Equity Access to Cancer Healthcare in Malaysia Through Public-Private Partnerships

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Abstract. The incidence of cancer remains a leading cause of morbidity and mortality in Malaysia, with an expected rise exacerbating existing disparities in the diagnosis, treatment, and support services, particularly among the underserved. In this study, public-private partnerships (PPPs) are discussed as strategic mechanisms for bridging equity gaps in cancer care by utilizing shared resources, infrastructure, and expertise from both public and private sectors. A narrative review approach is used to synthesize evidence from peer-reviewed literature, grey literature, and real-world PPP case examples. Several challenges to cancer care equity have been identified. The barriers including late cancer detection, limited access to advanced treatments, inadequate financial and psychosocial support. Variety types of PPPs model such as outsourcing, investment-based initiatives and joint ventures are identified. The PPPs models have demonstrated their potential for increasing access to cancer diagnostics, radiotherapy, and financial assistance. However, the study identifies critical gaps in the integration of psychosocial care, due to a shortage of skilled workers and fragmented service delivery. It is imperative that future PPPs adopt more structured, transparent, and evidence-based frameworks that emphasize the importance of psychosocial support in cancer treatment. Patientcentered outcomes can be improved through collaboration with mental health organizations and the strategic use of private resources. This study affirms the potential of public-private partnerships to improve equity, reduce delays, and promote sustainable, holistic delivery of cancer care in Malaysia, especially for marginalized groups.

Keywords: public-private partnerships, public-private partnerships models, cancer care inequity, social healthcare inequity, social well-being

INTRODUCTION

Cancer is a leading noncommunicable disease (NCD) and a major contributor to global mortality and morbidity (Budreviciute et al., 2020). In 2020, 19.3 million cancer cases were reported worldwide, and are expected to rise to 28.4 million by 2040 (Sung et al., 2021). Malaysia mirrors this global trend, reporting 51,560 new cancer cases and 31,633 deaths in 2022. Moreover, the number of both new cases and mortality is expected to triple in the next five years (Globocan, 2022). Despite having an advanced healthcare system and effective socio-economic programs, cancer survival rates in Malaysia remain below the global average (Razak et al., 2023). Challenges such as low cancer screening rates, delayed detection and diagnosis, as well as inadequate access to high-quality care, play a significant role in cancer care inequities (Ong W & Khalid AM, 2021). These hurdles contribute significantly to health inequities and societal injustices that result in unfair differences in healthcare due to systematic socioeconomic disparities (McCartney, 2019).

The cancer care inequity in Malaysia is further exacerbated by the government's low health expenditure, which is only 4.6% of its gross domestic product (GDP), substantially below the global average of 9.8% during the year 2011-2023(Malaysia National Health Accounts, 2025; World Bank Data, 2020). To address these challenges, public-private partnerships (PPPs) emerged as an innovative solution aiming to improve healthcare access and affordability (Abass et al, 2024). A PPP combines the strengths of public and private sectors to establish partnerships by aligning governmental and corporate incentives, mobilizing resources, and enhancing services (Ahuchogu et al.,2022; Hussein, 2025).

Leveraging PPPs will help to bridge the inequities in cancer care, particularly in public settings, by improving healthcare access, especially in low and middle-income countries (LMICs) (Tabrizi JS, 2020). This paper will

identify the cancer care inequity in Malaysia, as well as explore how the collaboration between public and private entities reflects the spirit of SDG17, which promotes partnerships for social goals by reducing inequities (SDG 10), especially in cancer care, to ensure good health and well-being for the public (SDG 3).

RESEARCH METHOD

In this research, narrative approach was used as it is an appropriate method for synthesizing several quantitative studies conducted using different methodologies or theoretical conceptualizations (Baumeister, 2012). Exploring multiple individual studies allows for the identification of broader consistencies and provides a global overview by synthesizing available literature (Siddaway et al., 2019). With this method, current strengths, gaps, and emerging models in PPP cancer care are identified to inform future research and policy direction. Review articles were compiled from academic literature, grey literature, reports, and articles using keyword searches such as 'public-private partnerships models in cancer care', 'cancer care inequity', 'cancer care barriers', and 'cancer care gaps. The literature synthesis was guided by two key themes: cancer care inequality in Malaysia and the current state of PPPs in Malaysia implemented to reduce cancer care inequities.

RESULTS AND DISCUSSION

The findings were based on two main themes: first, identifying cancer care inequity in Malaysia and discussing the pressing issues related to each challenge; and second, examining the PPPs model in Malaysian cancer care. This section explains how each PPP model addresses the issue of equity in cancer care.

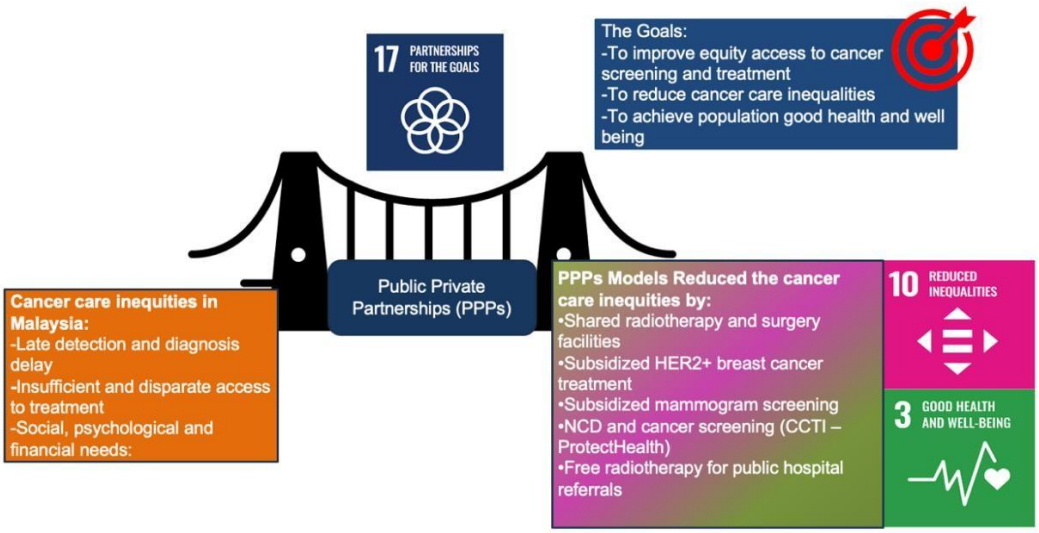


FIGURE 1-Framework Illustrating How Public–Private Partnerships (PPPs) Bridge Cancer Care Inequities in Malaysia.

Cancer Care Inequity in Malaysia

Malaysian cancer patients face several significant cancer inequity challenges, such as delayed detection and diagnostics, unequal access to treatment services, and inadequate psychosocial and financial support (Ong W & Khalib AM, 2021).

Late Detection and Diagnostic Delays

Factors driving late cancer detection and diagnosis among Malaysians stem from a complex interplay of patient and system-related delays. Patient delays are often due to alternative medicine reliance, fear, missed appointments, financial constraints, and limited awareness of health services availability (Norsa'adah et al., 2021; Lim et al., 2014). System-level factors include false negative diagnostic errors, misinterpretation of symptoms, and

inadequate biopsy tests are the factors in late cancer detection and diagnosis (Norsa'adah et al., 2021). Patients experience difficulty obtaining a timely diagnosis due to their distances to the cancer centre, getting time off from work, and childcare responsibilities (Azhar & Doss, 2010). Systemic inefficiencies such as poor follow-up after the screening process result in prolonged diagnostic timelines (Norsa'adah et al., 2011).

Unequal Access to Treatment Services

More than 70% of Malaysians are dependent on public healthcare, which faces significant strain due to manpower shortage and high patient load, especially in urban areas (National Institute of Health, 2020). Cancer care in Malaysia is mainly delivered in public and teaching hospitals as well as in private facilities. In 2021, the country had 150 practicing oncologists, reflecting one oncologist per 220,000 people, which highlights specialist shortages in the country (Tan et al., 2023). Uneven distribution of radiotherapy services between urban and rural areas further exacerbates health inequities, especially in the East and East Coast of Malaysia, where 25% of the population are required to travel more than 100 kilometres to the nearest cancer care facilities (Lim et al., 2014; Yahya et. al, 2019). Inequities due to systemic barriers have hindered patient access to cancer drugs because of their high cost, the limited availability of generic drugs, and the long waiting period for new drug approval, leading to treatment delay or discontinuation, especially for the underserved populations (Tan SC, 2023; Kong et al., 2022).

Insufficient Psychosocial and Financial Support

Emotional challenges among cancer patients, such as depression, anxiety, and fear of recurrence, are common but often overlooked (Yong ASJ et al., 2023). Limited access to psychosocial support further compounds the disparities in cancer care, as the ratio of psychologists is only 1.27:100,000 population, in contrast to the standard WHO recommendation of 1:10000 people (Code Blue, 2020). Financial burden among cancer patients contributes to treatment delays due to loss of income, high expenses on logistics, nutrition, and caregiving costs, further impacting their psychosocial distress and undermining their chances of survival (Yabroff et al., 2016; Yong ASJ, 2023).

Malaysia Current PPPs Models to Bridge Cancer Care Inequity

Various PPP models have been implemented in Malaysia to address cancer care inequity, ranging from financial to non-financial. Financial PPPs include Private Finance Initiatives (PFIs) and investment-only, where the private sector funds the infrastructure or services. At the same time, non-financial PPPs are commonly service outsourcing, where the government contracts out specific services or management to private entities (Robinson, 2010).

A mini-PFI through Centre for Image Guidance and Minimally Invasive Therapy (CIGMIT) was established at the University Malaya Medical Centre, featuring a clinician-led and co-financed model that provides access to advanced radiotherapy cancer treatment for both public and private patients (Waran V et al., 2022). ZAKAT for HER initiatives exemplifies the utilization of Islamic charitable funds to subsidize chemotherapy treatment for underserved women in Sabah with HER-2 positive breast cancer, underscoring its alignment with Maqasid Shariah as a socially driven model (GovMedia, 2024; Ismail H et al., 2021).

Outsourcing PPPs, such as the *Lembaga Penduduk dan Pembangunan Keluarga Negara (LPPKN)* Mammogram Subsidy Program is subsidizing breast cancer screening by partnering with private clinics for mammogram service nationwide (Mahmud & AlJunid, 2018; Bernama, 2024). A contractual agreement between the Ministry of Health (MOH) and IHH Healthcare provides free radiotherapy to 500 patients from public hospitals (IHH Healthcare Sustainable Report, 2024).

Additionally, PeKa B40 is a scheme administered by ProtectHealth Corporation, where MOH outsources the cancer diagnosis to private laboratories and provides financial support for low-income populations through Cancer Completion Treatment Incentives (CCTI) to reduce treatment discontinuation (PeKa B40 Report (2021), 2022; Halim et al., 2025). The overview of the PPP models and the cancer inequities addressed by each of them is shown in Table 1.

TABLE 1-Overview of PPP Models in Malaysia Cancer Care

PPPs Model	Type	Partners	Key Features	How It Addresses Cancer Care Inequity
CIGMIT (UMMC)	Mini PFI	UMMC + Government + Private Investors	Clinical service using public hospital facility with private entities manage the equipment maintenance	Expands access to advanced radiotherapy treatments within public hospitals
ZAKAT for HER	InvestmentOnly PPP	Roche Malaysia + Persatuan Kebajikan Islam Perubatan Sabah (PERKIPS) + Majlis Ugama Islam Sabah (MUIS)	Zakat-based funding for neoadjuvant treatment for HER2+ breast cancer	Provides financial support for B40/M40 women in underserved Sabah region
LPPKN Mammogram Subsidy Program	Service Outsourcing PPP	LPPKN + Private Clinics/Facilities	Subsidized or free mammograms based on income	Promotes early detection and access for low-income women across urban and rural areas
IHH Radiotherapy MoU	Service Outsourcing PPPs	MOH + IHH Healthcare Malaysia	Free radiotherapy for 500 referred public patients	Reduces wait times and costs for patients unable to access timely treatment in overloaded public hospitals
PeKa B40 Screening Program	Service Outsourcing PPPs	MOH (through ProtectHealth) + Private Labs	Free health screenings and follow-up referrals for B40 group	Detects cancer early and facilitates further care for lowincome populations
Cancer Completion Treatment Incentive (CCTI) (Under PeKa B40)	Financial Incentive PPP	MOH + ProtectHealth Corporation	RM1,000 incentive for B40 cancer patients completing cancer treatment	Reduces treatment dropouts and encourages completion among financially constrained patients

The Malaysian PPP models for cancer care services are fragmented compared to the PPP models in other LMICs. For example, in India, Tata Trust collaborates with the state government to build the Assam Cancer Care Program (Chandra S, 2024). The Tata Trusts Cancer Care model is an integrated, tiered public–private partnership. It delivers comprehensive, decentralized cancer care through a hub-and-spoke system, effectively addressing access, affordability, continuity of care, and psychosocial support in underserved regions. Similarly, in Nigeria, the NSIA–LUTH Cancer Treatment Centre represents a Build–Operate–Transfer (BOT) partnership between the Nigeria Sovereign Investment Authority (NSIA) and Lagos University Teaching Hospital (LUTH). Nigerian government provides land, licensing, and staffing support, while NSIA finances, equips, and manages a state-ofthe-art oncology facility offering radiotherapy, brachytherapy, and diagnostic imaging services (Akinfenwa et al., 2021). These international examples demonstrate how structured and integrated PPP frameworks can enhance sustainability, service coordination, and equity in cancer care delivery, areas where Malaysia's current servicespecific PPPs remain limited in scale and integration. The comparison is summarized in **Table 2**.

TABLE 2- Comparative Overview of Public–Private Partnership (PPP) Models for Cancer Care in Malaysia, India and Nigeria

Program	Model Type	PPPs Scope of Services	Target Group	Psychosocial Support	Integration
Tata Trusts (India)	Integrated tiered (huband-spoke)	Screening, diagnosis, treatment, palliative care	General population (focus on rural)	Included (counselling, social work)	Comprehensive from screening to treatment, State-level, long-term, scalable
Malaysia's existing models	Servicespecific PPPs	Screening, treatment subsidies, cancer treatment	B40/M40,women ,regional (e.g. Sabah)	None	Standalone programs, limited integration
NSIA–LUTH Cancer Treatment Centre (Nigeria)	Build–Operate–Transfer (BOT)	Radiotherapy, chemotherapy, diagnostics, brachytherapy, oncology imaging	General Nigerian population, especially Lagos and surrounding states	None	Integrated into national tertiary hospital system, replicable model, but services relatively highcost (affordability challenge)

CONCLUSION

The findings from this study highlight the potential of PPP models to bridge the inequities of cancer care in Malaysia's public healthcare system by improving access to advanced cancer treatment, reducing healthcare disparities, and alleviating the financial constraints among the underserved population. However, the current models failed to address the psychosocial aspect of cancer care, suggesting that future PPPs should incorporate psychosocial care to achieve a more holistic cancer care approach.

Malaysia shall draw lessons from the psychosocial framework of the Tata Trusts–Assam PPP model. Patients and families in Assam receive counselling in public hospitals, supported by community health worker training and outreach programs to reduce stigma. Virtual helpdesks further assist patients and caregivers by providing navigation and emotional support throughout the care pathway (Assam Cancer Care Foundation, 2017). This integrated framework has improved treatment adherence and quality of life, offering valuable insights for Malaysia to adapt a similar component into its PPP-driven cancer care strategy.

The synergistic collaboration between public and private entities demonstrates social sustainability through the Sustainable Development Goals (SDGs), particularly by reducing inequity (SDG 10) and promoting good health and well-being (SDG 3) through the elimination of barriers to cancer care.

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REFERENCES

Abass LA, Usuemerai PA, Ibikunle OE, Alemede V, Nwankwo EI, Mbata AO. Public-private partnerships to enhance healthcare access and affordability. IJMRGE. 2024b;5(4):1327-44. doi: 10.54660/.IJMRGE.2024.5.4.1327-1344.

Ahuchogu NM, Sanyaolu NT, Adeleke N. Diversity and inclusion practices in the transportation industry: A systematic review. Int J Appl Res Soc Sci. 2024;6(9):2132-55. doi: 10.51594/ijarss.v6i9.1567.

Anakwenze Akinfenwa CP, Ibraheem A, Nwankwo K, Lasebikan N, Ali-Gombe M, Aliyu UM et al. Emerging use of public-private partnerships in public radiotherapy facilities in Nigeria. JCO Glob Oncol. 2021;7:1260-9. doi: 10.1200/GO.21.00066, PMID 34351813.

About Assam cancer care foundation; 2017. Assamcancercarefoundation.org. [cited 24/10/2025] Available from: https://www.assamcancercarefoundation.org/about-us/about_us.html.

Azhar N, Doss JG. Health-Seeking Behaviour and Delayed Presentation of Oral Cancer Patients in a Developing Country: A Qualitative Study based on the Self-Regulatory Model. Asian Pac J Cancer Prev. PubMed. 2018;19(10):2935-41. doi: 10.22034/APJCP.2018.19.10.2935, PMID 30362327.

Baumeister RF. Writing a literature review. In: Prinstein MJ, editor. The portable mentor. New York: Springer New York; 2013. p. 119-32. doi: 10.1007/978-1-4614-3994-3_8.

Budreviciute A, Damiati S, Sabir DK, Onder K, Schuller-Goetzburg P, Plakys G et al. Management and prevention strategies for non-communicable diseases (NCDs) and their risk factors. Front Public Health. 2020;8:574111. doi: 10.3389/fpubh.2020.574111, PMID 33324597.

Chanda S, Das D, Sen S, Koyyala DV, Gupta SK. Equitable and affordable cancer program in Assam: an initiative of Tata trusts and government of Assam. Asian J Oncol. 2024;10:6. doi: 10.25259/ASJO_31_2023.

CodeBlue; 2020, September 10. With Just 200 Psychiatrists, MOH Wants More Contract Psychologists amid Pandemic Stress. CodeBlue. [cited 24/10/2025] Available from: https://codeblue.galencentre.org/2020/09/with-just-200-psychiatrists-moh-wants-more-contractpsychologistsamid-pandemic-stress/.

Current health expenditure; April 4 2025. [cited 24/10/2025] Available from: https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=MY.

Fnu N, Kuan WC, Kong YC, Bustamam RS, Wong LP, Subramaniam S et al. Cancer-related costs, the resulting financial impact and coping strategies among cancer survivors living in a setting with a pluralistic health system: a qualitative study. Ecancermedicalscience. 2022;16:1449. doi: 10.3332/ecancer.2022.1449, PMID 36405936.

GLOBOCAN. World Cancer fact sheets. In: World Health Organization; 2022. [cited 24/10/2025] Available from: https://gco.iarc.who.int/media/globocan/factsheets/cancers/39-all-cancers-fact-sheet.pdf. [cited May 5, 2025] Available from:https://gco.iarc.who.int/media/globocan/factsheets/cancers/39-all-cancers-factsheet.pdf. Govmedia. Sdn. Bhd secures Malaysia Public-Private Partnership of the Year - Health at the GovMedia Conference & Awards. Malaysia:

Roche; 2024, July. p. 2024. [cited May 3, 2025] Available from: https://govmedia.com/event-news/roche-malaysia-sdn-bhd-secures-malaysia-publicprivatepartnership-year-health-govmedia-conference-awards-2024.

Halim NH, Zainuddin NA, Aminuddin F, Naserrudin NA, Hassan NZ. Navigating the completing cancer treatment incentive in Malaysia: patient insights and implementation challenges. BMC Health Serv Res. 2025;25(1):435. doi: 10.1186/s12913-025-12544-9, PMID 40140817.

Hussein ND. Public-private Partnerships: a pathway to health equity in developing countries. Barw Med J. 2025;3(2). doi: 10.58742/bmj.v3i2.151.

IHH healthcare Berhad. IHH healthcare Berhad sustainability report 2024; 2024. Available from: https://www.ihhhealthcare.com/docs/defaultsource/ihhdocuments/sustainability/ihhsustainability_report_2024.pdf?sfvrsn=7ab23ecc_3.

Ismail H, Ismail NA. Empowering education among asnaf through distribution of zakat from the perspective of maqasid syariah. AZKA Int J Zakat Soc Fin. 2022:20-31. doi: 10.51377/azjaf.vol3no1.92.

Kong YC, Wong LP, Ng CW, Taib NA, Bhoo-Pathy NT, Yusof MM et al. Understanding the financial needs following diagnosis of breast cancer in a setting with universal health coverage. Oncologist. 2020;25(6):497-504. doi: 10.1634/theoncologist.2019-0426, PMID 31922332.

Lim GC, Aina EN, Cheah SK, Ismail F, Ho GF, Tho LM et al. Closing the global cancer divide- performance of breast cancer care services in a middle income developing country. BMC Cancer. 2014;14(1):212. doi: 10.1186/1471-2407-14-212, PMID 24650245.

LPPKN receives RM8 mln allocation for mammogram subsidy next year – Noraini; n.d. BERNAMA. Available from:https://www.bernama.com/en/news.php?id=2356572#:~:text=BERNAMA%20%2D%20LPPKN%20Receives%20RM8%20Mln,GENERAL.

Mahmud A, Aljunid SM. Availability and accessibility of subsidized mammogram screening program in peninsular Malaysia: A preliminary study using travel impedance approach. PLOS One. 2018;13(2):e0191764. doi: 10.1371/journal.pone.0191764, PMID 29389972.

McCartney G, Popham F, McMaster R, Cumbers A. Defining health and health inequalities. Public Health. 2019;172:22-30. doi: 10.1016/j.puhe.2019.03.023, PMID 31154234.

Ministry Of Health Malaysia. Malaysia national health accounts health expenditure report 2011-2023. Malaysia national health accounts (MNHA). In: Ministry of Health; 2025. Available

from:https://www.moh.gov.my/moh/resources/Penerbitan/Penerbitan%20Utama (ISSN 1985-711). Available from: https://www.moh.gov.my.

National Institutes of Health. National Health and Morbidity Survey (NHMS) 2019. Vol. II: Healthcare Demand. Malaysia: Ministry of Health; 2020.

Norsa'adah B, Rampal KG, Rahmah MA, Naing NN, Biswal BM. Diagnosis delay of breast cancer and its associated factors in Malaysian women. BMC Cancer. 2011;11:141. doi: 10.1186/1471-2407-11-141, PMID 21496310.

Norsa'adah B, Rampal KG, Mohd Amin RM. Time taken for symptom recognition, first consultation, diagnosis and first definitive treatment and its associated factors among women with breast cancer. Asian Pac J Cancer Prev. 2021b;22(11):3623-31. doi: 10.31557/APJCP.2021.22.11.3623, PMID 34837921.

Peka B40 report 2021; 2022. Available from: Protecthealth.Com.My. Available from:Https://Protecthealth.Com.My/WpContent/Uploads/2022/04/Pekab40-Report2021_280422.Pdf.

Razak SF, Manaf NB, Nawang DB. An analysis of cancer awareness and stigma among Malaysia's nonpatient population. Accelerating Transform Towards Sustain Resil Bus Lessons Learn COVID. 2023;19 Crisis:814-23. doi: 10.15405/epfe.23081.74.

Robinson H. Governance & knowledge management for public-private partnerships. Blackwell Publishing; 2010.

Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A et al. Global cancer statistics 2020: globocan estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209-49. doi: 10.3322/caac.21660, PMID 33538338.

Siddaway AP, Wood AM, HEDGES LV. How to do a systematic review: a best practice guide for conducting and reporting narrative reviews, Metaanalyses, and Meta-syntheses. Annu Rev Psychol. 2019;70(1):747-70. doi: 10.1146/annurev-psych-010418-102803, PMID 30089228.

Tabrizi JS, Azami-Aghdash S, Gharaee H. Public-Private Partnership Policy in Primary Health Care: A scoping review. J Prim Care Community Health. 2020;11:2150132720943769. doi: 10.1177/2150132720943769, PMID 32842863.

Tan SC, Poh WT, Yong AC, Chua EW, Ooi J, Mahmud R et al. Challenges and strategies for improving access to cancer drugs in Malaysia: summary of opinions expressed at the 2nd MACR international scientific conference 2022. Cancer Manag Res. 2023;15:851-62. doi:10.2147/CMAR.S420890, PMID 37636030.

Waran V, Thillainathan R, Karuppiah R, Pickard JD. Equitable Access to State-of-the-Art medical Technology – A Malaysian Mini-Public-Private Partnership case study. World Neurosurg. 2022;157:135-42. doi: 10.1016/j.wneu.2021.10.112, PMID 34687934.

Ong W, Khalib AM. Cancer care – challenges, gaps and opportunities in Malaysia. Galen Centre for Health & Social Policy; 2021. [cited 24/10/2025] Available from: https://www.phama.org.my/view_file.cfm?fileid=145.

Yabroff KR, Dowling EC, Guy GP, Banegas MP, Davidoff AJ, Han X et al. Financial hardship associated with cancer in the united states: findings from a population-based sample of adult cancer survivors. J Clin Oncol. 2016;34(3):259-67. doi: 10.1200/JCO.2015.62.0468, PMID 26644532.

Yahya N, Sukiman NK, Suhaimi NA, Azmi NA, Manan HA. How many roads must a Malaysian walk down? Mapping the accessibility of radiotherapy facilities in Malaysia. PLOS One. 2019;14(3):e0213583. doi: 10.1371/journal.pone.0213583, PMID 30897166.

Yong AS, Cheong MW, Hamzah E, Teoh SL. A qualitative study of lived experiences and needs of advanced cancer patients in Malaysia: gaps and steps forward. Qual Life Res. 2023;32(8):2391-402. doi: 10.1007/s11136-023-03401-5, PMID 36964453.