improving accessibility, efficiency and effectiveness of use to all actors. The next part unveils the detailed analysis of the main topics revealed in the present research.

4.3.1 Challenges in Accessing Timely Healthcare Services

An analysis of the major problems encountered in the healthcare services in Turku shows that international students face many problems, those includes unavailable appointment slots and long waiting times. These delays deny students an access to medical treatment when due and worsens their health hence adding stress. An ability to get an accurate diagnosis as well as timely access to necessary treatment is crucial for people's healthy life and to avoid complications, therefore, this problem should be considered as an urgent one for the healthcare system of Turku. These and many other obstacles would enhance the system for responding to the clients' needs and making it more efficient as a whole, with international students' circumstances considered to be significantly more complex.

Respondents complained about long waiting times and the small number of slots for an appointment. For instance, one of the interview respondents said, "I had been waiting for over a month for a simple general body check. By the time I went there my situation had become worse, well I had to wait for so long (Interview 3). Some narrated being told

that there were no appointments available and that they would be called back, and they never heard from the facility for weeks. Some said this made them seek private health care, which though more efficient, entails hefty costs for users. According to participant one: "I had to visit a doctor for a recurring problem, they said that I must wait till next month." I had to go to the emergency room instead." Mental health treatment services have the worst availability where demand is much higher than supply. Another participant lamented: "It's been three months now I visited hospital to try to book an appointment with a psychologist but the waiting list is unbelievable I will stop trying". As for the last aspect, this frustration is magnified by the fact that while some of the facilities can be booked online, some of them demand phone bookings leading to both time wastage and unnecessary delays. As one of the participants said in the workshop, 'I went to try to book online, it failed.' I had to call, and by the time I was finally connected all the slots had already been booked up."

These results highlight the essential directions for addressing the need for organizational changes in scheduling and increasing the number of appointments. It would therefore be very beneficial if there was a single simple to use online interface where one could monitor available slots in several languages simultaneously. For example, participants would like the inclusion of self-scheduling reminders and real-time cancellation signal, among others. Also, using principles of services design, including process mapping and resource management could potentially reduce some of the constrains and improve resource usage. Hopes like demand forecasting and capacity planning were deemed as useful approaches for improving appointments schedule. In workshops, particular attention was paid to the need to integrate students into the design of solutions needed to address their needs. Easy-to-follow checklists and better interaction would eliminate language inconsistencies thus enhancing the system's accessibility. The theme "Challenges in Accessing Timely Healthcare Services, answers the research questions of the study by pinpointing the major challenges encountered by International students in Turku. This underscores how better service design is useful in directing service improvement to processes and communications, as well as access to care. They would also help students from different countries, and also improve the functioning of the healthcare field overall for everyone. Figure 2 illustrates that, among the respondents, most of them said that the long wait time is hindering the chances of getting timely healthcare. Some of the other mention was limited availability of Appointments and stress due to delayed care.

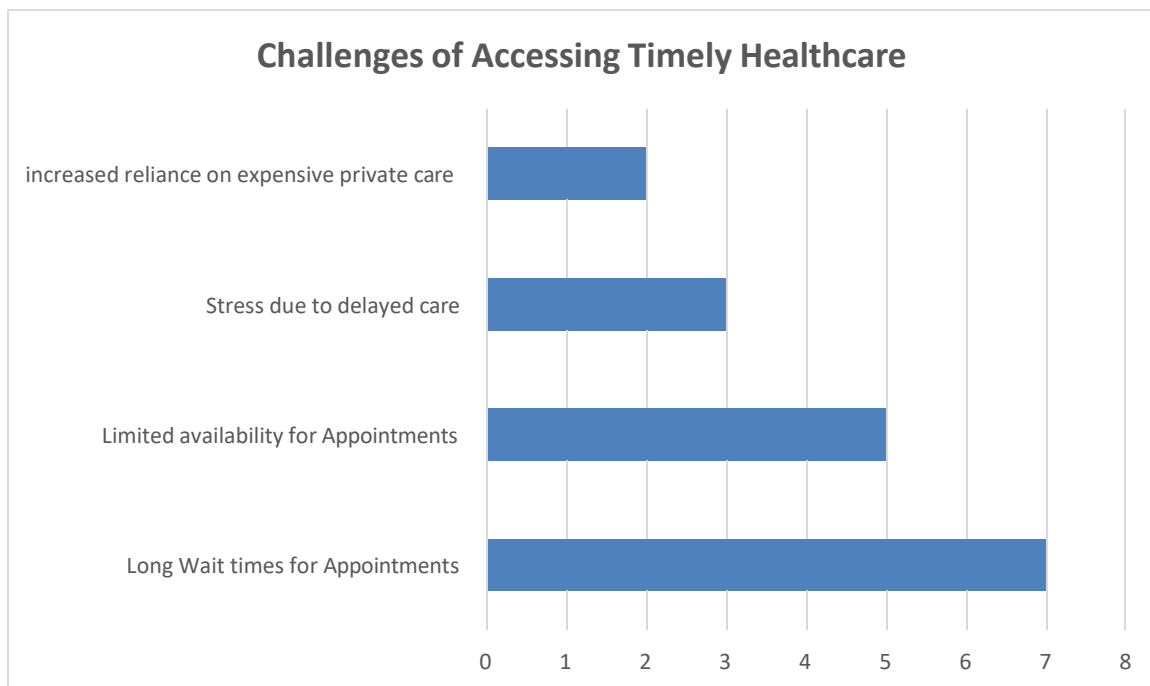


Figure 2: Frequency of mentions of Challenges in Accessing timely healthcare services

4.3.2 Disconnected Processes Across Providers

This theme outlines some of the difficulties which arise from the disintegrated nature of the student health care in Turku. Students experience an uncoordinated journey as they switch from one platform, method or provider to another in an effort to access their healthcare. The lack of proper care integration with hospitals, clinics, specialists as well as primary care doctors was discussed by many of the participants as a problem. This disorganizations hampers international students the most as they usually translate the literature in their local languages hence do not fully understand the Finnish healthcare system. The fragmented structure of the system compounds stress to people who are struggling with certain health issues, and significantly hinders them with confusion and

time wastage. People provided many instances of these difficulties. There is a case that someone referred to a specialist could have to go to a different office and repeat the story just to be allowed to see the specialist.

A participant described how when they booked an initial appointment online they had to use a completely different process to arrange follow up care. Those gaps subsequently generate confusion, frustrations, and duplicated efforts; students are left unsure of what comes next in their hospital treatment. They also impede smooth transition, for the students, through the different phases of their care processes, which gives an additional twist to the plans of accessing elective services. These conclusions are relevant to the study's goals and contribute to understanding negative consequences of the fragmented systems, including confusing choice of tools for learning; explaining the same problem to various providers; and waiting for appropriate treatment for a long time. Participants especially called for centralized digital solutions or scheduling solution providers that combine multiple services into a single system.

A unified platform could reduce the referral, enhance the coordination between the provider, and allow the students to keep up with their appointments on one interface. Improved communication techniques would increase inter professional cooperation among care givers and ensure that patient's needs transition smoothly between the different levels of care. These gaps are hereby considered critical to improving Turku health care organization, to make it more efficient and patient-centered. To begin with, a coordinated, one-stop shop service delivery model could dramatically improve normal throughput time and the general experience of international students. The desired improvements at the healthcare system therefore are: Thus, stressing these improvements, the process of receiving the necessary healthcare, for the students in particular, may be made less fragmented and less stressful, and turn into a more organized and a more integrated model. Figure 3 shows the participants feedback frequency for disconnected processes across the providers. The most common problem mentioned by the participants were repeated efforts to provide information

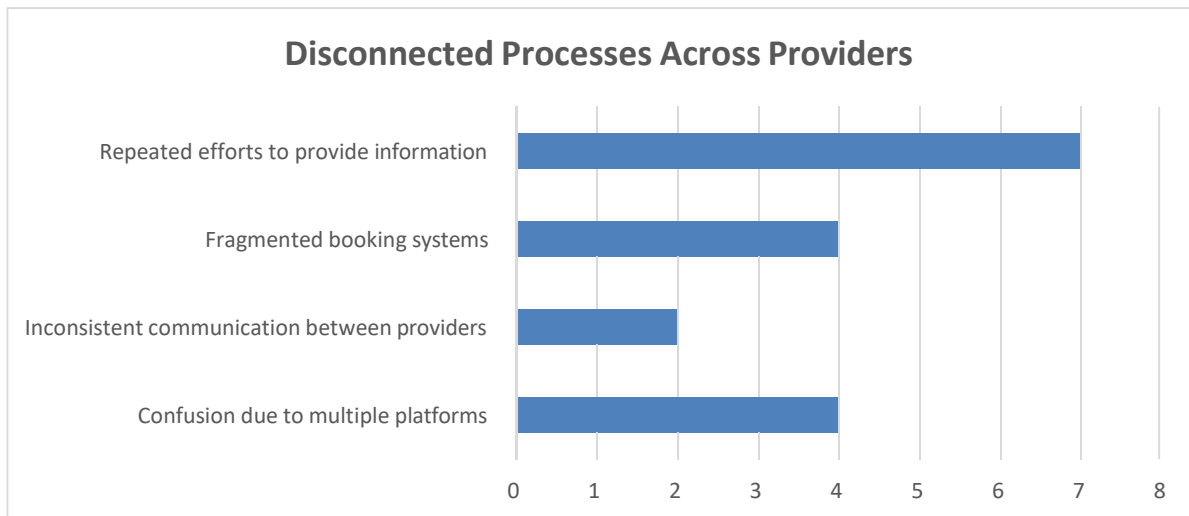


Figure 3: Participants feedback frequency for disconnected processes across providers

4.3.3 Gaps in Unified Digital Solutions

This theme describes the problems derived from the poor integration and the weak usability of the digital instruments in the student healthcare sector in Turku. It is the patient who grapples with silos of different interfaces to set appointments, review records, and even communicate with the providers. Since there is no integrated system, users have to use several tools, which interferes with their work and takes time. This is especially onerous in the case of foreign students who are totally alien to their new environment and who may also be suffering from language barriers. The services are thus less convenient to the users because they are not bundle together into one unified platform. A surprisingly high number of participants commented that they were having problems working with the current digital tools. For instance, one of interviewees noted that, although they could easily make an appointment with an ordinary GP over the Internet, to make an appointment with a specialist, the patient had to phone a different clinic. Another participant described that he or she was unable to identify the right health center because of a direction issue in the website.

Some of the difficulties reported by the participants related to the actual use pertained to problems with rescheduling or canceling appointments because a particular feature was not available in the system. One of the participants reported, “When I requested trying to change my appointment, there was no button to do it and had to make the call and wait for assistant.” Another also proposed that to alert students of such changes and make it possible for a patient who earlier had to take an appointment slot much later to instead take a much earlier slot if it turns out that one was just vacated, then real time notification needs to be done. These challenges present the hurdles in not only the integration of these tools but also their user unfriendliness hence complicating and stressing the system. The respondents clearly voiced their need for a one-stop-shop type of online application for scheduling appointments, accessing personal and test results, and follow up. Such a platform should also support multiple languages, send alerts and notifications, have options to remind patient of the appointment and reschedule a session if necessary.

The absence of these features is not only time wasting for students but also does not encourage the students to access the health care systems. This theme is directly relevant to the goals of the study as it demonstrates the factors that are affected by the highly fragmented and decentralized systems – patient dissatisfaction, primarily among the group of international students. It also points out that service design could be the solution to these issues. Combination of all these points in a single and easy to use health information technology system may improve the overall healthcare delivery, increase effectiveness of information exchange, decrease the un realistically and make the process less burdensome for students. Through the implementation of those solutions, the availability and productivity of healthcare services in Turku will be enhanced for all the clients. Figure 4 shows that there are gaps between different providers. Most participants said that booking system is fragmented and there are no real time notification services.

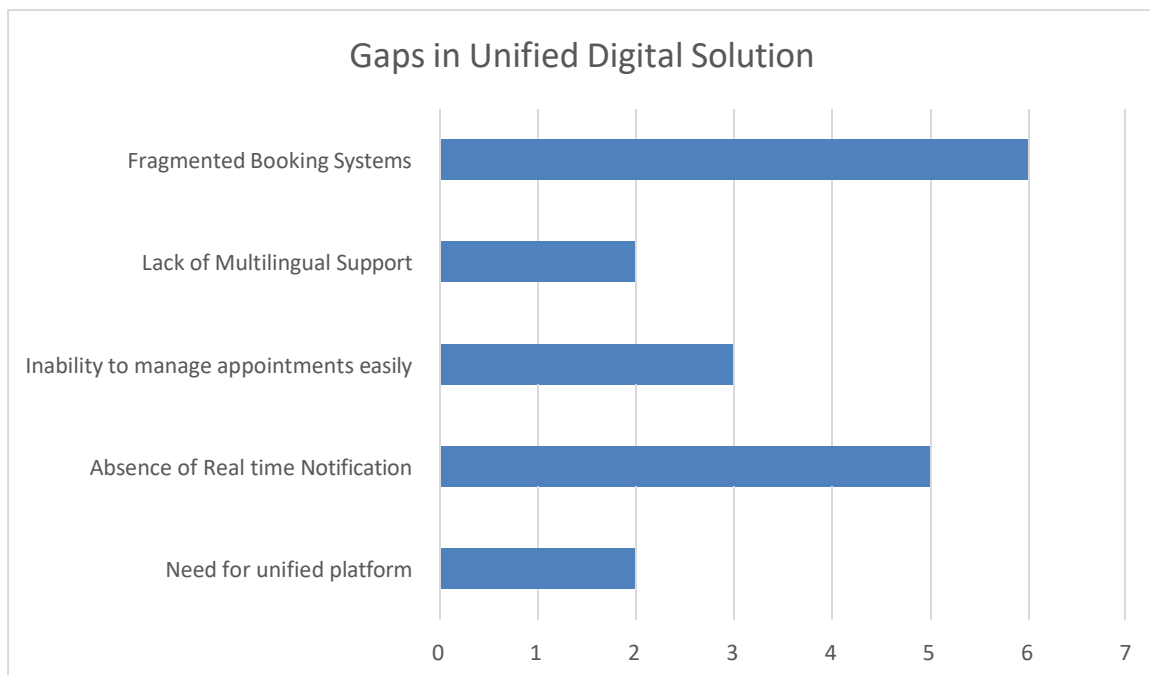


Figure 4: Participants feedback frequency for Gaps in Unified digital Solution

4.3.4 High Demand for Mental Health Services

This theme is based on the current issue of inadequate mental health care in Turku, with special attention to the international students in the city who are more vulnerable due to language barriers and cultural differences and lack of access to mental health resources. There are very few mental health professionals in universities along with long waiting lists, and inadequate culturally appropriate care, makes it hard for students to get the help when they require. For instance, one participant said, ‘You know, I have been waiting for months to see a psychologist and I still haven’t got an appointment.’ (Interview 6). However, when students are able to seek help, they are limited by their ability to effectively communicate how they feel, said a student, “I couldn’t tell the counselor how I felt because of the language barrier” (Interview 6). This results to feelings of anger and loneliness. Referral process is also one of the

biggest challenges that need to be overcome. Some of the participants complained that they were not sure about the problem and its solution, like this: “My family doctor said that I should see a psychologist, but I don’t know where I should go or how long I have to wait” (Workshop).

Also, people want mental health services that are culturally appropriate. Several participants said that they would have liked to be able to talk to counsellors who are culturally sensitive to them. A participant said, “If I were to speak to somebody who understands my culture then I would be able to express how I feel” (Interview 4). Cultural competence is important because mental health is not the same across cultures and having someone that can relate to such a patient can be helpful. Other factors that are systemic include things such as inadequate digital integrated tools that also hinder the process of seeking for mental health services. The participants complained about the process of referrals and appointments through different platforms, some of them stated that they do not know which platform to use or the time they will take to get an appointment. As one of the participants said, “I attempted to change my appointment time but the app wouldn’t let me so I had to call and wait on hold” (Interview 7). All these inefficiencies lead to undesirable delays in care and deter students from looking for care.

To address these challenges, participants suggested hiring more mental health professionals, offering multilingual counseling services, and creating a centralized digital platform. This platform could simplify referrals, provide real-time updates on wait times, and integrate culturally sensitive support. With such improvements, the healthcare system in Turku could better meet the needs of international students by providing faster, more accessible, and culturally appropriate mental health care. Addressing these issues is crucial to ensuring that all students feel supported and can access the care they need, ultimately making the healthcare system more inclusive and patient-centered. As seen in the figure 5, we can see the participants mentioned they face problem while accessing mental health care. Most of them said because of the long waiting time for appointments and cultural mismatches.

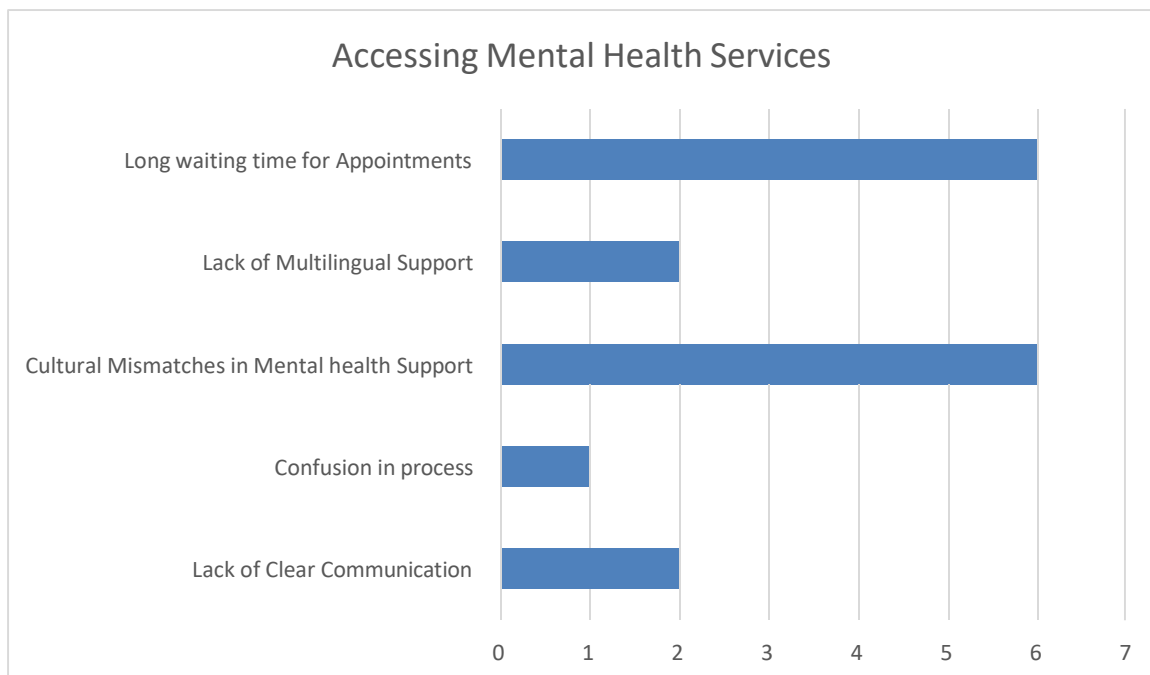


Figure 5: Frequency of Mentions for accessing mental Health Services

4.3.5 Usability and Accessibility Challenges

Turku students have difficulties in accessing and navigating the local healthcare system and too complicated appointment methods create big difficulties for students. “The platform was overwhelming,” said one student. How do I begin? How do you even find that kind of doctor?” But this illustrates how unintuitive the system is, and especially how frustrating it can be for students who do not know their way around a healthcare system or those who are in dire need of care. These confusing processes add stress and slow access to needed treatment. The other issue is that the information online does not match what students encounter offline. “What I was told in the hospital just wasn't true what I was reading online,” one participant recounted. As a result of these discrepancies, students become confused, mistrust reality of healthcare information,

and become frustrated. All of this means students are navigating a disjointed experience forced to wait longer or waste their effort because there isn't coordination between digital tools, phone services, and in person interactions.

The complications are compounded by the fact that there is no real time availability of appointments available. Another student said, "I tried to schedule an appointment for days but there was always no appointments available." "I didn't know if it was the system or if the hospital was full." Its design flaws demonstrate a clear lack of understanding of what its users want versus what the system should be able to do. Turku's healthcare services need to improve their IT design and implementation of a userfriendly and consistent one to solve these issues. The system could be much easier to use if there were better communication, real time data integration, and clear step by step instructions. By solving these problems, the frustration and confusion in getting care for students can be fixed, trust in the healthcare system can be regained and students will be able to access the care they need.

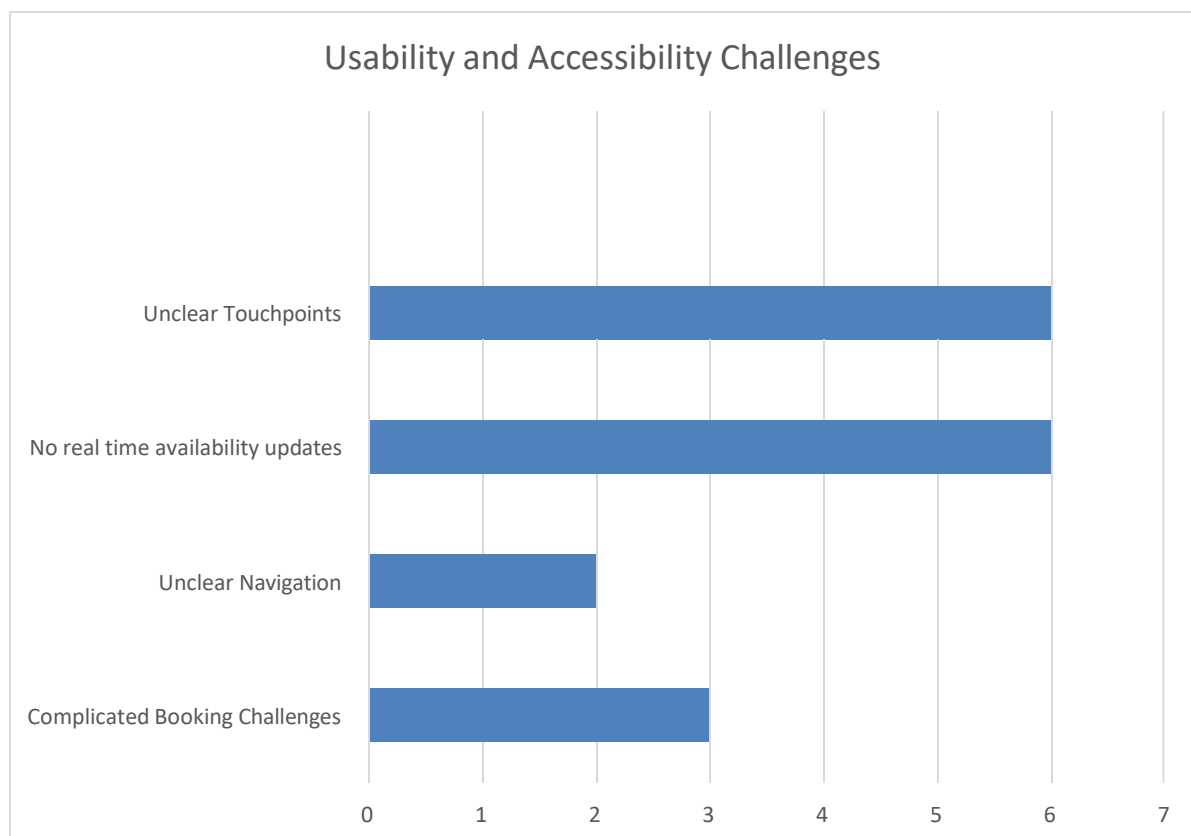


Figure 6: Frequency of Mentions of Usability and Accessibility challenges

Figure 6 illustrates that participants also faces usability and accessibility challenges while booking appointments. Most of the participants said that this is because of the unclear touchpoints and no real time updates.

4.3.6 Inconsistent Patient Communication

This theme is about lack of communication between students and healthcare workers, because it creates bad patient experience. Many participants also reported not getting timely or meaningful information about their appointment, referral, or what comes next in their care. Students, many who even have little or no reason to feel under the weather, are left to take the matter into their own hands and follow up with doctors (some would say force themselves to follow up with doctors), through a family member. These communication gaps not only compound the stress — and uncertainty — already thrust upon international students, who already face language barriers and are unfamiliar with the healthcare system, but also making it even tougher for them to get the care they need.

A related issue to the participants was the lack of follow up and won't be working coordination between healthcare providers. In turn, students were forced to tell their medical history and concerns over and over to different doctors without any good information exchange. As one participant said: 'I kept having to explain my condition to a new doctor that hadn't got my old records'. (Same participant, Workshop). "We have to hear this same story one too many times and that eats up valuable time, it makes us sound like we're not listening, and it destroys people's trust in the healthcare system," she added. This is felt by the patient as unsupported communication, and breaks down at a time when clarity and guidance is most needed.

This theme specifically answers the study research questions by pointing out gaps of communication including slow responses, unclear instructions, and poor coordination in

between the clinics. These are especially difficult for international students with an unfamiliar healthcare system to begin with.

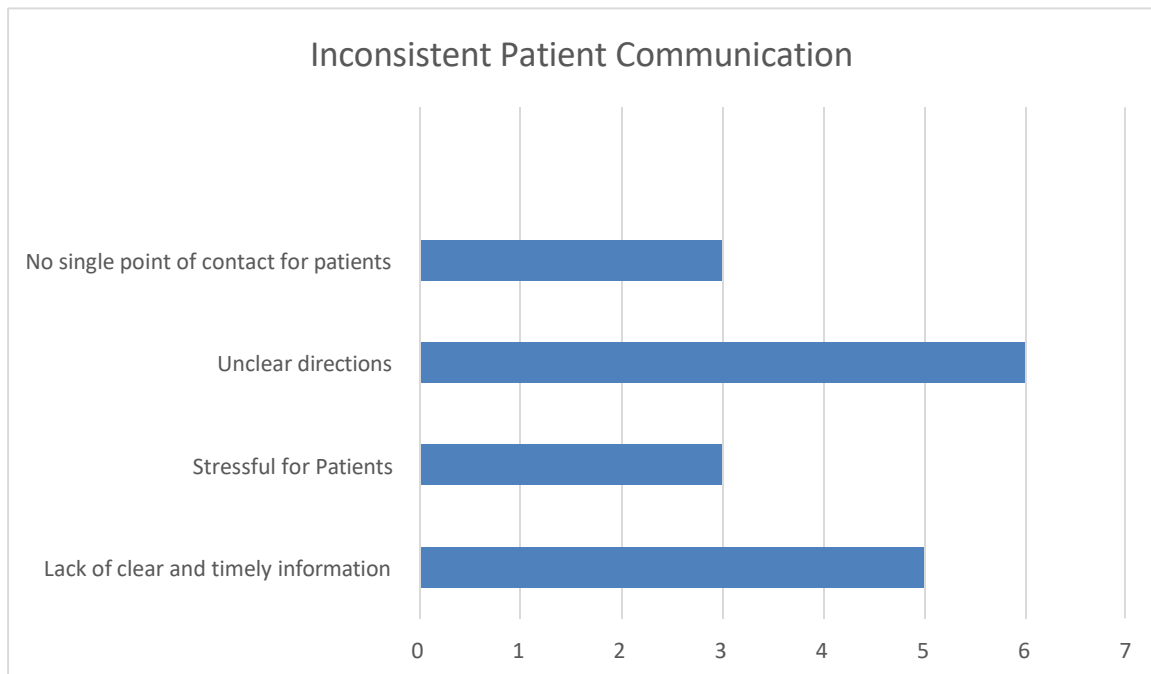


Figure 7: Frequency of Mentions of inconsistent patient communication

Figure 7 shows that there inconsistent communication between patient and hospitals. Most of them emphasized that hospitals does not provide timely and clear information and also there are unclear directions.

4.4 Impact of Healthcare Challenges on International Students of Turku

The Findings and Analysis chapter highlights challenges that have severe daily impact on the lives, health and overall well-being of international students in Turku. Primary challenges in accessing medical attention, particularly among students include language barriers, overly long waiting times and overly complicated appointment systems. The scope of these barriers is much more than physical: they lead to deteriorated academic performance, deteriorated condition of the mental health and difficulties with the social integration. The first direct consequence is that minor illnesses degenerate into serious diseases because of the postponement of care. For instance, students may be too in pain or too uncomfortable to go to class and therefore miss class. This just makes their

academic life hard and jeopardizes their health problems. It has an equal impact on mental health.

Language and stress or anxiety create additional layers of language barriers and long wait times for mental health and counseling services is also included. Sadly, many students feel that their feelings of isolation and alienation are only exacerbated by being ignored, or not supported, by systems that were meant to provide them support. "I tried several times to make an appointment and felt close to giving up the system," said one. For the international students already having a hard time with a new language and culture, these experiences can make you feel helpless and disconnected. System wide failures also erode trust in the healthcare system such that some students avoid seeking assistance at all. Missed or mismanaged appointments can blunder you down the line, confusing you, eroding your confidence, as health issues go untreated and the issues tend to escalate over time. Those struggling to navigate confusing healthcare technology or follow ill-defined instructions, for example, are especially vulnerable to not being able to obtain crucial services – and to more harm befalling their health and well-being.

The consequences from these challenges go beyond health, to academic and social life alike. Without access to mental health support, these students may not meet deadlines and attendance results in poor grades, or even the risk of dropping out, thwarting both academic progression and – especially for international students – financial stability or visa status. Negatively affecting such students socially, feelings of exclusion may become deepened as these students feel undervalued or rejected by their host country. Along with these cultural and linguistic differences, this can result in withdrawal from social and academic activities, denying them the opportunity to build meaningful connections and take their full part in their new environment. Solving these problems is essential for students as well as for their general health, academic achievement and social inclusion. Availability of a friendly and culturally sensitive healthcare system that is able to attend to the needs of international students will go a long way in easing these challenges thus create an enabling environment for these students to undertake their programs successfully.

4.5 Barriers beyond the healthcare system

Besides challenges inside the healthcare system, the international students in Turku experience many challenges outside the system catching them access to healthcare by external challenges reinforcing internal challenges. Subsequently, this thesis identifies the existence of a variety of external obstacles, such as an inadequate awareness of healthcare rights, financial problems, and poor student insurance coverage, which come in the way of student success. A significant problem is that many of the international students don't know their healthcare entitlements in Finland. For instance, some kids don't realize they qualify for government subsidized healthcare or how to sign up at a clinic in the community forcing them to pay through the nose for private care they don't need. This lack of understanding often leads to confusion and lost opportunities to a lower cost medical service.

The difficulties these problems present are exacerbated further by financial issues. Finland has a good public healthcare system, and in general is cheap, however many international students have a tight budget that makes even basic things quite expensive. For those who do not have access to public healthcare or standard student insurance, the private care can be cost prohibitive and end up being paid cash out of pocket. In many cases, the financial burden caused by this strain prevents students from seeking appropriate medical care on time, which may aggravate their health condition. The stress is compounded by unexpected medical bills, even among students that are dependent on support from their families or are already barely making ends meet. Moreover, foreign students often fall within a narrow range of what is covered by insurance. Many basic health insurance policies exclude specialist visits or mental health services, making it so that students don't have coverage for a critical part of their care.

If you don't speak Finnish or English, understanding the insurance filing process is in itself a shockingly daunting task. They can leave students afraid to seek necessary care, if they are unsure if the costs will be covered. Combined with the internal issues existing within the healthcare system, these external challenges rise. A student who doesn't know they have rights or can't afford private care may never come forward in the first place, and treatment is delayed and health conditions can get worse. Enhancing barriers exist in this cycle that increase stress, diminish academic performance, and culminate in

negative health outcomes. Solving these problems is vital to guarantee that every student in Turku has reasonably fair access to healthcare. Broad dissemination of healthcare rights and services information, financial support, and ampler insurance coverage (including mental health services) must be included in solutions. With its help, Turku's healthcare system can more effectively address its obstacles to giving effective care to its international students with these external barriers as well as internal system issues, so that everyone can enjoy a healthier and more successful life.

5 Development Phase

5.1 Service Design methods

In this thesis, among all the service design methods, Customer Journey Mapping, Service Blueprinting and Value Proposition canvas has been utilized.

5.1.1 Customer Journey Map

Customer journey mapping **is** a valuable tool in service design that helps visualize the full experience of customers as they interact with a service or product. It outlines the customer's actions, touchpoints, emotions, and potential pain points throughout their journey, from initial contact to the final interaction (Stickdorn et al., 2018). This method provides organizations with a clearer understanding of the user's perspective, allowing them to identify inefficiencies and areas where customer frustration may occur. By doing so, businesses and service providers can implement targeted improvements to enhance user satisfaction and service delivery (Kalbach, 2016). Customer journey mapping is integral to user-centered design, as it ensures the service is aligned with the customer's needs, creating more efficient and positive experiences.

5.4.1.1 Customer Journey Map for Booking Healthcare Appointments at Health Stations in Turku for Aged and Adults, Finland

To make the customer journey map for making appointments at health stations in Turku, Finland, I did a lot of research on the Finnish healthcare system on different websites and platforms. I went to Varha and TYKS, two local health care providers in the Turku region, to learn more about the different ways they offer their services, such as online booking sites and phone-based appointment systems. I also looked into Maisa, an eHealth platform that Helsinki, capital of Finland, uses to give people online access to medical information, prescriptions, and appointment bookings. Websites like Suomi.fi had more details about general government healthcare services and platforms, which helped with understanding how to sign up and make appointments.

I made a list of the steps that most people would take to make an appointment at a health station in Turku by putting together information from these sources. In figure 1 we can see that process starts with users becoming aware of the healthcare services available, then they think about their options, book an appointment through different channels (online, by phone, or in person), get confirmation, get ready for the visit, go to the consultation, and follow up with care after the appointment. These in-depth sources helped me make sure that the customer journey map was correct and full.

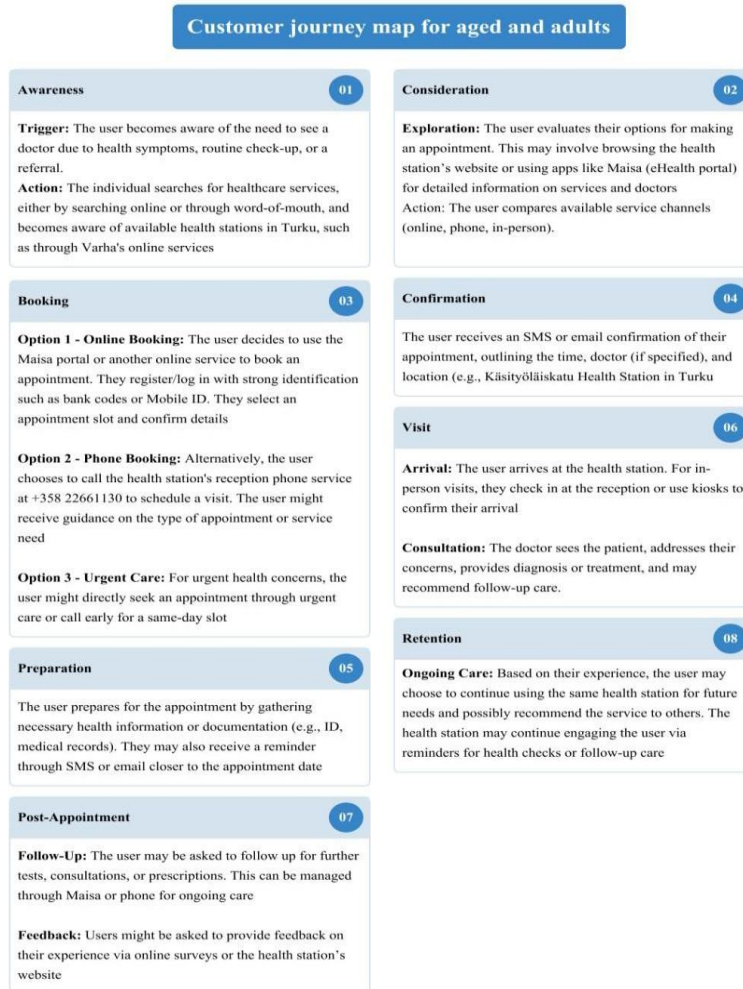


Figure 8: Customer Journey map for aged and Adults

Figure 8 highlights the main steps a person must take when they're aged or of an adult person to engage in the healthcare system, key touchpoints, and challenges. If you were not referred to a health station and you still in the Awareness stage, the problem you are likely to encounter is that available information is unclear and sometimes overwhelming, none of which is useful to ascertain which station will be suitable for you. So for the first time users, it can be quite easy to get lost on the websites or service channels due to unclear directions, not understanding the criteria to be eligible, and language barriers. Users experience technical issues with an online platform during Booking, long phone wait times and limited same day booking availability.



Figure 8: Customer Touch points & Pain Points for Aged and Adults

Figure 9 depicts the main steps and issues when aged and adult users require healthcare. Users at the Awareness stage have too much information to deal with and cannot make out health information stations. Things become confusing during Consideration, which is due to unclear instructions and navigating through quite large menus. Technical problems, long phone waiting times and a lack of same day slots are a problem for the user during booking. Next, painful delays and confusion regarding appointment details, plague Confirmation.

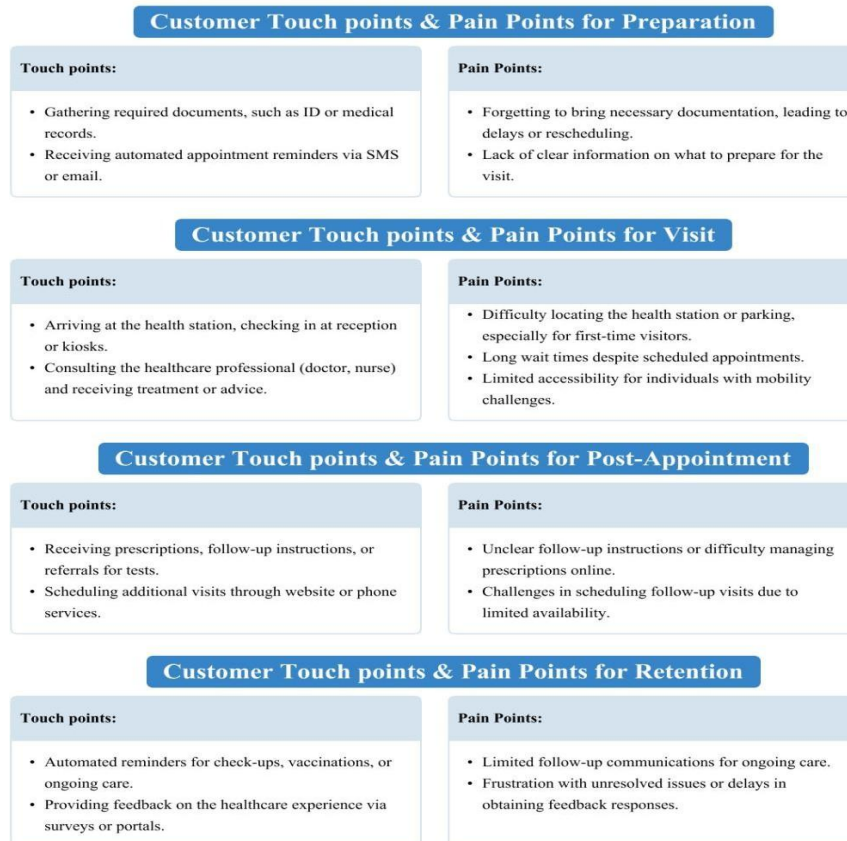


Figure 10: Customer Touch points & Pain Points for Aged and Adults

It can be seen that Figure 10 represents the touchpoints and pain points when aged and adult users engage with healthcare. If users do need to begin preparation, they may bring documents with them and get reminders but often forget the paperwork or struggle with unclear preparation guidelines. Challenges during Visit include trouble locating health station, waiting on for prolonged periods, and barriers to accessibility. In Post-Appointment users manage prescriptions and follow-ups, however, unclear instructions and scant availability leads to frustration. Finally, during the Retention stage, automated reminders and feedback systems are used to maintain care, though not much communication and unresolved issues leads to a poor user satisfaction.

5.4.1.2 Customer Journey Map: Accessing Emergency Care in Turku, Finland

I looked at a lot of important information about healthcare services in Turku, Finland, to make this customer journey map for getting emergency care. First, I looked at Suomi.fi, a government website with general information on health care and emergency care. This helped me learn how to call emergency services and the different ways people get to urgent care. I also talked to TYKS (Turku University Hospital) to get more information about their emergency services, how they handle triage, and how they treat students in their emergency room. The Finnish eHealth site Maisa also gave information about follow-up care and digital health management, which are both important parts of the stage after treatment. By putting together information from these websites, I was able to make a plan of the typical steps a patient would take when going to the emergency room in Turku, from becoming aware of the problem and making a choice to getting care after treatment and following up with the doctor.

Customer journey map for Emergency care

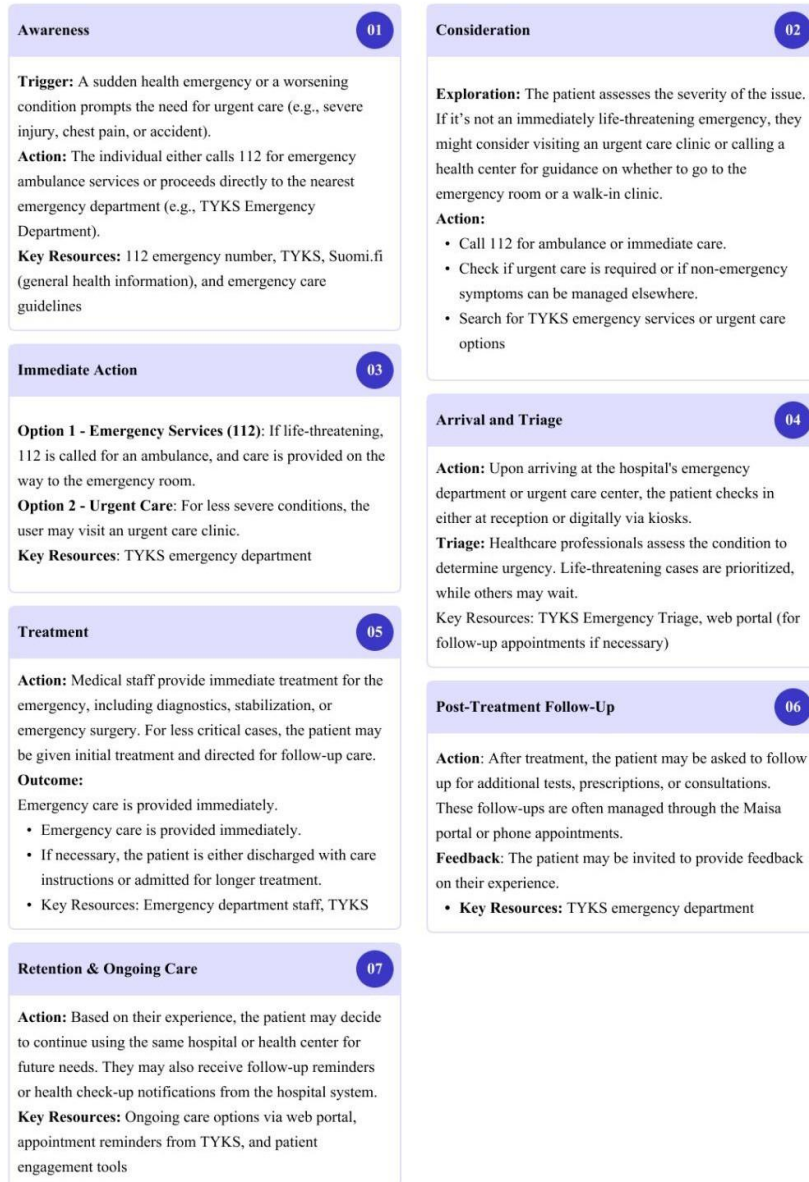


Figure 11: Customer Journey map for Emergency Care

This customer journey map (figure 11) looks at the path a customer takes through emergency care from being aware of a health problem and through to retention and on-going care. It includes key stages: Being aware of a health emergency (Awareness), considering options (Consideration), responding immediately (Emergency or Urgent Care) Arrival and triage, treatment, follow up after treatment, and retention. The stages

each include actions, resources, outcomes, to assist the patient in the process as smoothly as possible, avoiding delays in care and appropriate follow up, with tools such TYKS through the use of emergency triage systems and patient portals.

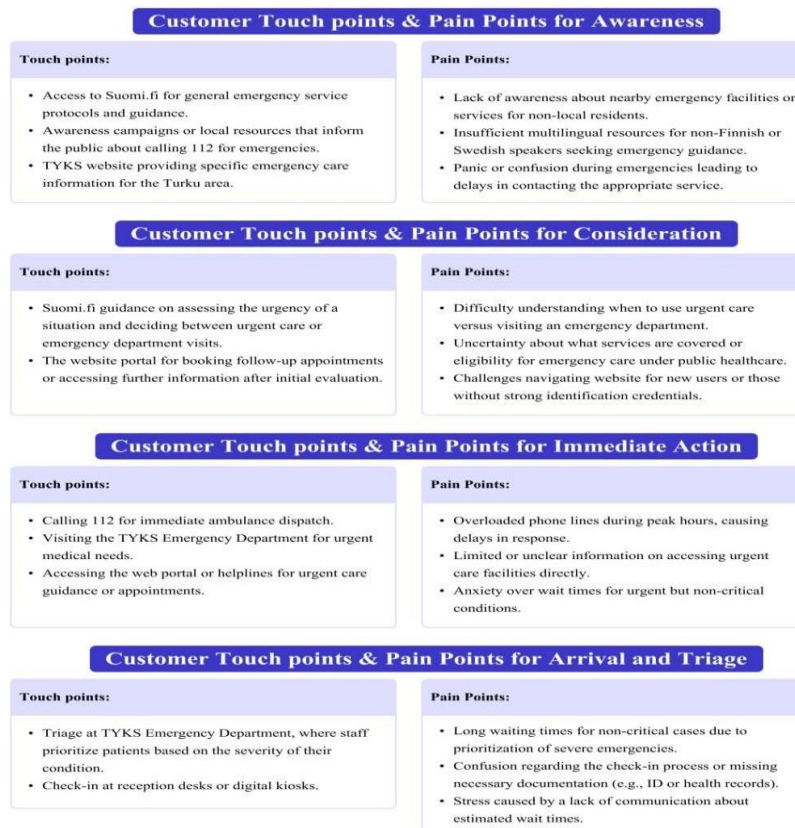


Figure 12: Customer Touch points & Pain Points for Emergency Care

Figure 12 shows that customer touchpoints and pain points at specific stages of emergency care. In addition to the aforementioned services, there are access to guidance through Suomi.fi, emergency services, the TYKS Emergency Department and web portals collecting information and doing follow-ups. Key pain points in the current service delivery state include lack of appropriate multilingual resources, indecipherable service options, congested phone lines, long waiting lines for non-priority cases, challenging processes or delayed cases. It highlights areas which call for improvements in how communication, accessibility and navigation during emergency care journeys.

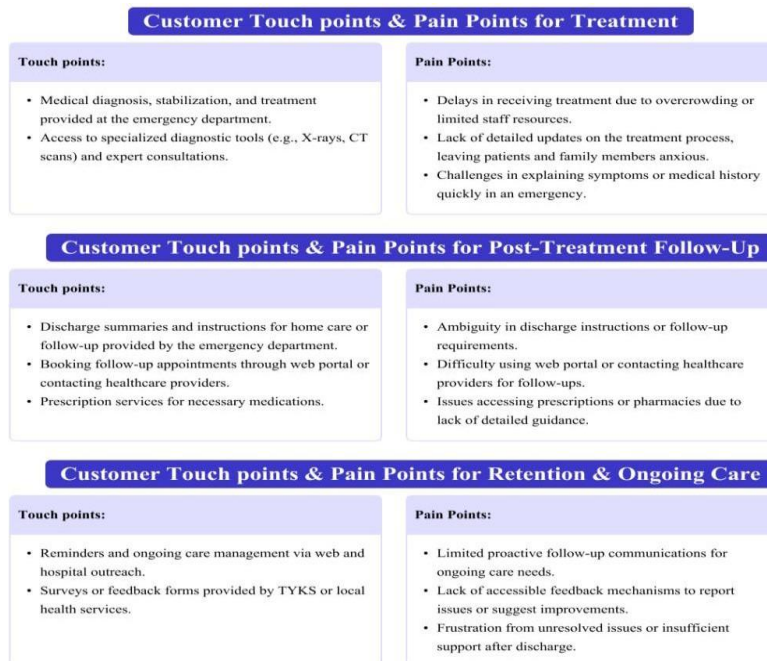


Figure 13: Customer Touch Points and Pain Points for Emergency Care

This figure spotlights customer touchpoints along the emergency care treatment, follow up, and care continuum. Diagnostic tools, discharge instructions, follow up appointment system, prescription and care management services are the key touch points. Pain points of treatment delays, ambiguous discharge instructions, complexity in follow up systems, prescription access, limited proactive communication and unresolved post discharge issues are addressed. We focus on the clarity, accessibility and support for patients at every stage, to improve the overall emergency care experience and overall post treatment continuity.

5.4.1.3 Customer Journey Map for Students accessing Finnish Students Healthcare System

I analyzed information found on the Finnish Student Health Service (FSHS) official website as well as their supporting digital tools, including their mobile app in order to create the customer journey map for students. It outlines clearly the available healthcare services, how to book an appointment (either online or by phone), and what follow up care to expect. I also drew on guidance around student onboarding and communication channels such as email, SMS and service reminders. I mapped these stages from awareness to post appointment follow up to synthesize the typical path a student takes to accessing FSHS services with the touchpoints and pain points.

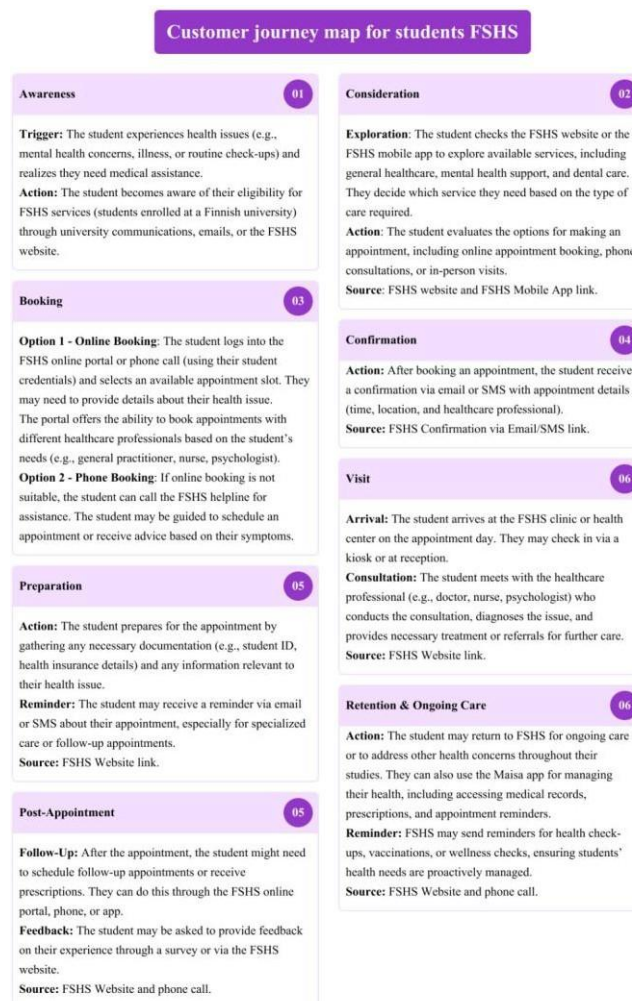


Figure 14: Customer Journey map of Students accessing FSHS

Figure 14 shows a customer journey map of Finnish Student Health Service (FSHS) explains the important steps toward healthcare for student's seeking healthcare. Student awareness is the first step, spotting a health issue and finding out which services they have at their sight in FSHS's website or app. They decide online or phone scheduling in the booking phase. Email or SMS confirmation is sent and a visit is made prepared. That includes a visit to some professionals. This includes feedback and follow ups post appointment. Retention is a retention of ongoing care and proactive health management.

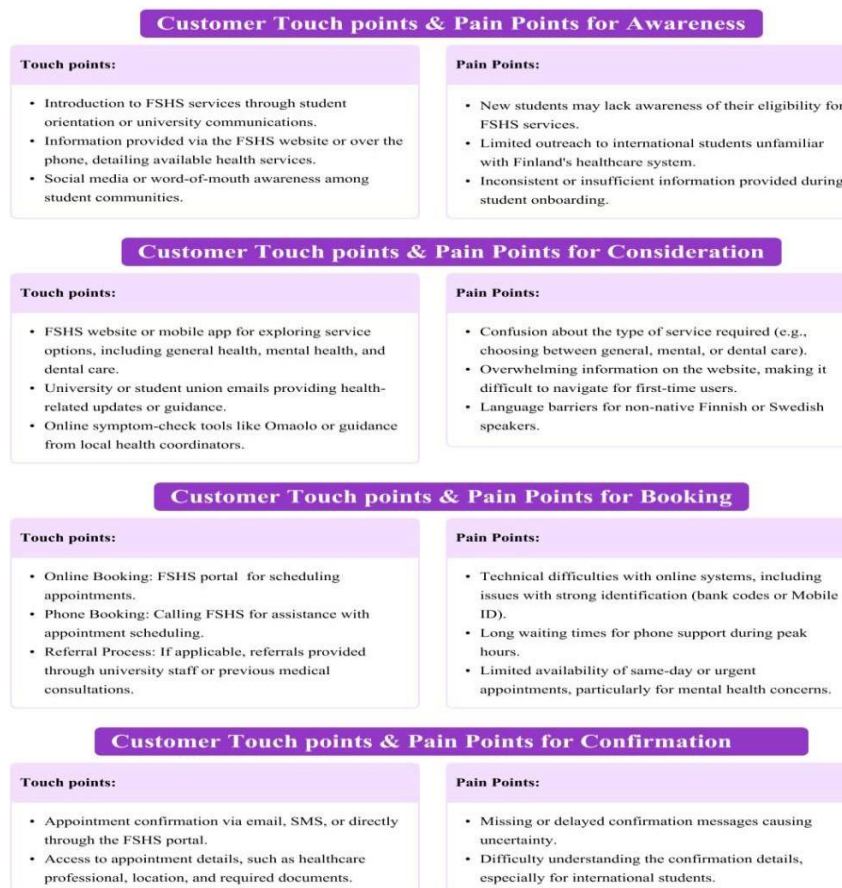


Figure 15: Customer Touch points & Pain Points for students accessing FSHS

The FSHS customer touchpoints and pain points identify critical student healthcare interactions and issues. The pain points include missing outreach and unclear information, while awareness touch points are university communication and FSHS

website. Challenges frequently involved confusion when exploring services via website. Booking can be done either by online or phone scheduling, but there are technical issues and limited availability. System confirms appointment details with pain points include delays and comprehension problem for international students.



Figure 16: Customer Touch points & Pain Points for students accessing FSHS

FSHS has its customer touch points and pain points, which include preparation, visits, post appointments, and finally feedback and retention. Reminders and guidance precede preparation, yet they face challenges like lack of clarity in requirements and difficulty keeping track of the documents. Visits are constrained by check-ins, consultations and limited access to services because of the long wait times accessibility issues and communication barriers. The post-appointment processes aimed to give follow up care

but are slow, unclear and confusing. Surveys and health reminders are part of feedback and retention, with pain points including limited feedback channels, absence of proactive communication, and insufficient mental health support perceived. These insights help to improve the student healthcare experience.

5.2 Service Blueprinting

This service plan breaks the process of making an appointment for students in Turku to use healthcare services into four sections: Support Processes, Front of Stage Interactions, Customer Actions, and Back of Stage Interactions. The first step is for the student to make an appointment by calling the hospital's front desk or using an online planning service like Maisa. Students can pick the language they want to use (for example, English, Finnish, or Swedish) if the platform lets them. They can then add their personal information, like their name, student ID, health insurance number, and any relevant medical history. Once students choose an open appointment time, they confirm the booking and get a confirmation message via email, text message, or the screen. They then get a reminder with instructions before the appointment. People who deal with the front of the house can use online platforms or ask for help from the front desk staff to make booking and getting directions easy. Backstage systems keep track of real-time availability, store personal information safely, let healthcare providers know about appointments, and make sure the student has insurance and can get care. Technical teams fix problems and language help services or culturally sensitive accommodations are made when needed as part of extra support processes that make sure the booking platform works well. This system focuses on user-centered design, efficiency, inclusion, and open communication to give students a smooth and helpful healthcare experience. As we can see (Figure 17) the service blueprint of appointment scheduling system in the hospitals of Turku.

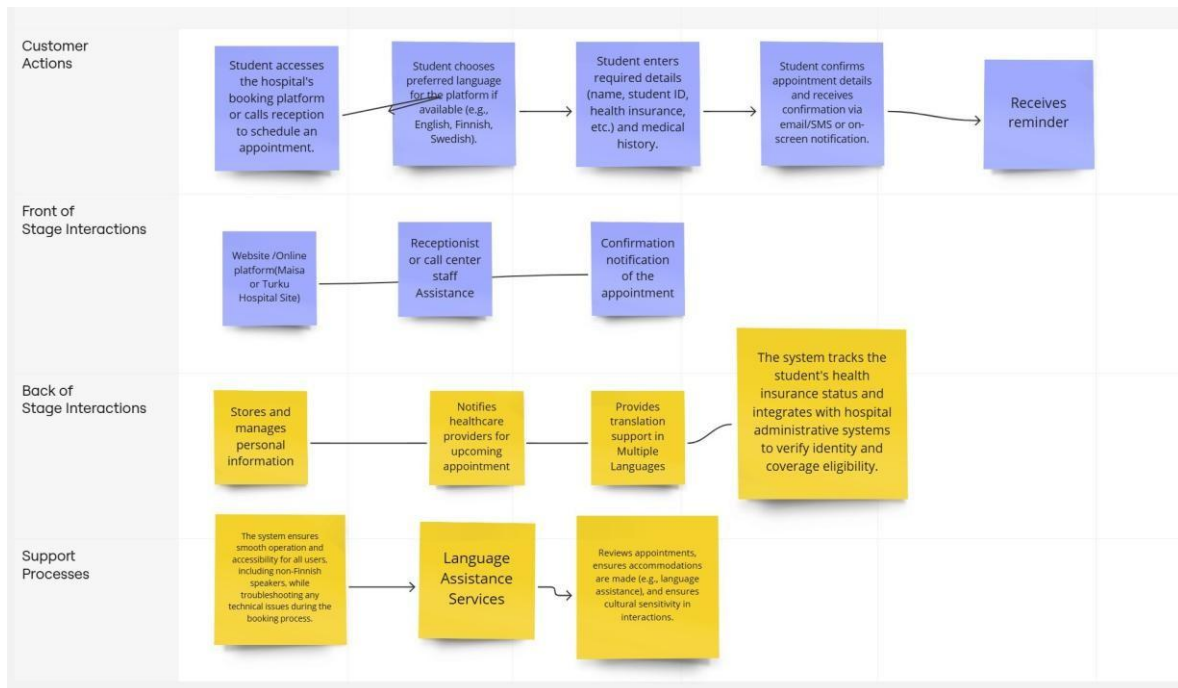


Figure 17: Service Blueprint of Appointment Scheduling System

5.3 Persona Development

According to the Persona (Figure 18), The 23 year old Persian student, Paria, is currently studying in the Abo Akademi for a Master's in Biomedical Imaging. She went to FSHS for a routine check up and blood work, and The doctors were focused on prevention of disease and health monitoring of Paria. According to Paria, she had a positive experience and was given crystal clear instructions for follow up care. She booked her appointment without any problem via FSHS online portal. The overall quality of service was good, but they rushed during the time of the consultation, it felt like a problem to her. Paria had to wait 20 minutes beyond her scheduled appointment time that made her whole experience not nice. Kela covered the financial cost of her appointment. With regards to health concerns Paria makes sure to go for regular checkups even though she is more focused on taking care of her mental health. According to her, There is a need for more information on the mental health services available to international students, and flexibility with appointment scheduling would be appreciated.

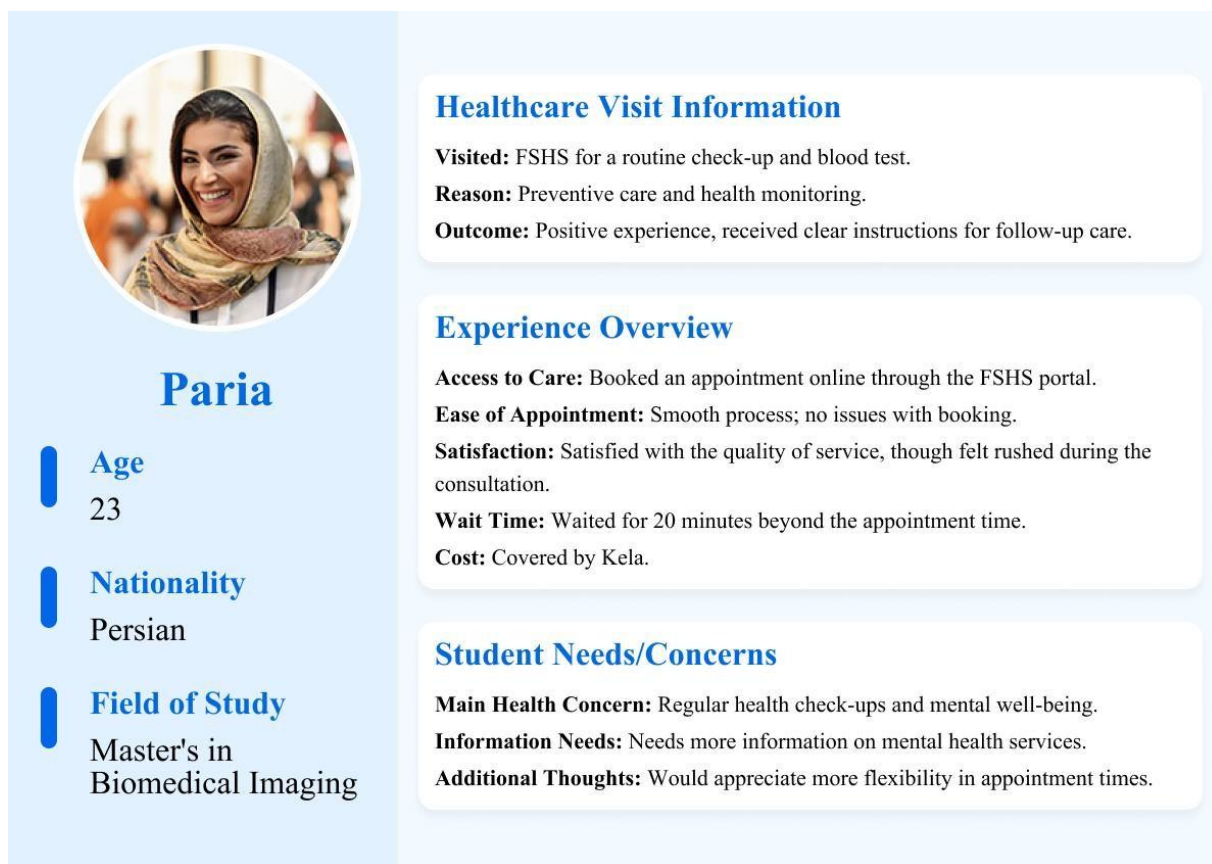


Figure 18: Persona of Paria

According to the second persona (Figure 19), Amir is 25 years old and from Bangladesh studying a Master’s in Data Analytics in Turku. After suffering a gym accident, he went to Terveystalo to get some mild sprain treatment and pain management. While he was here, Amir received physiotherapy instructions and some pain medication. Booking the appointment through the Terveystalo app was found to be an easy and quick thing to do, as the app itself is easy to use. In general, Amir’s experience was positive, but he was worried about the cost, since Kela did not pay for the cost of everything, and he had to pay for it himself. He really liked the fact he was seen right away with no wait time. The biggest health thing for Amir right now is the recovery from physical injuries and he wants to know more about how Kela covers this and what private clinics cost. But he also said he wants clearer guidance as to how to price the information and the process for backing out of appointments.

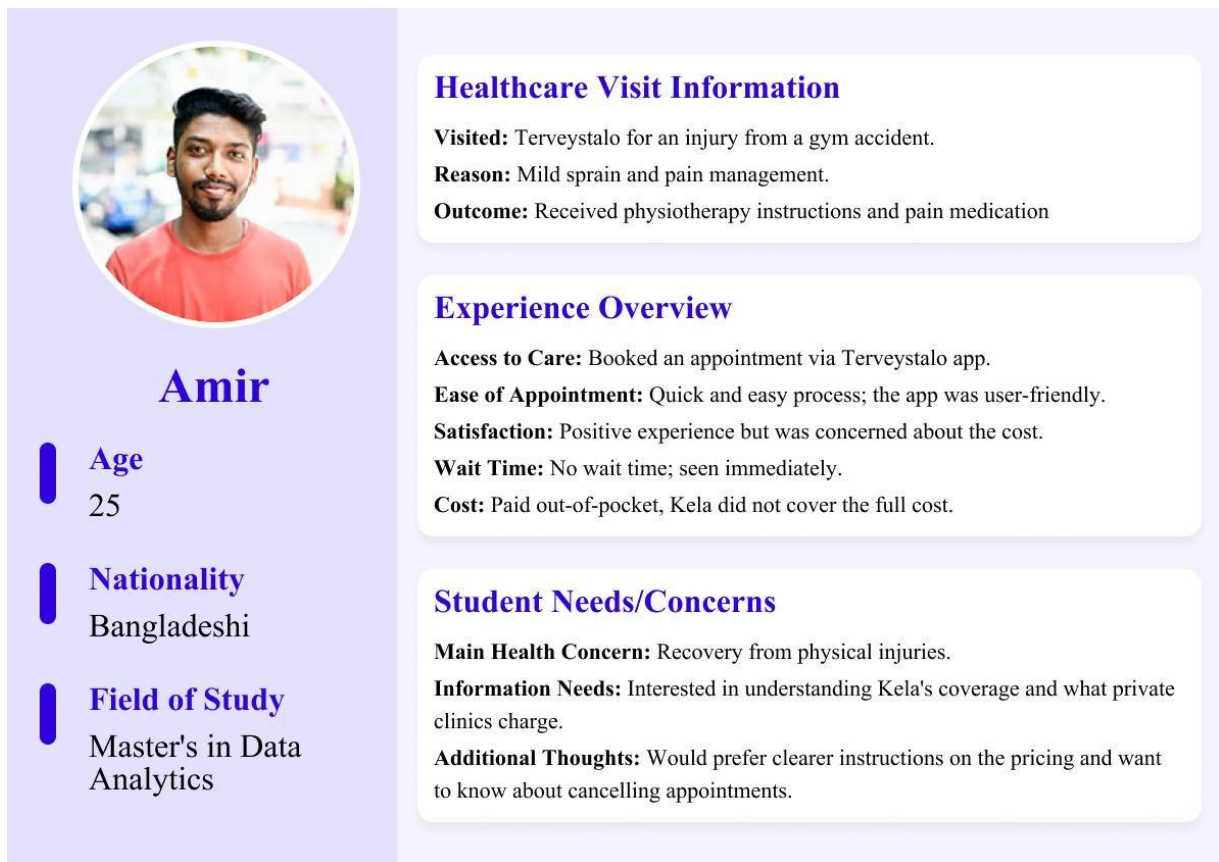


Figure 19: Persona of Amir

5.4 Value proposition Canvas

This value proposition canvas offers a high level view of the main touch points and pain points that patients will encounter when they interact with healthcare.

During the Preparation stage, users are preoccupied with collecting necessary documents like an ID or a medical record and receiving automated messages by email or SMS. But these challenges often include forgetting required paperwork and unclear instructions on how to prepare for a visit delaying or rescheduling the schedule.

Users come to the health station in the Visit stage, check in with the reception or kiosk, and converse with healthcare professionals. By this stage though, there is some common pain points such as finding the health station, waiting for hours even though you have booked, lack of accessibility for folks with mobility issues.

During Post Appointment, users complete follow up tasks like get prescriptions, receive follow up instructions, or refer for further tests. Here, the pain points are unclear follow up instructions, difficulties of online platform navigation to manage prescriptions, and limited availability of follow up appointment slots.

Healthcare providers automatically remind patients to return for check-ups or use Retention stage to continue care and collects feedback from surveys or portals. Despite this however, there is often limited follow up communication and many unresolved issues such as delays in dealing with feedback, this can then result in lower levels of user satisfaction and engagement with the system. Figure 20 illustrates the value proposition canvas, it illustrates the gains, customer jobs and pains in the patient segment while it illustrates gain creators, products and services and pain relievers in the value proposition segment.

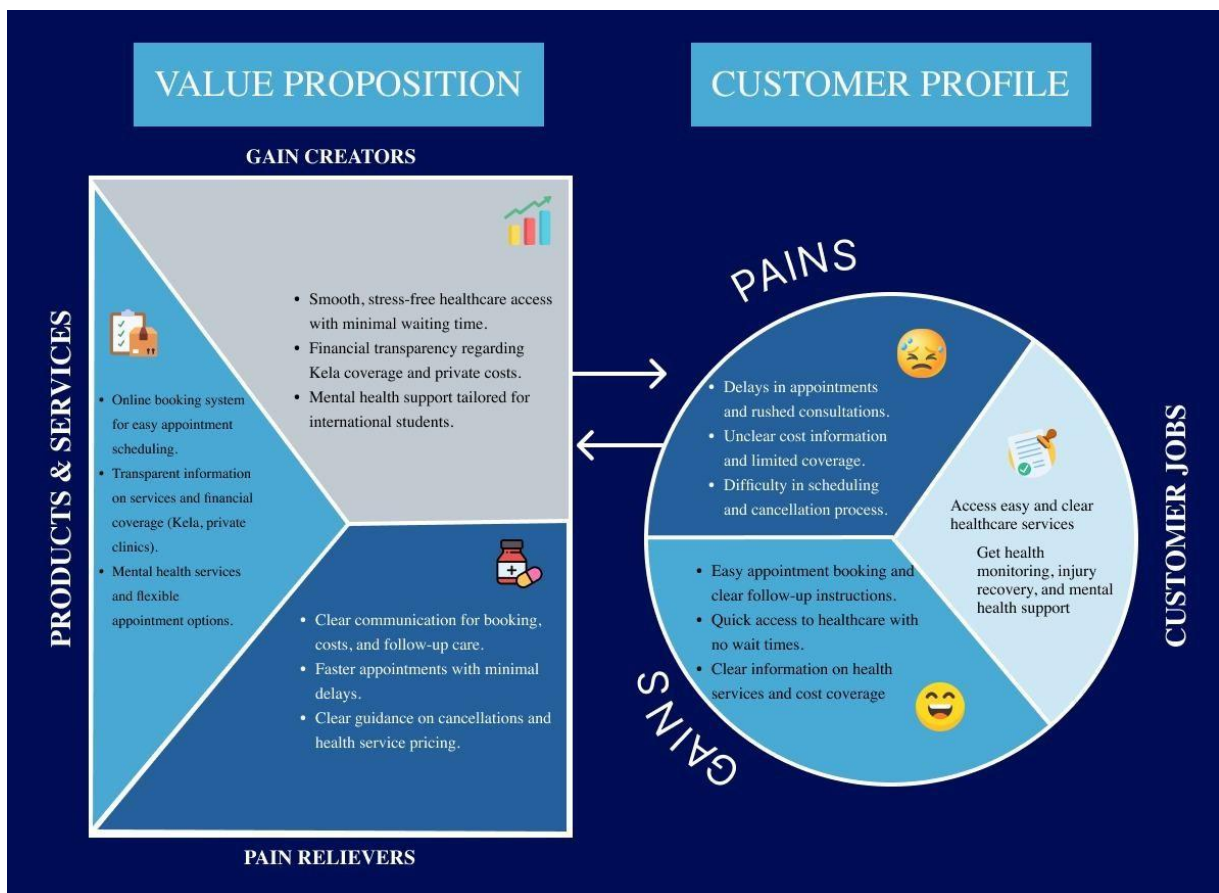


Figure 20: Value Proposition Canvas

5.5 Ethical Consideration and Limitations

This study adhered to ethical criteria, informed consent, confidentiality, respect for the participants' rights. Before taking part each person was told about the purpose of the study, their voluntary participation and that they could withdraw from the study at any time. The participants were ensured that their responses would remain anonymous. Audio recordings of interviews were only available to the researcher and participants explicitly agreed that the recordings will only be used for this study.

The data was removed of all personal information and stored securely to protect privacy. It also examined both language barriers and cultural sensitivities so that participants felt able to share their experiences. Participants were interviewed using a variety of means (face-to-face, whatsapp and online) to ensure inclusivity. Its essence was to provide a respectful and open framework for participants to express their thoughts, in full.

6 Discussion

6.1 Summary of Key findings

This thesis addresses the issues faced by the international students living in Turku, Finland, who have difficulty accessing healthcare services, particularly when it comes to scheduling healthcare appointments, it identifies the problems and provides practical solution. Several key barriers to equitable healthcare access are identified by the research. The difficulty in accessing care, such as long wait times or the unavailability of appointments, forces some students to seek private healthcare for urgent needs, which is expensive. To add insult to injury, students without Finnish language often fail to effectively convey their healthcare needs to professionals because of the insufficient multilingual support available across their phone, online, and in person channels. Furthermore, the current appointment systems contain fragmented and disconnected processes across disparate platforms making them

confusing and inefficient. Indeed, international students face the most challenging booking process because of lack of integrated user friendly digital platform.

The second part of the study brings forward the high demand for mental health services, but the lack of resources and months of long waitlists result in high stress and unmet needs. Access is further complicated by cultural differences and so little awareness of the Finnish healthcare system. Moreover, staff are often unprepared to address the unique challenges posed by a diverse, multilingual population. Meanwhile, patient and community needs are changing faster than regulations can adapt. This study was able to identify inefficiencies and key pain points in the system and used tools like the Customer Journey Map. Practical solutions were achieved through collaborative efforts exemplified in a multilingual digital booking tool with real time availability, culturally sensitive staff training and simplified processes to increase usability. Consequently, these findings emphasize the necessity for Turku to develop user-centered and inclusive healthcare solutions. There are also potential tools for making a healthcare system fairer and more efficient.

6.2 Interpretation of Results

This thesis therefore identifies several major hurdles to health care services faced by international students in Turku, Finland. Long wait times and problems with getting timely access to care are caused by cultural differences, language barriers, and a fragmented healthcare system. This study situates these findings within the Service Design Theory, the Cultural Theory of Interpersonal Communication, and Healthcare Access Theory in order to provide a better understanding of broader issues related to healthcare access and service delivery in multicultural contexts. Service Design Theory operates from a user centered perspective, pinpointing where the gaps are and where improvements can be made in service delivery. This is consistent with this theory and the tools this study employed like Customer Journey Mapping and Service Blueprinting which show important pain points in the appointment process. Turku's healthcare system is fragmented and complex: barriers are very high for students. Such gaps, according to Service Design Theory, can be resolved by collaborative, iterative design processes that engage users in design. The findings speak to the importance of including the

international students as active participants in healthcare service design in such a way that solutions are developed for them instead of being imposed by professionals only.

The results also show the value of cultural competence and effective communication, based on the Cultural Theory of Interpersonal Communication. This thesis posits that, alongside linguistic competence, producers and providers of health care rely on comprehension of how cultural backgrounds inform students' understanding and reaction to health care information. However, the study found that despite the availability of services in Turku, there are many still struggling due to healthcare providers' lack of cultural sensitivity training. This leads to a lot of miscommunication and confusion, and it causes delays in care. The results stress the importance of healthcare professionals developing cultural competence to better care for students through strong relationships with students that will ultimately improve satisfaction. To bridge these gaps, it is essential to have training programs that focus on cultural awareness and sensitivity.

In this respect, the Healthcare Access Theory also acts as a structural lens through which the system inefficiencies uncovered in the study can be understood. This theory claims that access to health care is the product of the interaction of social, organizational and cultural forces. The research shows that Turku's health care is disorganized, and there is very poor coordination between general practitioners and specialists. In addition to long waiting times and confusing referral processes, these inefficiencies stand between truly timely, coordinated care. Additionally, the study emphasizes the acute, yet unmet need for mental health services, in which scarce resources and failings of outreach to international student needs have converged to add to the complexity of their plight. However, it underscores the need that healthcare systems should be linked with a view towards improved coordination of care and response to the changing needs of a heterogeneous population.

In addition to supporting these theoretical frameworks, these results also provide practical use in a multicultural healthcare setting. The results champion user-centered, culturally competent, and integrated healthcare design. Breakdown of the systemic and cultural barriers pointed out in this study is crucial to building a health care system that will treat all students without bias based on their spoken language or cultural background. Applying service design principles to healthcare systems enables healthcare systems to

access the needs of varying populations, making the system accessible, inclusive and leading to improved health outcomes for all.

6.3 Strengths of the Research Approach

In this thesis, the challenge for international students is approached qualitatively through the use of service design tools. This study moves beyond surface issues by linking up these approaches and digging deeper for oftentimes, more nuanced barriers. This research did so through firsthand accounts of cultural, systemic, and communication- based barriers to effective healthcare access derived from interviews and workshop. This approach offered a thorough exposition of international students lived experiences which showed how complex their struggles are. Interviews helped to collect narratives on personal experience with the healthcare system showing structural repetition of long waiting times, delays with scheduling of appointments and confusion in communication. The data these individual narratives provided were rich in details that secondary data alone do not have, allowing this research to pinpoint unique pain points and barriers.

This was complemented by a workshop, which provided a space where participants were validated, experiences were road tested amongst each other, common challenges were noted, and potential solutions were proposed. This dynamic exchange allowed to uncover broader trends and creative ways to solve healthcare problems that possibly would not have been discovered in one on one interviews. Service design tools such as Customer Journey Mapping and Service Blueprinting were also used in addition to qualitative methods to visualize the end-to-end user experience within the healthcare system. These mapped healthcare journey tools spanned from initial contact to healthcare support through post treatment follow-ups for international students. What was especially satisfying was that this dictated a comprehensive visualization that identified critical touchpoints where students were experiencing problems, bottlenecks, inefficiencies and gaps in the service delivery process.

Visual representations of these insights provided actionable recommendations to improve the international student's healthcare experience. This study utilized a holistic user centered approach utilizing qualitative research methods and service design tools to understand and address the challenges of international students. The systematic analysis provided by service design frameworks were integrated with personal narratives

obtained from interviews and to explore the issues reasonably and thoroughly. Eventually, these findings were able to provide the challenges with evidence based approaches that can advance healthcare services. This approach emphasizes the importance of building inclusive and accessible healthcare systems that serve an ever more heterogeneous and underserved population.

6.4 Limitations

Although this study provides useful knowledge, it leaves a lot to be desired in terms of application. One of the limitations is its deliberately small sample size, which does not represent the full diversity of backgrounds, countries of origin or experiences within the international student community in Turku. Although participants were richly and detailing expressive about their experience with the system, the limited scope of the sample risks underrepresenting the diversity of the participants and thus lessening the validity of the findings.

In addition, the focus on the Turku region means this study would not be applicable to other parts of Finland, where processes might be different. For example, access to healthcare could present different problems in smaller towns compared to cities like Helsinki, so depending on a place of residence, the international student experience in Finland will be different. The limitation of employing qualitative methods (interviews and workshop) to produce context based, in depth insights, is that these methods are subject to biases. The findings are influenced by individual student experiences and perceptions that may not represent the entire international student population in Finland.

Additionally, qualitative research often uses self-reported data which can be distorted by the social dynamics of the conversation or by the respondents answering in a way that they think it is expected, leading to incomplete data collection. One limitation of the study is that the study focuses too narrowly on access to healthcare, specifically on making appointments and reminding students of the appointments, without considering other potentially important elements in the access to that healthcare, like the quality of that care, the satisfaction of students or the quality of the outcome of the care. As a result, there are gaps in understanding the broader healthcare experience that international students have in Turku.

While the study did show some useful findings in regard to the barriers to access, it did not tell the whole story. Further research ought to follow a bigger and more diverse sample of international students located all through Finland with the goal to attain more generalizable results. In a similar way, the use of mixed methods, which include both quantitative and qualitative methods, could provide more in depth insight into the healthcare access and effectiveness in international students, as well as other non-Finnish speaking population. Expanding the scope of the research done in these ways would add a more holistic view to insight into the challenges and resolution of Finland's wellbeing system.

7 Practical Solution for Navigating Healthcare Appointments in Turku

Turku's healthcare system is as old as most in Finland; to such an extent that it adheres to a complex well defined set of structures and processes. Though effective for many, these systems create huge problems for international students who are usually not familiar with processes, language and cultural expectations. With large scale reforms to the healthcare system unlikely and in fact even difficult in the short term, the solution focuses on offering a practical, immediate solution to help international students to better navigate around the current system.

This research also identified the main challenges such as long waiting times to book appointments, confusion from communicating in another language, and the fragmentation of the booking system in the system of different healthcare providers. These problems can result in stress, frustration, and delays in prompt receipt of needed medical care. Although we do not have the capacity to redo the whole healthcare system, this guide offers clear, actionable steps for students to feel confident navigating the system.

This solution allows international students to take charge of their healthcare experience by providing them step by step instruction on how to book appointments both within immediate care centers and within private hospitals. This study covers everything from getting to appointments, overcoming language barrier and using the confusing online platform.

A detailed step by step guide of how international students can access Turku’s healthcare appointment system is outlined in the figure 21, 22 and 23 which considers the difficulties drawn in the research and different methods of booking.

7.1 Appointment booking in the Finnish Student Health Services

Figure 21 contains a quick reference table to help students efficiently book appointments with the Finnish Student Health Service (FSHS). Many booking pathways—online, chat, phone, in person, health assessments—are outlined, with each process broken into capable, actionable steps. Students can navigate the system, choose the most convenient way to access the healthcare services, and utilize those services without confusion and delays with the help of this table.

Steps	Self-Online Booking	Telephone Services	Chat Services	Health Assessment
Step 1	Go to the FSHS website (fshs.fi) and locate the Self online service option on the homepage.	Call this Number for Appointment, 0467101073. This is the primary phone number for Turku.	Open the FSHS chat service on their website during its operational hours (General and mental health Mon–Fri at 9 am–11 am Oral health Mon–Fri at 9 am–11 am).	Look for an email or message from FSHS containing a link to the health survey (sent after registering as a student).
Step 2	Log in to the Self service using	Call the listed number during	Click on the chat link, and type in your	Open the survey link and log in with your

	your Suomi.fi credentials (online banking ID, mobile certificate, or other accepted identification).	their operating hours (check timezones if you're traveling) and follow the automated or staff instructions.	query about booking an appointment. Specify your health concern or ask for guidance if unsure about the type of appointment.	Suomi.fi credentials to access the health questionnaire.
Step 3	Navigate to the Appointments section in the menu after logging in and select "Book an Appointment."	When connected with staff, explain your health concern clearly (e.g., symptoms, duration, or urgency).	Provide all necessary details, including your student status and symptoms, for a preliminary assessment if needed.	Answer the survey questions accurately, including details about your health, lifestyle, and any ongoing issues or concerns.
Step 4	Choose the type of service you need (e.g., general health, dental, mental health, or physiotherapy) based on your issue or symptoms.	Request a specific type of service if known (e.g., dental care, mental health support). If unsure, ask for recommendations or discuss your symptoms to determine the best option.	Ask for a recommendation about the most suitable service if unsure, or proceed with the booking for the type of service you already know you need.	Once completed, the system will analyze your answers. FSHS will notify you about recommended services or appointments, if necessary.
Step 5	Browse available dates and times for your selected service. Choose a convenient option and	Staff will provide you with available slots. Select the most suitable date and time, and confirm your	Confirm the suggested appointment details provided in the chat. Ask for further assistance if the	Wait for FSHS to contact you with further instructions or to book an

	confirm the booking.	booking during the call.	times offered are not suitable.	appointment based on the survey results.
Step 6	Add additional information if requested, such as specific symptoms, allergies, or relevant medical history, to help prepare the professionals for your visit.	Make a note of the confirmed appointment details (date, time, location) provided during the call.	Save the confirmed details sent via chat (you may also receive a follow-up email).	Follow any additional instructions provided after the survey completion (e.g., attend specific appointments or consultations).
Step 7	Check your email or Self service account for confirmation of the booking. Review any instructions (e.g., arrive early or bring specific items).	Ensure you have written down the appointment confirmation details. Staff may also send an email with the information.	Look for a confirmation email or follow-up message about the booked appointment.	If FSHS contacts you for further steps, follow their guidance to book or attend the recommended services.

Figure 21: Steps to appointment booking in the Finnish student health services

For cancelling or Rescheduling, students can use the self-service, self-chat or the primary phone number (Turku Unit) given in the table. Moreover, FSHS does not offer Emergency care. For emergency care student needs to rely on the Turku University Hospital or Private healthcare.

Student Healthcare in FSHS is free for all students. Students need to pay compulsory healthcare fee in the Autumn and Spring Session. The Healthcare Fee is 73.60 per session.

7.2 How Studnets can Get Emergency Care

If a student in Turku ends up in a medical emergency, she or he should know who to contact for urgent care. The Finnish Student Health Service (FSHS) is a body which offers basic care for students on an out patients basis but it does not function as an emergency unit. FSHS is unable to provide necessary medical intervention in case of life threatening issues and students need to obtain assistance from other healthcare providers. Similarly, private health clinics can tackle the non-emergencies, but they don't have the facilities to treat life threatening conditions.

All urgent, critical and life threatening medical emergencies should therefore go to Turku University Hospital (TYKS), the main healthcare provider in the area. TYKS has its own 24/7 Emergency Department (ER), which is ready to treat accidents, heart attacks, strokes and other serious emergencies. As students may find themselves in situations where they need emergency care at TYKS, this table describes the steps to take in such situations.

Step	Action	Details
1. Call 112 for Immediate Assistance	Call 112 if you have a life-threatening emergency (e.g., severe injury, heart attack).	Emergency dispatcher will assess your situation and send an ambulance if necessary.
2. Visiting TYKS Emergency Department	Go directly to the TYKS Emergency Department if you are able to reach it.	Location: Kiinanmyllynkatu 4, 20521 Turku. The ER is open 24/7 for serious emergencies.
3. Triage and Initial Assessment	Upon arrival, you will be assessed by a triage nurse	You may be asked to wait depending on the urgency of your condition

	based on the severity of your condition.	compared to other patients.
4. Provide Personal Information	Provide your ID, medical insurance details, and information on your condition.	Bring passport/student ID, EHIC card (if applicable), or any private health insurance details for billing purposes.
5. Treatment and Follow-Up Care	Receive treatment based on your medical needs; follow-up appointments may be scheduled.	Depending on the situation, you may be treated, observed, or referred to specialists for further care.
6. Payment/Insurance	If you have an EHIC card or student health insurance, the costs may be covered.	International students should check their private health insurance to ensure coverage for emergency care at TYKS.

Figure 22: How students can get Emergency Care in Turku

Most healthcare staffs in Turku University Hospital Speak English. Students from EU/EEA with an EHIC card are covered fully but international students who are from other areas have to rely on personal health insurance coverage. Most of the students here in Finland take Swisscare for the personal Insurance coverage. Swisscare covers all costs for emergency illness and accidents. All the information of how much Swisscare covers can be found in its website.

7.3 Appointment Booking in the Private Hospitals of Turku

Two large private healthcare providers in the city of Turku; Terveystalo and Mehiläinen are also options for students looking to make a medical appointment. There are many different services that these clinics provide, (general consultations, specialized care,

emergency services) to name a few. Both have multiple booking methods, including online appointments, phone bookings and use of the mobile app. Nevertheless, how booking and payment process with the two might be slightly different, allowing students to choose how to access healthcare services. A comparison of Terveystalo and Mehiläinen appointment booking flow is given below.

Step	Terveystalo	Mehiläinen
1. Online Booking	Visit Terveystalo website. Click "Make an appointment" or "Book an appointment. Then Log in or create an account. Choose the type of service (e.g., GP, specialist). Select the location. Confirm the appointment time and pay online.	Visit Mehiläinen website. Click "Book an appointment. Create a patient account or log in. Choose specialty and location. Select available time and confirm appointment.
2. Phone Booking	Call +358 100 3838 to book an appointment or inquire.	Call +358 10 414 00 for bookings or inquiries.
3. Mobile App Booking	Use the Terveystalo mobile app to book, reschedule, and pay for appointments.	Use the Mehiläinen mobile app to book, manage, and cancel appointments.
4. Available Services	General medical consultations, diagnostics, specialized care (e.g., cardiology, dermatology). Non-life threatening emergencies, Laboratory test and Physiotherapy.	General medical consultations, specialized care (e.g., mental health, cardiology). Diagnostics, lab tests and Imaging. Emergency Services for Strains and Sprains,

		Puncture Wounds, Eye Injuries, Fractures, Burns and Wounds.
5. Payment Process	Payment can be made in Terveystalo's app or In location. You will be notified of outstanding payments by SMS and Email on the day following the use of the Services. You can find the receipts in the payments section of the Terveystalo's app.	You can pay in Location. You can pay for some of the appointments via omamehilainen app. Please note, not every appointment payment can be made through the app for example Therapy clinic. Mehilainen invoice payment is only available for Hammas mehilainen Appointment.
6. Contact Information	Phone: +358 100 3838 Website: www.terveystalo.com/en	Phone: +358 10 414 00 Website: www.mehilainen.fi/

Figure 23: Appointment Booking in The private hospitals of Turku

For private healthcare, students should rely on their own finances. Insurance companies like SwissCare do not provide coverage for non-urgent care appointments. On the other hand, kela would only cover a partial cost. For example, if the appointment charge in Mehilainen or Terveystalo is 150 euros, Kela would only cover 20-30 euros.

If students go in search of emergency care in Turku, they need to know that the Finnish Student Health Service (FSHS) does not take care of life threatening emergencies, neither does the private clinics such as Terveystalo and Mehiläinen. Although FSHS provides general health care like preventive care and treatment of minor illness, it cannot for handle of urgent and critical situation. For serious health problems, there are students to turn to Turku University Hospital, the university's emergency services integrated in one

place. For less pressing medical issues, Terveystalo and Mehiläinen let you make appointments easily via online platforms, mobile apps and phone services. Situations that can be attended to by these private healthcare providers are urgent care for minor injuries and illnesses, but for serious emergencies students should instead visit a hospital or call emergency services. It is vital that students understand these options to access medical care efficiently in Turku.

8 Conclusion

As international students in Turku, Finland are facing challenges in accessing healthcare services, this thesis examined the challenges and proposed a practical solution for international students' as making changes in existing system is impossible in the short term. The study surveyed through interviews to identify key barriers, such as fragmented health care processes, long waits, uncertain appointment processes and poor cultural sensitivity. Often these issues led to delays, confusion and added levels of stress contributing to the challenge of students effectively accessing the healthcare system. A key problem studied was the complexity and disjointed nature of the healthcare system. Poor coordination among service providers, including general practitioners and specialists, had led to inefficient and failed communications. This study also found that students reported long waits for appointments, and sometimes healthcare providers lacked the key patient information needed for appropriate care. Finally, there were no clear and user friendly processes for booking and following an appointment. Participants also commented that these processes were confusing and could often cause avoided or delayed appointments.

The second important problem was the absence of cultural competence among healthcare workers. Even though Finnish healthcare providers are very skilled, international students sometimes felt that their cultural needs were not understood nor respected. Feelings of disconnect and alienation were from miscommunication on healthcare practices and patient rights. Due to this, some of the students were scared to seek care at that very needed time, worsening their problem by adding an extra unnecessary burden. The findings of the study are in support of developing service design based solutions to resolve these issues. First, I think something that can be done would be to

simplify healthcare management and appointment booking using as simple an interface as possible, that would also be easy to understand and look at. Second, international students who do not know anything about Finland's health care system would benefit from better navigation within healthcare facilities. Third, cultural competence training for health care providers could help better equip health care providers to be better able to understand and appreciate the needs of students from a variety of cultural backgrounds and to provide a more inclusive and supportive care environment.

The findings come particularly at a time when they are most needed in Turku, but could also benefit other Finnish cities or regions with a large student population. But the study has some limitations. Limitations of the results to other contexts are due to the small sample size and focus on Turku. Furthermore, the study concentrated on access to health care services without perceptions such as the quality of care and total patient satisfaction which are vital elements of health care. The thesis points out promising areas for future research. Comparative studies could be used to test the same questions across Finnish cities or use international contexts to see if issues in Turku form part of a more widespread trend. Longitudinal studies could monitor how students' experiences with the system change over time and learn about how access to the system changes and increases over time. Further research into the importance of cultural competence for enhancing quality of care and patient outcomes can lead to the development of actionable strategy for providing improved health care delivery. International students still face difficulty in accessing healthcare in Turku. Improvements are of interest to address systemic inefficiencies, enhance communication, promote cultural inclusivity and create a more accessible and supportive healthcare system. By doing this, international students can be guaranteed high standard care which will allow them to be academically and personally successful.

8.1 Recommendations for Future Researches

However, some further research could be conducted through this study to further understand the challenges International Students face in accessing to healthcare in Finland and to extend from this research and its limitations. Further studies could also look into

how digital tools and platforms should be improved in order to reach users that do not speak Finnish. Researchers could examine, for instance, whether these tools meet the needs of multilingual international students and whether it is possible to make these tools more accessible, user friendly and fun to use. By increasing the scope of the investigation to include other cities, such as Helsinki, Tampere or Oulu, the research would be able to illustrate how service provision, availability of multilingual support and accessibility differ from city to city. This would also give a chance to see if the matters this study have identified in Turku are confined to the region, or merely indicative of national problems.

In addition, research should also be conducted on cultural competence topic for the Finnish healthcare professionals including what they understand about cultural and linguistic needs of international students and the influence of cultural training on the quality of the provided care. Learning about this could be incredibly important for determining if the students feel heard and supported and whether cultural or language barriers affect their entire experience in healthcare. On another level, exploration is underway about the availability and quality of mental health services for international students. Wait times, access barriers and cultural stigma of seeking help for mental healthcare could be the area of further research. Tracking over time how these students' access healthcare and how the overall level of satisfaction change over time would also be especially useful in longitudinal studies, which can also shine light on how policy and system changes affect the experiences of international students.

Research could also be broadened to include what challenges in accessing healthcare other related groups, like temporary workers or asylum seekers, face as immigration status affects access to care, and how their challenges differ from those of permanent residents. Addressing these gaps will allow future research to reveal a deeper insight into barriers for international students and other by non-Finnish speaking students in Finland. These insights can be used to inform the developing of inclusive policies and service design improvements as a way to build a healthcare system that is accessible, equitable, and best meets the needs of all users.

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Appendix

Appendix A. Interview Questions

Question: How would you describe your experience when it comes to communication through the appointment booking process? Were you caught off guard by language or instructions in any way?

Question: What were your experiences when trying to navigate these healthcare appointment systems in Turku? Were they easy or difficult? Did there seem to be any point along that process where you were not certain of what to do?

Question: Have you had appointments in Turku that always run late or hard to book? If these delays affected your health or well-being, explain how they affected you?

Question: What do you think of the healthcare system in Turku compared to that one in your home country? Which ones were the most different?

Question: Did you ever book an appointment through any online or app based service? Did you use login masking? If so, what did you find helpful or challenging to use?

Question: Could you have seen more than one healthcare provider (GP, specialist), and did the changing over to one obviously connected with the other go well? What challenges did you face?

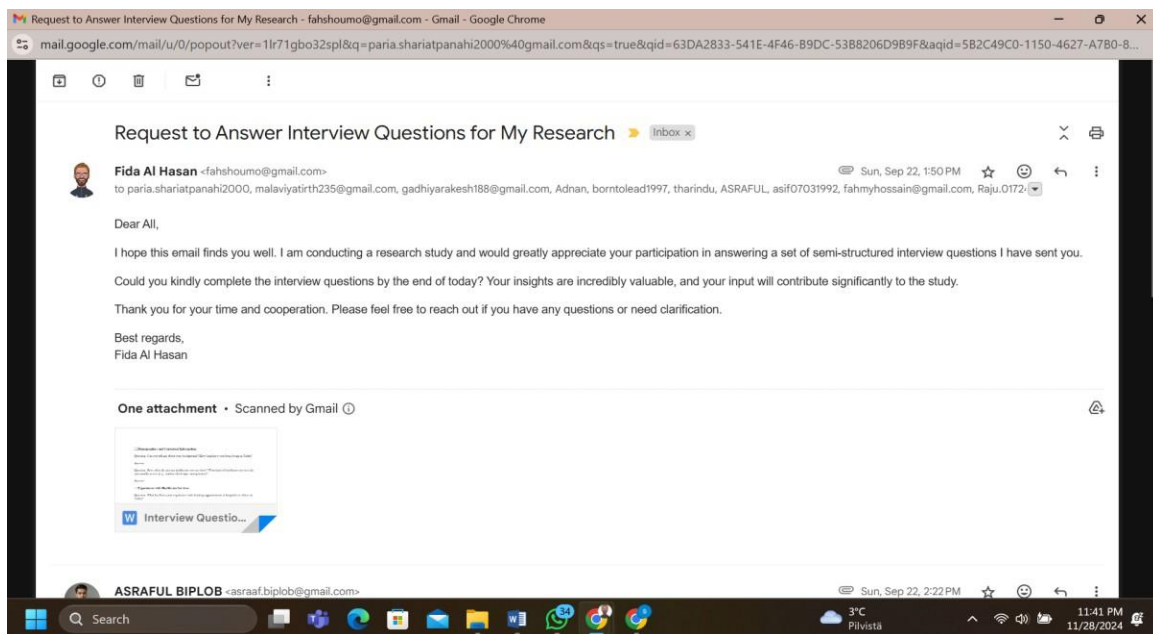
Question: What would you recommend that would promote more accessibility to the current healthcare appointment system for international students who seek treatment?

Question: Can you imagine which technological tools (such as mobile apps, websites, telehealth services,) would facilitate access to healthcare for you?

Question: What changes or improvements would you like to see in the healthcare appointment system in Turku?

Question: Were you treated as an equal (culturally or individually) by the healthcare system of Turku? What ways can healthcare providers proactively improve service that caters to students of different backgrounds?

Appendix B. Screenshot of the Mail Sent to Respondents



Appendix C. Interview Schedule

Respondent Code	Date of Interview	Mode of Interview
IV 1	September 22, 2024	Mail
IV 2	September 22, 2024	Mail
IV 3	October 1, 2024	Face to Face
IV 4	October 6, 2024	Whatsapp Calling
IV 5	October 11, 2024	Whatsapp Calling
IV 6	October 11, 2024	Whatsapp Calling
IV 7	October 14, 2024	Face to Face
IV 8	October 20, 2024	Whatsapp Calling
IV 9	October 21, 2024	Face to Face
IV 10	October 21, 2024	Face to Face
IV 11	October 23, 2024	Whatsapp Calling

Appendix D. Workshop Protocol: Improving healthcare appointment system for international students in Turku

Date: November 9th, 2024

Time: 6:00 PM - 8:30 PM (Duration: 2.5 hours)

Format: Online (via Zoom)

Participants: International students

Facilitators: Fida Al Hasan

Workshop Objective:

The workshop aimed to identify challenges in Turku's healthcare appointment system

for international students and Identify practical solutions to improve access and service quality.

1. Introduction (6.00 PM- 6.10 PM)

It started with a few words about what to expect from the workshop. Facilitator drew up the primary problems facing international students within Turku's healthcare system, such as language barriers, long waiting times and a problem with fragmented appointment system. Participants introduced themselves and shared their roles.

2. Presentation of the Problems international Students face (6.10 PM- 6.25 PM)

In this Session, at first I showed that international students have some major obstacles to accessing the health care services especially with appointment booking systems. Language differences, not having an integrated platform, and waiting for long were found as the issues. Participants considered the findings and the initial thoughts on the challenges they brought up.

3. Problem findings through brainstorming (6.25 PM- 6.50 PM)

In this session, I asked the participants to brainstorm the problems international students face while booking an appointment in the hospitals of Turku.

4. Idea generation through brainstorming (6.50 PM- 7.30 PM)

Participants were then encouraged to generate solutions to the challenges that had been identified. An open format was used to share ideas on ways to make accessibility better, simplifying processes, and tackling language barriers. Key ideas generated are a unified

digital platform, real time appointment updates and availability and multilingual support to make the process easier.

5. Journey mapping and identification of problem in each step (7.30 PM- 8.00 PM)

In this session, journey maps were created by participants in regards to the healthcare experience from appointment booking to receiving care. The objective of this exercise was to bring to light some of the pain points of the current system. Throughout, participants raised problems like unclear written instructions, confusion between online platforms and long waiting times for appointments. User interfaces were highlighted as an important area to improve, and clear, accessible instructions in multiple languages were emphasised.

6. Action Plan and Next Steps (8.00 PM- 8.15 PM)

In this Session, participants also talked about the need for the teams to connect with hospital administrators and IT specialists to talk about the feasibility of putting a few services into one platform. Feedback loops from students and healthcare providers would have to be continuous in order to continue to refine solutions.

7. Closing Remarks (8.15 PM- 8.30 PM)

In the last session, I thanked participants for their active contributions and summarized the key takeaways: The arising of a unified digital platform and globally real time appointment notifications with multilingual support.

Workshop Poster:



Appendix E. Thematic Analysis process to identifying codes and themes

Steps	Description	Example
Data Familiarization	Read and hear through the responses of interview and workshop transcripts and recordings multiple times to identify trends	Read and hear the transcripts and recordings of 11 international students were reviewed to get a sense of recurring themes.

Initial Coding	Highlighted relevant sections and assigned descriptive codes	Codes like long wait times and techlogy challenges were created based on initial review.
Grouping codes	Grouped same codes into subthemes that highlighted related issues.	Codes like language challenges and translation gaps were grouped under language barriers.
Identifying Codes	Grouped categories that reflected key issues in the data.	Main themes such as Cultural issues and complexity of appointment system were identified
Verification and refinement	Themes were reviewd for clarity and consistency.	Each themes were carefully reviewed and used participants codes were chosen
Final Theme Development	The final themes were identified which linked to the study's research question.	The final themes like Cultural issues and complexity of appointment system were directly aligned with the research question.

