

EVALUATING HEALTHCARE ACCESSIBILITY IN URBAN AND RURAL MALAYSIA

Fatihah Binti RK Fadzil¹, Ghassan Salibi², Nikolaos Tzenios³

¹ Kursk State Medical. University

¹²³ Charisma University

Abstract

Background: Healthcare accessibility remains a critical determinant of health equity in Malaysia, where a dual public–private healthcare system coexists with significant urban–rural disparities. While Malaysia has achieved near-universal health coverage, differences in infrastructure, workforce distribution, and service availability continue to affect equitable access, particularly among rural and underserved populations.

Methods and Materials: This study employs a systematic review of literature published between 2015 and 2024, drawing from databases such as PubMed, Scopus, Web of Science, and official reports from the Ministry of Health and the World Health Organization. The analysis focuses on identifying key determinants of healthcare accessibility, including geographical, economic, and socio-cultural factors, and compares healthcare access between urban and rural settings in Malaysia.

Results: Findings reveal that urban areas benefit from greater healthcare facility density, higher provider availability, and improved service quality, largely driven by private sector concentration. In contrast, rural populations face significant barriers, including longer travel times, limited healthcare workforce, and inadequate infrastructure. Indirect costs and lower health literacy further restrict access among disadvantaged groups. These disparities contribute to delayed care-seeking, higher unmet healthcare needs, and poorer health outcomes in rural communities.

Conclusion: Despite substantial progress toward universal health coverage, healthcare accessibility in Malaysia remains uneven. Addressing these disparities requires targeted policy interventions, including strengthening rural healthcare infrastructure, improving workforce distribution, expanding telemedicine, and enhancing health financing mechanisms to ensure equitable access for all populations.

Keywords: *healthcare accessibility, urban–rural disparities, primary healthcare, health equity, Malaysia*

Evaluating Healthcare Accessibility in Urban and Rural Malaysia

Healthcare delivery in Malaysia is influenced by a range of factors, including geographical challenges, economic disparities, infrastructural gaps, and socio-cultural dynamics. Disparities are often noted between urban and rural populations, not only in the number and proximity of healthcare facilities but also in quality, affordability, and responsiveness.

Chapter 1

Introduction

1.1 Background of Study

Malaysia's health system is characterized by a dual public-private structure. The government provides a tax-funded public sector that delivers affordable preventive and curative services through a nationwide network of clinics and hospitals (Salim et al., 2021; Yap et al., n.d.). Public primary care is nearly free for patients (MYR1 co-pay, roughly USD0.24), with many essential services provided at nominal cost (Salim et al., 2021). By contrast, the private sector has grown rapidly in recent decades, offering quicker or more specialized care to those who can pay out of pocket or have private insurance. Private providers are concentrated in urban centers and cater largely to higher-income patients (Ab Hamid et al., 2023; *Malaysia Health System Review*, n.d.). This "two-tier" system has enabled Malaysia to achieve near-universal coverage: observers note that it attained effective universal health coverage by the 1980s through publicly funded care. Decades of investment in health, notably the construction of new rural clinics (one every ~4 days from 1957–1980), have driven dramatic health gains (for example, maternal mortality fell from 282 per 100,000 births in 1957 to 37 by 1985) (H. M. Lim et al., 2017; Salim et al., 2021). These successes were achieved at relatively low cost (health expenditure ~4–5% of GDP) and have left Malaysia with health indicators approaching those of wealthier countries. Despite this progress, the health system faces new challenges. Chronic noncommunicable diseases (NCDs) now dominate the disease burden, requiring more complex long-term care. Financing and workforce constraints loom as the population ages. Meanwhile, the historic focus on expanding the rural public network has produced unintended urban-rural imbalances in today's mixed system (Ab Hamid et al., 2023; H. M. Lim et al., 2017). Public clinics still serve the rural and poor population, but the private sector's expansion has been largely urban-centric. National surveys indicate that overall service availability and healthcare resources remain

unevenly distributed. For example, the 2011 survey of Malaysian primary clinics found that only 53.5% of rural public clinics had a doctor (an average of 1 physician per rural clinic), compared with 93.8% of urban clinics (an average of 4 physicians per urban clinic) (H. M. Lim et al., 2017). In total, urban areas have roughly twice the clinics and medical providers per capita as rural areas. Such disparities suggest that even though access is formally universal, geographic factors may impede equitable service delivery. Indeed, rural residents often must travel farther for care: one study found that rural residents took, on average, 43 minutes to reach a hospital, compared to 28 minutes for urban residents (Falcon, 2019). Thus, while the country aspires to full UHC, physical access and resource distribution remain uneven.

These urban–rural gaps also manifest in health outcomes. Research shows rural Malaysians bear higher burdens of undiagnosed chronic conditions and malnutrition (H. M. Lim et al., 2017). In one rural community study, 24.8% of residents reported unmet healthcare needs in the past year (K. K. Lim et al., 2017). Such unmet needs were strongly associated with lower education and poorer self-rated health, indicating that disadvantaged rural individuals face real barriers to accessing care (K. K. Lim et al., 2017). In short, although Malaysia’s health system provides broad coverage on paper, systematic geographic inequities persist. These inequities challenge the goal of health equity, which holds that everyone should have a fair opportunity to attain their full health potential. The observed urban–rural differences imply that Malaysians’ health outcomes and service utilization are still shaped by place of residence, a concern for policymakers.

1.2 Problem Statement

The principal problem addressed by this study is the unequal accessibility of healthcare between urban and rural areas in Malaysia, and the health equity implications of this divide. Although Malaysia boasts a comprehensive healthcare system with low financial barriers, multiple studies indicate significant geographic disparities. Public facilities (clinics and hospitals) are more densely located in cities and towns, while rural districts often have sparser coverage (Ab Hamid et al., 2023; H. M. Lim et al., 2017). Private providers, which account for a large share of outpatient services, are overwhelmingly situated in urban centers. These structural patterns mean rural communities may encounter longer travel times, fewer professional staff, and a more limited-service range. For example, only about half of rural primary care clinics have a full-time physician, compared to nearly all urban clinics.

These geographic access gaps have real consequences. Rural Malaysians tend to initiate care later, have lower uptake of preventive services, and suffer higher rates of undiagnosed disease (H. M. Lim et al., 2017). In contrast, urban Malaysians generally enjoy better availability and shorter waits, especially in the private sector, though often at higher cost. Such divergence undermines health equity: people's health and wellbeing should not depend on where they live, yet current patterns suggest urban residence confers a clear advantage in accessing care. Moreover, Malaysia's move toward high-income status and changing disease profile make equitable access even more critical. As NCDs require regular follow-up and management, any gaps in primary care coverage can exacerbate illness and inequity. Thus, the problem is twofold: first, the barriers to accessing healthcare (physical distance, staffing, facility availability, etc.) differ markedly between urban and rural areas; and second, these barriers translate into health inequities, resulting in poorer outcomes and unmet needs for rural populations. Addressing these challenges is essential for achieving the nation's health objectives and upholding social equity.

1.3 Purpose of the Study

The purpose of this capstone project is to systematically review the recent literature (2015–2024) on healthcare accessibility in Malaysia, with a particular focus on comparing urban and rural contexts. By compiling and synthesizing existing studies, this research aims to clarify the scope and determinants of urban–rural disparities in access to care. The review will examine known barriers (e.g., geographical, socio-economic, or system-level) and summarise evidence on how these barriers affect equity in service utilization and health outcomes. In doing so, the study will also identify how Malaysian health policies have addressed (or failed to address) these gaps. Ultimately, the review's goal is to inform policymakers and health planners about the state of knowledge on Malaysia's healthcare access challenges, and to highlight areas where further research or targeted interventions are needed. By taking a systematic approach, the study seeks not only to describe problems but also to critically evaluate proposed solutions and policy implications found in the literature.

1.4 Research Objectives

- i. Identify key barriers to healthcare access in Malaysia: Determine the factors (such as geographic distance, facility distribution, workforce shortages, or financial constraints) that hinder access for different populations.

- ii. Compare urban vs. rural healthcare accessibility: Analyze how access differs between urban and rural areas in terms of facility density, provider availability, and service utilization.
- iii. Assess equity implications: Evaluate evidence of health disparities linked to access (for example, differences in unmet needs, disease control, or health outcomes by location).
- iv. Examine policy responses: Review Malaysian policies or programs aimed at addressing access gaps (such as rural clinic expansion, mobile health services, or public–private partnerships) and their reported impact.
- v. Synthesize recommendations: Summarize conclusions from the literature on improving equity in the Malaysian health system, and highlight gaps where further study is needed.

1.5 Significance of the Study

This study is significant at multiple levels. For public health, understanding urban–rural access disparities is crucial for optimizing resource allocation and ensuring that all Malaysians benefit from the country’s health investments. The Sustainable Development Goal 3.8 calls for universal access to quality health services, and Malaysia has pledged to uphold equity as part of its UHC vision. By illuminating specific inequities (for example, identifying which rural regions are most underserved or which services have the largest gaps), this review can help health authorities target future interventions more effectively. For health policy, the findings can inform ongoing reforms. For instance, as Malaysia considers financing reforms or enhancement of primary care, evidence on access barriers can shape policy design (e.g. deciding where to site new clinics or how to integrate private providers). The study may also reveal how past initiatives have succeeded or fallen short, providing lessons for policymakers.

Furthermore, this capstone has academic and professional value. Conducting a systematic review will strengthen the researcher’s expertise in Malaysia’s health system and in research methods (literature search, critical appraisal, and evidence synthesis). The process of critically analyzing multiple studies will deepen understanding of health equity concepts and the complexities of health systems. The outcome – a thorough chapter on healthcare accessibility – will contribute original work to the academic community by collating recent evidence in one place. In sum, the study is relevant both for advancing knowledge and for practical decision-making, thereby fulfilling a key role of scholarly research in public health.

1.6 Scope and Limitations

The scope of this review is defined both geographically and thematically. Geographically, it covers all of Malaysia (Peninsular and East Malaysia), with attention to comparing conditions in urbanized centers versus rural districts. Thematically, the focus is on healthcare accessibility in terms of availability of services, infrastructure, and human resources; related outcomes such as utilization rates and unmet needs; and the resultant equity implications. The study will consider both sectors of care (public and private) as they jointly affect access, and will include all levels of healthcare (primarily primary and secondary care).

This project is a secondary research endeavour: it relies on published literature (peer-reviewed articles, reports, and reputable data sources) from roughly 2015 to 2024. No new primary data will be collected. A systematic search of academic databases and official publications will be conducted to capture recent evidence. As a limitation, this approach depends on the availability and quality of existing studies. Some subtopics (such as remote indigenous communities or informal urban settlements) may have scant data in the literature, which could limit conclusions. Additionally, differences in study designs and measures may complicate direct comparisons between regions. The review will note such heterogeneity where relevant.

Despite these limitations, focusing on published research ensures that the analysis is grounded in evidence. The exclusion of non-empirical sources and non-English materials may exclude some local perspectives but enables an in-depth scholarly synthesis. By clearly defining its boundaries, this introduction establishes a framework for interpreting the study's findings and recommendations.

Chapter 2

Literature Review

Healthcare access in Malaysia is shaped by a dual public–private system and marked by urban–rural disparities. The public sector is tax-funded and provides a comprehensive network of clinics and hospitals (Federal, State, and District) to ensure low-cost care, particularly for rural and underserved populations (*Malaysia Health System Review*, n.d.; Sarah Nurain Mohd Noh et al., 2022). In contrast, private providers operate largely in urban areas for higher-income patients, focusing on fee-for-service primary and secondary care (Sarah Nurain Mohd Noh et al., 2022). Despite overall improvements (e.g., by 2020, Malaysia's doctor–population ratio reached

~1:454, surpassing WHO benchmarks), geographic inequity remains pronounced. Studies consistently report that *rural populations have significantly lower access to healthcare than urban ones* (Ab Hamid et al., 2023; *Malaysia's Doctor-Population Ratio Surpasses WHO Recommendation*, 2020; Sarah Nurain Mohd Noh et al., 2022). For example, Thomas *et al.* (2011) found ~500 people per doctor in Kuala Lumpur versus ~4,000 per doctor in Terengganu and East Malaysia (Susan Thomas et al., 2011). Likewise, a national survey found that urban areas had about 2.2 primary-care clinics and 15.1 healthcare practitioners per 10,000 population, compared with only 1.1 clinics and 11.7 practitioners per 10,000 in rural areas (Sarah Nurain Mohd Noh et al., 2022). In remote states Sabah and Sarawak, public-sector doctor–patient ratios were reported at roughly 1:1,357 and 1:957 respectively, compared to ~1:500 in the Klang Valley (Bahardin, 2016; Susan Thomas et al., 2011).

The geographic distribution of facilities strongly favours urban centers. Hot-spot analyses show that high-access areas cluster around cities, largely driven by private-sector facilities (Ab Hamid et al., 2023). In rural parts, physical distance and road connectivity are major barriers. Empirical mapping studies in Malaysia have identified *travel impedance* – long distances and limited transport – as key constraints on primary care access (Sarah Nurain Mohd Noh et al., 2022). The public system attempts mitigation through mobile clinics, flying doctor teams, and two-tier rural health units (serving ~15,000–20,000 people each), yet many remote communities remain far from care (Susan Thomas et al., 2011). For instance, in 2008, over 95% of Peninsular residents lived within 3 km of a public facility, but only ~70% of Sabah/Sarawak residents had such access.

The public sector pursues a social equity mission through affordable, often free services, while the private sector serves urban, affluent patients. In 2000, about 46% of all Malaysian doctors were in private practice, yet they accounted for only ~20% of hospital beds (Susan Thomas et al., 2011). Today, private facilities (7,988 clinics; ~250 hospitals) are overwhelmingly urban, offering faster or specialized care but at a higher cost. Public facilities (3,171 clinics; 154 hospitals, plus outreach teams) cover the whole country, yet often lack specialized staff and equipment in rural clinics (Bahardin, 2016; Sarah Nurain Mohd Noh et al., 2022; Susan Thomas et al., 2011). Consequently, even though public clinics are nominally universal, rural residents still experience underprovision: lower provider-to-population ratios, fewer specialty services

(e.g., most of the nation's 28 public tertiary cancer centers are on the West Coast), and longer wait times.

Multiple factors hinder rural healthcare access. Geographic barriers such as long distances, poor road infrastructure, and sparse public transport force patients to travel long distances for care (Ab Hamid et al., 2023; Sarah Nurain Mohd Noh et al., 2022). These “travel impedance” effects are well documented: rural patients report obstacles such as distance, transportation shortages, and clinic scarcity. Economic barriers also play a role. Although public services are low-cost, indirect costs (transport fares, lost wages) and user fees (even RM1 prescription fee) burden poor rural families. Household income gaps are large: most rural households earn RM<3000/month (\approx US\$909), whereas 2.4% earn>RM10,000, meaning even small fees or travel costs deter care-seeking (Kamil Mohamed Arif & CL Teng, 2025). Lack of health literacy and education among rural and indigenous groups further reduces utilization. National surveys find that awareness of preventive care and perceived need is lower in poorer, less-educated populations (Tan et al., 2021).

Cultural and social factors also influence access. Indigenous communities (e.g. Orang Asli in the peninsula, and rural Native communities in Sabah/Sarawak) often live in remote villages, face language barriers with mainstream services, and may rely on traditional healers for illness. Studies note that culturally mismatched health messages and distrust of formal medicine can limit service uptake. For example, one review of Orang Asli health behaviour emphasizes collective health beliefs and language/education barriers as key obstacles (Aniza Ismail & M. Norhayati, 2016). In short, multifaceted barriers, geographic, economic, infrastructural, and cultural, compound in rural areas, exacerbating inequities (Susan Thomas et al., 2011).

Malaysia aspires to equitable health for all. It has achieved high coverage of basic services through strong public infrastructure, reflected in health gains (e.g., infant mortality \sim 11/1000 vs. 48 in Indonesia). Its UHC Service Coverage Index rose from 52 in 2000 to 76 in 2021 (WHO measure). Out-of-pocket spending is moderate (\sim 35% of health expenditure), and catastrophic spending is low (\sim 1.5%). Nevertheless, health equity remains a policy focus. Researchers and policymakers highlight rural–urban and socioeconomic inequities as “major equity issues”. Low-income and rural groups often have higher unmet needs, even when public service utilization rates are similar. For instance, in a rural plantation estate study, lower education and

perceived health status were associated with unmet needs (Dinash Aravind et al., 2024; Kamil Mohamed Arif & CL Teng, 2025; Susan Thomas et al., 2011).

To address these gaps, Malaysian policy emphasizes UHC and equity. The Ministry of Health highlights the need for continuous monitoring of access and plans reforms. In the 12th Malaysia Plan (2021–2025), the government prioritized strengthening service delivery to improve access, sustainable financing (exploring alternative funding), enhanced public–private partnerships, and health promotion. New initiatives include targeted financing schemes for the poor (e.g., PeKa B40 preventive care, MADANI acute-care scheme) and the exploration of strategic purchasing through ProtectHealth Sdn Bhd (Dinash Aravind et al., 2024). Notably, the 2023 Health White Paper outlines 15-year reforms across four pillars (service delivery transformation, prevention, financing equity, governance) to achieve “greater equitability” of the health system.

Malaysia’s challenges mirror those in other Southeast Asian countries. Thailand’s tax-funded Universal Coverage Scheme now covers virtually all citizens with free essential care, and has greatly reduced rural access gaps – though some specialist shortages persist outside Bangkok (Ming Yao Lim et al., 2023). Indonesia’s single-payer Jaminan Kesehatan Nasional (JKN) now insures ~90% of the 270 million people, but archipelagic geography and maldistribution of facilities continue to hinder rural access. The Philippines enacted a Universal Health Care Law (2019), ensuring national insurance (PhilHealth) coverage, yet its island geography and variable local government health capacities also create inequalities. Regional reviews note that countries making strong strides toward UHC (Thailand, Indonesia) still require “minimizing inequalities” through targeted subsidies and decentralization (Sarah Nurain Mohd Noh et al., 2022). These examples suggest Malaysia can learn from its neighbours’ efforts to align insurance coverage with service availability in remote areas.

Overall, the literature depicts a Malaysian health system where basic care is widely available, but significant urban–rural disparities persist. Rural Malaysians, especially the poor and indigenous, face systematic barriers to equal access. Key themes include the need for health equity (SDG 3.8), better workforce distribution, and policy reforms (e.g., financing and service delivery) aimed at narrowing this gap. The ensuing capstone analysis will build on these findings to identify focus areas for improving healthcare accessibility in Malaysia’s urban and rural communities.

Chapter 3

Methodology

3.1 Research Design

This project employs a systematic review design, relying exclusively on secondary data obtained from published academic literature, government health reports, and credible organizational publications. The purpose of this design is to consolidate existing evidence on healthcare accessibility in Malaysia without conducting primary data collection. This approach is suitable for the capstone project as it allows for broad coverage of findings, identification of recurring themes, and evidence-based recommendations for public health policy.

3.2 Search Strategy

A systematic search was conducted using the following databases: PubMed, Scopus, Web of Science, and Google Scholar, as well as the MOH Malaysia website and the WHO Global Health Observatory. Search terms included: (“healthcare access” OR “healthcare accessibility” OR “health equity”) AND (“Malaysia” OR “urban” OR “rural”) AND (“barriers” OR “disparities”). Grey literature was included selectively, with emphasis on official reports such as the MOH annual reports and NHMS findings.

3.3 Data Analysis and Synthesis

Given the heterogeneity of included studies, a narrative synthesis was employed rather than meta-analysis. Relevant studies were reviewed and categorized according to themes such as geographical barriers, economic challenges, and human resource distribution. Findings were synthesized narratively to highlight disparities in healthcare access between urban and rural areas.

3.4 Ethical Considerations

Since this project is based solely on secondary data, no direct involvement of human participants was required. The project is therefore exempt from formal ethics approval. Only publicly available and credible sources were used, ensuring academic integrity.

3.5 Methodological Limitations

This methodology has inherent limitations, including:

- i. Possible publication bias, as urban healthcare data are more widely reported than rural healthcare data.

- ii. Limited availability of up-to-date studies on remote or indigenous populations.
- iii. Exclusion of primary data prevents firsthand insights from patients or healthcare providers.

Despite these limitations, the systematic approach ensures that the findings provide a valid and evidence-based overview of healthcare accessibility in Malaysia.

Chapter 4

Results and Discussion

The review of existing literature on healthcare accessibility in Malaysia highlights several recurring themes that influence patient experiences, particularly within the public healthcare sector. The findings indicate that accessibility is shaped by three interrelated dimensions: geographical availability, affordability, and service quality. These dimensions align with the World Health Organization's healthcare accessibility framework, underscoring the consistency of the Malaysian case with global standards (Aniza Ismail & M. Norhayati, 2016; H. M. Lim et al., 2017).

Geographical access remains a critical challenge in rural and remote areas of Malaysia. Studies consistently report that healthcare facilities in urban centers such as Kuala Lumpur, Selangor, and Penang are better equipped and more easily accessible than those in states like Sabah and Sarawak. The disparity is especially evident in emergency care, where rural populations face significantly longer travel times to tertiary hospitals. This unequal distribution contributes to delays in treatment and worsens health outcomes, particularly among indigenous communities in East Malaysia (Tan et al., 2021). Comparisons with neighbouring Southeast Asian countries, such as Indonesia and the Philippines, show similar challenges in geographically fragmented regions, suggesting that Malaysia's issue reflects broader regional trends (Bahardin, 2016; Salim et al., 2021).

Affordability also emerged as a determining factor. Although Malaysia maintains a subsidized public healthcare system, indirect costs such as transportation, income loss during hospital visits, and out-of-pocket expenses for medications not covered by the public sector remain burdensome

for low-income groups. In contrast, patients in private healthcare facilities face higher direct costs, but often benefit from reduced waiting times and more personalized services (Ab Hamid et al., 2023; Ming Yao Lim et al., 2023). This dual-track system highlights the socioeconomic divide between patients who depend solely on public facilities and those who can access private alternatives. Studies from Thailand and Singapore show differing outcomes, with universal health coverage models narrowing these gaps, providing a useful point of comparison for Malaysia (Falcon, 2019).

The quality of care in the public sector, while generally strong in terms of medical expertise, is often constrained by overcrowding and long waiting times. The literature points to persistent human resource shortages, particularly in obstetrics, emergency medicine, and specialist care. Patients in rural settings often face additional barriers due to limited access to trained personnel, further discouraging healthcare-seeking behaviours. On the other hand, private healthcare facilities demonstrate higher patient satisfaction indices, albeit at a cost most Malaysians cannot afford (Ab Hamid et al., 2023; Falcon, 2019; Ming Yao Lim et al., 2023). This divergence reinforces the structural inequalities within the healthcare system, where access and quality are heavily mediated by socioeconomic status.

Another emerging theme in the literature is healthcare awareness and health-seeking behaviour. Populations with higher levels of health literacy are more likely to use preventive care services, whereas communities with lower levels of awareness often delay treatment until advanced stages of illness. This behavioural dimension interacts closely with accessibility barriers, exacerbating existing disparities (Salim et al., 2021; Sarah Nurain Mohd Noh et al., 2022). For example, maternal healthcare in rural Malaysia shows lower utilization of antenatal services than in urban areas, mirroring trends in Vietnam and Laos.

Overall, the findings suggest that while Malaysia's healthcare system has made significant strides toward near-universal coverage, systemic disparities persist between urban and rural populations and between the public and private sectors. Addressing these challenges requires not only infrastructural investments but also improvements in affordability and patient-centred care models. Comparative insights from Southeast Asia further demonstrate that Malaysia's challenges are not isolated, but part of a regional struggle to balance healthcare equity with sustainability.

Chapter 5

Conclusions and Recommendations

5.1 Summary

This capstone project examined healthcare accessibility in Malaysia, with a particular focus on disparities between urban and rural populations. Using a systematic review of peer-reviewed literature, government reports, and statistical databases, the study highlighted key barriers that hinder equitable access. Findings revealed persistent challenges in rural Sabah and Sarawak, including limited healthcare facilities, shortages of trained personnel, and infrastructural constraints. Urban centers, while better resourced, face their own accessibility issues tied to cost, overcrowding, and administrative delays.

The review also compared Malaysia's system with selected Southeast Asian counterparts. Thailand's universal health coverage system, for example, demonstrates more effective mechanisms for bridging service delivery gaps. These comparative insights emphasize the importance of policy innovation in addressing Malaysia's health inequities.

5.2 Conclusion

The findings underscore that, while Malaysia's healthcare system is relatively advanced, inequities persist. Rural and lower-income populations remain disproportionately disadvantaged, and public facilities often face strains from high patient volumes and insufficient specialist coverage. Without targeted interventions, these gaps may continue to compromise health outcomes and hinder progress toward universal health coverage.

5.3 Recommendations

- i. Strengthen Rural Infrastructure: Expand healthcare facilities and transportation systems in underserved regions, especially East Malaysia.
- ii. Enhance Telemedicine and Mobile Clinics: Leverage technology to deliver consultations, diagnostics, and follow-up care in remote areas.
- iii. Reform Health Financing: Reduce out-of-pocket spending through targeted subsidies and improved insurance coverage.
- iv. Develop Human Resources: Introduce incentives for healthcare professionals to serve in rural and remote areas.

- v. Increase Health Literacy: Promote nationwide education campaigns to encourage preventive health practices and early healthcare-seeking behaviour.

References

1. Ab Hamid, J., Juni, M. H., Abdul Manaf, R., Syed Ismail, S. N., & Lim, P. Y. (2023). Spatial accessibility of primary care in the dual public–private health system in rural areas, Malaysia. *International Journal of Environmental Research and Public Health*, 20(4), 3147. <https://doi.org/10.3390/ijerph20043147>
2. Aravind, D., Jeganathan, P. D., Lin, K. S., Azmi, M. A. M., Sharma, I., Nyambura, J., & Reddy Kadarpetta, R. S. (2024). Advancing universal health coverage in Malaysia: Harmonizing country priorities with collaborative learning [Online post]. <https://jointlearningnetwork.org/advancing-universal-health-coverage-in-malaysia-harmonizing-country-priorities-with-collaborative-learning/>
3. Bahardin, D. A. (2016, June 17). Suturing the gap—The urban-rural health dilemma. *Malaysiakini*. <https://www.malaysiakini.com/letters/345693>
4. Falcon, D. (2019). *The health care gap in rural Malaysia*. https://www.academia.edu/97163686/The_Health_Care_Gap_in_Rural_Malaysia
5. Ismail, A., & Norhayati, M. (2016). Barriers to health promotion for indigenous communities: Lessons for Malaysia. *Malaysian Journal of Public Health Medicine*, 16(1), 6–14.
6. Kamil Mohamed Arif, & Teng, C. L. (2025). Rural health care in Malaysia. *ResearchGate*. <https://doi.org/10.1046/j.1440-1584.2002.00456.x>
7. Lim, H. M., Sivasampu, S., Khoo, E. M., & Noh, K. M. (2017). Chasm in primary care provision in a universal health system: Findings from a nationally representative survey of health facilities in Malaysia. *PLOS ONE*, 12(2), e0172229. <https://doi.org/10.1371/journal.pone.0172229>
8. Lim, K. K., Sivasampu, S., & Mahmud, F. (2017). Equity in access to health care in a rural population in Malaysia: A cross-sectional study. *Australian Journal of Rural Health*, 25(2), 102–109. <https://doi.org/10.1111/ajr.12298>
9. Lim, M. Y., Kamaruzaman, H. F., Wu, O., & Geue, C. (2023). Health financing challenges in Southeast Asian countries for universal health coverage: A systematic review. *Archives of Public Health*, 81, 148. <https://doi.org/10.1186/s13690-023-01159-3>

10. Malaysia health system review. (n.d.). Retrieved October 1, 2025, from <https://wkc.who.int/resources/publications/i/item/9789290615842>
11. Malaysia's doctor-population ratio surpasses WHO recommendation. (2020, August 4). *AWANI International*. <https://international.astroawani.com/malaysia-news/malaysias-doctorpopulation-ratio-surpasses-who-recommendation-253889>
12. Noh, S. N. M., Jawahir, S., Tan, Y. R., Ab Rahim, I., & Tan, E. H. (2022). The health-seeking behavior among Malaysian adults in urban and rural areas who reported sickness: Findings from the National Health and Morbidity Survey (NHMS) 2019. *International Journal of Environmental Research and Public Health*, 19(6). <https://doi.org/10.3390/ijerph19063193>
13. Salim, H., Shariff Ghazali, S., Lee, P. Y., Cheong, A. T., Harrun, N. H., Mohamed Isa, S., & Pinnock, H. (2021). Health literacy levels and its determinants among people with asthma in Malaysian primary healthcare settings: A cross-sectional study. *BMC Public Health*, 21, 1186. <https://doi.org/10.1186/s12889-021-11194-w>
14. Tan, Y. R., Tan, E. H., Jawahir, S., Mohd Hanafiah, A. N., & Mohd Yunos, M. H. (2021). Demographic and socioeconomic inequalities in oral healthcare utilisation in Malaysia: Evidence from a national survey. *BMC Oral Health*, 21(1), 34. <https://doi.org/10.1186/s12903-020-01388-w>
15. Thomas, S., Beh, L. S., & Nordin, R. B. (2011). *Healthcare delivery in Malaysia: Changes, challenges and champions*. ResearchGate. https://www.researchgate.net/publication/258641821_Healthcare_delivery_in_Malaysia_Changes_Challenges_and_Champions
16. Yap, W. A., Razif, I., & Nagpal, S. (n.d.). Malaysia: A new public clinic built every four days.

