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SEMINAR ON BUILT  
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**SUSTAINABLE BUILT  
ENVIRONMENT**

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# e-Proceeding

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# A SYSTEMATIC REVIEW ON THE YOUTH'S HEALTHCARE FACILITIES DETERMINANTS IN SERI ISKANDAR

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## ABSTRACT

*The determinants for healthcare facilities are related to a person's health status and income. As Seri Iskandar is the educational hub of Perak, most of the youth's income level in Seri Iskandar is not adequate to obtain healthcare services from private healthcare facilities. Although several studies have been developed to identify the determinants of the elderly group, disabled and general population towards healthcare facilities, youth with different lifestyles and environments between areas will create varied determinants. Hence, this study was set out to analyse the existing literature on the determinants in the perspectives of youth groups in Seri Iskandar. The PRISMA review method had resulted in five main determinants, they were healthcare services, duration for medical examination, medical cost, healthcare technology and healthcare facility distance. For further research, these five determinants could contribute to the development of a comprehensive development plan for holistic healthcare facilities.*

**Keywords:** *determinants of demand, healthcare facilities, real estate*

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## **INTRODUCTION**

The need for healthcare facilities is related to a person's health status, income, standard of living, employment, marital status and even health status (Khanh et al., 2022; Rama & Sethuramalingam, 2017). Seri Iskandar, a township with a number of established institutions, has recently emerged as another "University Town". Along with Universiti Teknologi Petronas (UTP) and Universiti Teknologi Mara (UiTM) Seri Iskandar, which opened their doors to students in the early 2000s, the National Youth Training Institute (IKBN) and Mara Professional College have joined the list. This effectively solidified the township's current reputation as an educational hub (Amanda Yeap, 2018). Therefore, because there are many Institutes of Higher Education, the youth population in Seri Iskandar also increases and it will inadvertently influence the demand for facilities, one of which is healthcare facilities.

As it is a developing area, the development pattern of healthcare facilities built in Seri Iskandar does not focus specifically on certain groups such as youth, rather it is developed on the basis of advancing the economy in this developing city, for instance, developing a private healthcare facility. In terms of the demand for healthcare facilities in Seri Iskandar, it is also closely related to the socioeconomic and demographics of the population, especially the youth. However, most of the youth's personal background in Seri Iskandar is not adequate to obtain healthcare services from private healthcare facilities. Therefore, there is an irrelevant situation between the supply of healthcare facilities in Seri Iskandar and the demand from the youth who reside in Seri Iskandar.

## **SYSTEMATIC REVIEW METHODOLOGY**

The reviewers used the method called Preferred Reporting Items for Systematic Reviews and Meta Analysis (PRISMA). The systematic review procedure involved four phases namely identification, screening, eligibility and inclusion phases that was performed in January 2023. The first phase identified keywords used for the search process and the use of thesaurus for the keywords that were related to youth and determinants of healthcare facilities. The review relied on two main journal databases namely, Web of Science and Scopus for screening phase. In the next phase, authors only literature with empirical data and reviews that are peer reviewed for eligibility criteria. Lastly, the inclusion criteria are publications in Malay and English language and healthcare facilities' determinants. The remaining articles were assessed and analysed for review analysis. Efforts were concentrated on the specific studies that responded to the formulated question. The data was extracted by reading the abstracts first, then the full articles in-depth to identify appropriate themes and sub themes. By using thematic content analysis, the themes were abstracted for review analysis.

## DATA ABSTRACTION ANALYSIS AND DISCUSSION

This section describes the determinants of healthcare facilities for youth context. The determinants are summarised in Table 1.

**Table 1: Determinants of Youth's Healthcare Facilities**

Determinants	Brief Discussion	Authors
Healthcare Services	Offer various kind of treatment, pharmaceutical	Rahaman et. al. (2022) Schulman et. al. (2020) Chatterjee et. al. (2021)
Duration for medical examination	Time taken to complete the medical examination procedure	Biya et. al. (2022) Rahaman et. al. (2022) O'Malley et. al. (1983) Pillay et. al. (2011) Oche and Adamu (2013)
Medical cost	Consultation fees, treatment fees, pharmaceuticals expenses	Akashdeep Singh et. al. (2022) Rahaman et. al. (2022) Hariz Hafiz. (2023) Wellay et. al. (2018)
Healthcare Technology	Medical device, Cloud system, Equipment,	Daley (2022) Thomas. (2022) Le et. al. (2023) Kate. (2017)
Healthcare Facility Distance	Easy of accessibility, cost of transportation	Julfikar Ali and Noman. (2013) Roghmann & Zastowny. (1979) Buor. (2002) Asteraye. (2002)

(Authors' Research, 2023)

Five main determinants were identified. First are healthcare services where it refers to any services provided by a healthcare facility or by any individual working under the supervision of a healthcare professional that pertain to the diagnosis, prevention, or treatment of any human disease or impairment, as well as the assessment or care of human beings' and pharmaceuticals' health. In research from Rahaman (2022) revealed that more than 80% of older adults were very satisfied with both public and private outpatient services. However, satisfaction in private facilities was found to be slightly higher (89%) than in public facilities (82%). At the same time, the level of dissatisfaction in healthcare facilities is twice

as high in public (2%) as in private (1%). Some healthcare facilities provide a wide range of healthcare services, whereas others provide specialised care (Schulman, 2020). Research by Chatterjee (2021) enlightens that globally, healthcare services have experienced a significant paradigm shift in recent years.

Second determinant is duration for medical examination. This determinant articulates that a patient's overall time in a facility from the time they arrive at the registration desk until they depart, or the last service is referred to as their waiting time. According to research by Jimma University, patients must wait an average of 4.5 hours before receiving care. In other words, excessive waiting times have a negative impact on patients' willingness to return to the healthcare facilities, which will significantly lower the use of medical services. Waiting times also are a significant contributor to patient discontent and discomfort. Furthermore, improving outpatient care through an increase in the number of trained healthcare providers, quality assurance in both clinical and non-clinical domains. Healthcare facility wait times must be effectively managed by healthcare organisations that strive to provide exceptional services. Inability to integrate demand features into wait experience design may result in patient and provider dissatisfaction.

Third determinant is medical cost where it is a major point of differentiation between both types of healthcare facilities, which are public hospitals charge nominal fees for initial consultations, and resulting charges and hospitalisation are a small proportion of what private hospitals charge. The cost of medical services in private facilities is four times higher than the public facilities (Chauhan, et al., 2022). In general, treatment in public healthcare facilities is much lower in price and less expensive than treatment in private healthcare facilities. The treatment cost in private facilities is typically higher in line with the services provided, despite the fact that private hospitals are said to provide better services and facilities (Hariz Hafiz, 2023). Wellay (2018) articulates that in relation to self-treatment, increasing user charges reduces the chances of obtaining healthcare services from a healthcare professional where this could be because lower income and high healthcare costs reduce demand for health-care services. It ought to be indicated that the treatment cost is determined by the healthcare facilities that have been selected.

Fourth determinant is healthcare technology where it refers to any technology designed to assist healthcare organisations, such as medical devices, IT systems, algorithms, artificial intelligence (AI), cloud computing, and blockchain. According to Daley (2022), healthcare technology is any IT tool or software designed to increase hospital and administrative productivity, provide additional perspective into medications and treatments, or improve the overall standard of healthcare provided. In situations of crisis, enormous creativity frequently emerges, precipitating major changes. The application of technology will be related to consumer safety, and this will be the determinants of demand for healthcare facilities (Thomas, 2022). Previous research from Le (2023) has identified digital technology as a significant social determinant of demand for healthcare facilities.



Furthermore, the advancement of these technologies will have an impact on the demand for healthcare facilities in the future (Kate, 2017).

Last determinant is healthcare facility distance where it influences the demand for healthcare. In general, patients prefer to be treated within a short instance. However, some patients prefer to travel a long distance in order to receive better treatment. Furthermore, the distance to the healthcare facility had a negative and strongly substantial impact on facility selection (Asteraye, 2002). The correlation analysis showed that the total distance to access the chosen healthcare facility and the time spent travelling are highly correlated. Travel time is less of a barrier in metropolitan areas with multiple providers all within reasonable distances, however, it stays an important consideration in the selection of a healthcare facility (Roghmann & Zastowny, 1979). Research by Buor (2002) enlightened that in both developed and emerging countries, distance has a negative connection with the utilisation of healthcare services. Distance is a major issue impacting the utilisation of healthcare services in cities. In the use of health services, travel time and transportation costs have identical statistical connections with distance. Greater distances would result in longer travel times and higher transportation costs. Youth are vulnerable populations that will be impacted more by the distance issue in utilisation.

## **CONCLUSION**

This systematic review has highlighted the determinants of demand in the context of healthcare facilities provided in Seri Iskandar for youths to obtain adequate services and ensure their healthcare conditions. Based on the systematic reviews performed, authors have identified five main determinants of demand for healthcare facilities namely healthcare services, duration for medical examination, medical cost, healthcare technology and healthcare facility distance. Consequently, from the review, it appears that the determinants are very important to be studied in the economy of the development of these facilities in order to be able to meet the demand from users as well as the development pattern of these healthcare facilities. Furthermore, five determinants obtained from the review found the positive relation between these determinants and the demand pattern from youth group as it showed a high level of importance determinants where it can influence the healthcare satisfaction, the need for healthcare services as well as the supply of the healthcare facilities in one place. For future study, there are suggestions where the researcher can further expand the scope of the review in terms of respondents such as conducting a questionnaire to the entire population of Seri Iskandar so that the information obtained is more detailed based on age differences, financial ability and healthcare needs. Furthermore, researchers can propose an issue to review the cause that can be a reason on the review on the determinants of demand for healthcare facilities in Seri Iskandar.

## REFERENCES

- Asteraye. N. (2002). *Determinants of Demand for Healthcare Services and their Implication on Healthcare Financing: The Case of Bure Town*. Ethiopian Journal of Economics, Vol XI No 1, April 2002
- Buor. D. (2002). *Distance as a predominant factor in the utilisation of health services in the Kumasi metropolis, Ghana*. GeoJournal: 56, 2002, p. P.145-157.
- Chatterjee. P, Armentano. R. L. (2021). Machine learning in healthcare toward early risk prediction: A case study of liver transplantation. *Data Analytics in Biomedical Engineering and Healthcare, 2021*.
- Chauhan. A. S, Guinness. L, Bahuguna. P, Singh. M, Aggarwal. V, Rajsekhar. K, Tripathi. S and Prinja. S. (2022). Cost of hospital services in India: *A multi site study to inform provider payment rates and Health Technology Assessment*.
- Daley. S. (2022). Healthcare Technology: Healthtech Overview. Retrieved from <https://builtin.com/healthcare-technology>
- Hafiz. H. (2022). Costs of Private Hospital vs Government Hospital in Malaysia. Retrieved from <https://qaala.my/en/blog/financial-management/private-hospital-vs-government-hospital-in-malaysia/>
- Kate. D. (2017). 2 Key Factors Driving Huge Demand for IoT in Healthcare. Retrieved from <https://blog.marketresearch.com/two-key-factors-driving-huge-demand-for-iot-in-healthcare>
- Krishnan. R. G. and Sethuramalingam. V. (2017). *Who are youth? The search for a comprehensive definition*. Journal of Research Directions, Volume 5, Issue 3, September, 2017
- Le, K. H., La, T. X. P., & Tykkyläinen, M. (2022). *Service quality and accessibility of healthcare facilities: digital healthcare potential in Ho Chi Minh City*. BMC Health Services Research, 22(1), 1374. <https://doi.org/10.1186/s12913-022-08758-w>
- Le. T. V, Galperin. H, Traube. D. (2023). *The impact of digital competence on telehealth utilization*. Journal of Health Policy and Technology 12 (2023) 100724
- Rahaman. M, Chouhan. P, Roy. A, Rana. J and Das. K. C. (2022). *Examining the predictors of healthcare facility choice for outpatient care among older adults in India using Andersen's revised healthcare utilization framework model*.

Roghamann. K. J, Zastowny. T. R. (1979). *Proximity as a factor in the selection of healthcare providers: Emergency room visits compared to obstetric admissions and abortions. Journal of Social Science & Medicine. Part D: Medical Geography Volume 13, Issue 1, March 1979, Pages 61-69*

Schulman. J. S. (2020). 10 Types of Health Clinics and the Services Provided. Retrieved from <https://www.healthline.com/health/types-of-health-clinics>

Thomas. L. (2022). Recent Developments in Health Technology. Retrieved from <https://www.news-medical.net/health/Recent-Developments-in-Health-Technology.aspx>

Wellay. T, Gebreslassie. M, Mesele. M, Gebretinsae. H, Ayele. B, Tewelde. A, Zewedie. Y. (2018). *Demand for healthcare service and associated factors among patients in the community of Tsegedie District, Northern Ethiopia. Journal of BMC Health Serv Res. 2018; 18: 697.*

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