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Medical Tourism in Malaysia: Growth, Contributions and Challenges

Suresh Narayanan[*]
School of Social Sciences, Universiti Sains, Malaysia
Lai Yew Wah
Faculty of Business and Finance, Universiti Tunku Abdul Rahman, Malaysia

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Abstract

Medical tourism in Malaysia has seen phenomenal growth since 2002, emerging as an additional engine of growth, particularly after the financial crisis of 2008. The active involvement of private sector healthcare providers, aided by friendly government policies, and the indirect participation of the government through government-linked healthcare companies have spearheaded tremendous changes in the industry. Along with the promise of increased employment in related sectors, both directly and indirectly, and economic growth, this unprecedented expansion also brings challenges in the short and longer-terms. We provide an update focusing, in particular, on the industry's growth, contributions and the likely challenges it would face in the coming years.

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[*]**Corresponding author:** 11800 USM, Penang, Malaysia. E-mail: nsuresh@usm.my.

1. Introduction

The medical tourism industry has been growing rapidly since 2002 and proved to be an additional engine of growth, particularly after the financial crisis of 2008. Since then, the active participation by an increasing number of private sector players engaged in healthcare, aided by friendly government policies, and the indirect participation of the government through government-linked companies in this industry have spearheaded tremendous changes. Along with the promise of increased employment in related sectors, both directly and indirectly, and economic growth, this unprecedented expansion also brings challenges in the short and longer-terms.

The objectives of this paper are to provide an overview of the medical tourism industry in Malaysia, especially the policy environment, the services being provided, and the challenges faced on account of its rapid growth.

Medical tourism involves individuals who come to a country specifically for medical treatment. The seeker of medical attention is identified as the 'medical tourist'. Yet, the seeker is not a 'tourist' as traditionally defined or conceived[1] but is euphemistically referred to as a medical tourist because it lends an air of acceptability when talking about this industry and evaluating it in commercial terms. When such visits are organized and operated commercially, it becomes 'medical tourism'. In more recent times, the edge connoted by the term 'medical' has been softened by replacing it with the term 'health'. Now medical tourism is used interchangeably with health tourism, with the latter being the preferred term. Correspondingly, the term 'healthcare travellers', is more often used instead of 'medical tourists'.

With medical tourism becoming a billion-dollar industry worldwide, a Medical Tourism Association, with an international membership, has emerged. The Association views medical tourism (a little differently) as a situation "where people who live in one country travel to another country to receive medical, dental and surgical care while at the same time receiving equal to or greater care than they would have in their own country, and are travelling for medical care because of affordability, better access to care or a higher level of quality of care."[2] Mordor Intelligence estimated the worldwide medical tourism market to be worth around USD16.8 billion and forecasted it would reach USD27.3 billion by 2024 (Mordor Intelligence, 2018).

However, in Malaysia, healthcare travellers are defined to include the following: (i) Non-Malaysian citizens who participate in 'Malaysia My Second Home' Programme; (ii) Expatriates who hold Malaysian work permits and their dependents; and (iii) Non-Malaysian citizens who visit and receive treatment from private healthcare facilities in Malaysia (MIDA, 2018). The healthcare travel industry in Malaysia follows this definition in applying for tax incentives from the Malaysian Industrial Development Authority (MIDA).

2. An Overview of Medical Tourism in Malaysia

2.1 Number of Travellers and Receipts

The number of healthcare arrivals and medical tourism receipts has increased steadily since 2002, although there was a slight dip in healthcare travellers in 2009 due to the global financial crisis. There was also a drop in healthcare travellers in 2015 but

[1] The Cambridge Dictionary, for example, defines a tourist as "someone who visits a place for pleasure and interest, usually while on holiday." The typical medical tourist is hardly on a pleasure trip; rather his travel is necessitated by a medical condition needing attention.

[2] See https://www.medicaltourismassociation.com/en/medical-tourism-faq-s.html

medical tourism receipts were not negatively affected. There were only about 85,000 healthcare travellers to Malaysia in 2002 but it has increased to 1.2 million by 2018, recording an average compounded growth rate of 18% per annum (Table 1). Malaysia provided healthcare facilities to over 9.5 million medical travellers between 2002 and 2018 (although there may be double-counting on account of repeat healthcare travellers in different years).

In terms of medical tourism receipts, the increase was even more impressive, rising from a low of RM36 million in 2002 to RM 1.5 billion in 2018, with an average compounded annual growth rate of 26.3%. The ratio of healthcare travellers to total tourist arrivals increased from 0.64% in 2002 to 4.65% in 2018. Although the contributions of medical tourism receipts to both total tourism revenue and GDP are still low, they have been rising significantly. The contribution of medical tourism receipts to tourist revenue rose from 0.13% to 1.78% in 2018, averaging an annual growth rate of 17.6%. Similarly, medical tourism revenue's contribution to GDP increased ten-fold from 0.01% in 2002 to 0.1% in 2018.

According to the Malaysian Association of Tour and Travel Agents, healthcare travellers tend to stay longer compared to normal tourists. On average, a healthcare traveller spends a minimum of two weeks in the country**.** After treatment, he/she prefers to recuperate in Malaysia and usually stays for longer periods. (MHTC, April 24, 2017). Thus, there are other incidental expenses incurred on food, accommodation, touring and the like by healthcare travellers aside from medical expenses.

Medical tourism revenue raised RM1.7 billion in 2019 with corresponding economic impact amounting to RM5.7 billion. However, the Covid-19 pandemic has forced a downward revision of the estimated revenue in 2020 from RM2 billion, with a total contribution of RM10 billion to the economy, to just RM500 million, with a RM 1.7 billion contribution to the economy (*The Edge Markets*, July 21, 2020). Transparency Market Research (2017) forecasted that medical tourism in Malaysia would grow at a compound annual growth rate of 30.1% per annum from 2016 to 2024 and that revenue would increase to US3.5 (RM14) billion by 2024. These estimates will now have to be revised downwards because of the Covid-19 pandemic.

The cities of Kuala Lumpur and Penang received an early push in medical tourism as they are the entry points for most health travellers coming by air. The national airport (KLIA) and Penang airport provide convenience in terms of arrivals and departures. But government efforts to boost the sector, along with the enthusiasm of private healthcare providers to benefit from the sector's rapid growth, resulted in the rise of healthcare hubs in Johor, Melaka, and Sarawak as well (*Bernama,* December 29, 2018). However, among the promoted destinations Penang remains the most preferred. From 2008 to 2010, medical tourism revenue earned by hospitals in Penang was RM173, RM164 and RM221 million, respectively, contributing to 57.9%, 56.9% and 58.2% to total medical tourism revenue in Malaysia (The Edge Markets, March 7, 2011). It has maintained its leading position over the years. In 2012 and 2013, it received over 60% of the total healthcare travellers each year, generating RM320 million and RM370 million (Golden Emperor, 2015). This accounted for 53% and 51% of total medical tourism revenue in the country in these two years.[3] Its share in total medical tourist arrivals and revenue dropped somewhat in 2017, receiving 382,164 healthcare travellers (36.4% of total arrivals) and RM550.3 million (42.3% of total medical tourism revenue) (*Buletin Mutiara,* April 17, 2018).

[3] Derived from Table 1

Table 1: Medical tourism volume and revenue

Year	Medical Tourism		Tourist		HT/ (%)	MR/ (%)	MR/ (%)
	Healthcare(HT)	Revenue(MR)	Arrivals(TA)	Receipts(TR)			
2002	84585	36	13.3	27.0	0.64	0.13	0.01
2003	102946	59	10.6	22.4	0.97	0.26	0.01
2004	174189	105	15.7	31.2	1.11	0.34	0.02
2005	232161	151	16.4	33.5	1.42	0.45	0.03
2006	296687	204	17.5	36.3	1.70	0.56	0.03
2007	341288	254	21.0	53.4	1.63	0.48	0.04
2008	374063	299	22.1	49.6	1.69	0.60	0.04
2009	336225	290	23.7	53.4	1.42	0.54	0.04
2010	392956	379	24.6	56.5	1.60	0.67	0.05
2011	643000	527	24.7	58.3	2.60	0.90	0.06
2012	728000	603	25.0	60.6	2.91	1.00	0.06
2013	881000	727	25.7	65.4	3.43	1.11	0.07
2014	882000	777	27.4	72.0	3.22	1.08	0.07
2015	859000	914	25.7	69.1	3.34	1.32	0.08
2016	921000	1123	26.8	82.1	3.44	1.37	0.09
2017	1050000	1300	26.0	82.1	4.04	1.58	0.09
2018	1200000	1500	25.8	84.1	4.65	1.78	0.10
Growth	18.03	26.25	4.23	7.36	13.24	17.60	8.66

Sources: *The Star*, 14 February 2009.
MHTC (Malaysia Healthcare Travel Council). https://www.mhtc.org.my/
Tourism Malaysia. https://www.tourism.gov.my/statistics
Department of Statistics Malaysia (DOSM), 2017

The success of Penang as a medical tourist destination is due not only to its excellent healthcare infrastructure, well trained medical specialists and affordable treatment costs but also to its perfect environment for rejuvenation and convalescence. It is well known as a holiday resort for relaxation.

The healthcare travel industry has experienced tremendous growth in the last twenty years. Malaysia's rapid development in the healthcare travel industry received global recognition by way of awards such as the prestigious "Destination of the Year" award by the International Medical Travel Journal (IMTJ) for three years in a row (2015-2017) and the award from International Living, in their Annual Global Retirement Index, as the country with the "Best Healthcare System in the World" for three consecutive years (2015-2017) as well as for 2019 (MHTC, nd).

This was in no small way due to the establishment of the Malaysia Healthcare Travel Council (MHTC) under the Ministry of Health in 2009 to coordinate collaborations and build public-private partnerships, at home and abroad[4]. In 2018, it was relocated to the Ministry of Finance. The Board of Directors is headed by the Minister and Deputy Ministers of Finance; the rest consist of two senior officials from the Health Ministry, one from the Tax Division of the Finance Ministry, and three independent members. The daily operations are under a Chief Executive Officer, assisted by six executives. The MHTC is publicly funded, with yearly membership dues (RM1,500) accounting for a small addition in revenue.

It works closely with local private healthcare institutions largely through a partnership programme. Partners are divided into Elite and Ordinary members, with the former comprising of members who have accreditation from international healthcare accreditation agencies. The latter is evaluated by a committee consisting of representatives from both the private and government sectors. These hospitals must also

[4] Information in this and the subsequent three paragraphs below was obtained from the MHTC webpage (https://www.mhtc.org.my/).

possess at least one accreditation from an international healthcare accreditation body. A certificate of registration is given by the Minister of Health and is renewable every two years. Currently, there are 79 partners in the programme, of which 21 are categorised as Elite and 58 are Ordinary members.

Among the benefits of membership are exposure through MHTC's diverse international marketing programmes, recognition and promotion as a quality healthcare provider for international patients, special government incentives to promote medical tourism, and eligibility for income tax exemption on qualifying expenditure. The tax exemption is equivalent to investment tax allowance (ITA), up to 100% on qualifying expenditure incurred on new or existing private facilities for improving healthcare travel infrastructure within 5 years.

THE MHTC also operates the Malaysia Healthcare Medical Concierge and Lounges (MCL) in the international airports in Kuala Lumpur and Penang to serve as the first points of contact for health travellers. Registered health travellers are met and helped through immigration and customs, and provided information on stay, medical enquiries and tourism options. It also assists with subsequent transport, accommodations and travel.

2.2 Main Source Countries

Since the policy of attracting medical travellers was actively pursued after 1998, most of the travellers to Malaysia have come from neighbouring countries, especially Indonesia. Although the share of Indonesian travellers in total healthcare travellers has declined over the years, it nevertheless remains the most important source. In 2007, 72% of the healthcare travellers were from Indonesia, 10% from Singapore, 5% from Japan, 3% from Europe and 3% from India. The favourite destinations were Penang, Malacca and Johor Baru (*The Star*, February 14, 2009).

In 2015, Malaysia Healthcare's markets were Indonesia, constituting 62% of total healthcare travellers, followed by the Middle East (7.4 %), India (3%), China (2.6 %), Japan (2.6 %), Australia and New Zealand (2.5%) and the UK (2.5 %) (Pemandu, 2015). Half of the healthcare travellers in Malaysia in 2017 came from Indonesia with the rest coming from China, India, Vietnam, Myanmar, Bangladesh and the Middle East (MHTC, December 6, 2019). The key markets have largely remained unchanged over the years. In 2017, Indonesia, China, Myanmar, and Vietnam were the key markets, based on healthcare tourists received as well as growth potential based on the volume of expanding middle-class segments in these economies. This is the segment that can travel abroad for healthcare treatment. At the same time, more efforts were made to promote the healthcare industry in other secondary important markets such as Singapore, Brunei, Bangladesh, the Middle East, India, Australia and New Zealand (MHTC, May 3, 2019).

2.3 Main Health Care Providers

There are more than 200 private healthcare institutions in the country, but due to a variety of reasons such as limitations on infrastructure, workforce, capital investment, and accreditation, not all are active in the medical tourism sector. The medical tourism industry is dominated by three big local healthcare groups and a few prominent private healthcare institutions backed by local conglomerates. Most of these institutions are located in the Klang Valley. They are KPJ Healthcare Berhad, a subsidiary company of Johor Corporation which, aside from healthcare, has other businesses ranging from agro-business to industrial and property development. KPJ currently has 25 hospitals in Malaysia and has invested overseas, owning two hospitals in Indonesia, one in Thailand

and one in Bangladesh via acquisitions. In 2017, it had 3000 licensed beds 1022 medical consultants, and 13422 supporting staff (KPJ Website).

The second group is Pantai Holdings Sdn Bhd (Pantai Group), with a network of 10 Pantai Hospitals and four Gleneagles Hospitals in Malaysia. It is a part of Parkway Pantai Limited, which is one of Asia's largest private healthcare groups with 31 hospitals throughout the region. Parkway Pantai Limited is, in turn, a subsidiary of IHH Healthcare Berhad (IHH), the second-largest healthcare group in the world by market capitalisation. IHH also owns 75% of the Acıbadem Healthcare Group which is a Turkish healthcare institution, operating 21 hospitals and 16 medical centres in Turkey. The majority shareholders of IHH are Mitsui of Japan and Khazanah Nasional, the Malaysian government sovereign wealth fund. Other important shareholders of IHH include EPF (Employees Provident Fund) of Malaysia and Citigroup. Pantai Group has 890 doctors and 2800 nurses in its Malaysian hospitals (Pantai Group Website). Khazanah also owns the Prince Court Medical Centre, which is also promoted actively as a medical tourism destination. As both the IHH group and Prince Court Medical Centre are owned by Khazanah, they have a collaboration agreement to provide shared services support and operational improvement initiatives (*The Star,* March 22, 2018).

The third major group of healthcare institutions is the Ramsay Sime Darby Healthcare group. It is a joint venture arrangement between Sime Darby Berhad (where the major shareholder is Pemodalan Nasional Berhad, a government investment company) and Australia-based Ramsay Healthcare (Ramsay Healthcare Website). It operates three hospitals in Malaysia and three in Indonesia. In Malaysia, it has 317 specialists and 2000 support staff.

The three main players in the industry are companies where the government has substantial stakes. An advantage of government-linked healthcare institutions being actively involved in the medical tourism industry is that it facilitates coordination and initiatives in the effort in promoting and driving the industry to further growth. The participation of KPJ and IHH, which involved government funds at the State and Federal levels, respectively, in the medical tourism industry is often criticized on grounds that they crowd out local patients as the higher charges would make the services unaffordable to large sections of the population. However, medical tourism revenue, earned from these government-corporatized healthcare institutions can help sustain and upgrade the facilities to local private health care users' benefit, providing Malaysians with alternatives to crowded public health care provision (Ormond, Wong and Chan, 2014). Moreover, the vast majority of patients' admissions to private hospitals are Malaysians. In 2016 for example, there were 4.9 million admissions and outpatient attendances in private hospitals but there were only 921 thousand healthcare travellers. Admittedly, this comparison does not give the full picture as there were 223 private hospitals in 2017, but only 79 (in 2019) were actively involved in medical tourism; nonetheless, it is a good indicator of the situation (MOHVirtual Library, Health Indicators, 2016, 2017, 2019).

Another major government-owned private institution in the medical tourism industry is the National Heart Institute (IJN). MHTC has identified IJN as the flagship hospital for cardiology treatment and cardiac surgery. It was corporatized in 1992 as a heart specialist institution committed to delivering advanced standards in cardiovascular and thoracic medicine for adult and paediatric heart patients. It has gained recognition as one of the leading Cardiovascular and Thoracic Centre in the region. In 2017, IJN launched IJN Private, the private outpatient clinic that serves private paying patients using insurance or self-payment. There was recent criticism that it was losing its focus on serving public patients and was leaning towards profit-driven private healthcare (*The Star*, March 13 2019). However, it has shown that the quality of service was not

compromised as waiting time for procedures was much shorter as compared to other countries. Also, 80% of the patients seeking treatment at IJN are public patients. To enhance its role in medical tourism, IJN has plans to open three more branches in Klang Valley, Johor Bahru and Penang respectively (*The Star,* October 18, 2018).

Among the independent private hospitals which are key players in the industry are Sunway Medical Centre, Thomson Hospital and three Penang-based hospitals, namely, Island Hospital, Loh Guan Lye Specialists Centre and Penang Adventist Hospital.

The main hospitals in the three government-related groups, as well as the key players in the industry, are Elite members of the MHTC partnership programme which certifies the healthcare facilities on standards of service and quality medical care. MHTC Elite Partners represent the most prestigious private healthcare institutions in the country.

Of the Elite members, three are from the KPJ group, three from Pantai Group, three from Ramsay Sime Darby Group, and two government-owned hospitals: IJN and Prince Court Medical Centre. The rest are independent private hospitals. By location, 15 of the hospitals are in the Klang Valley, while four are located in Penang and one is in Malacca. Also, as infertility treatment is one of the most popular treatments sought by healthcare travellers, it is not surprising that among the elite members, there are three that specialise in infertility treatment. Each Elite member, regardless of whether they are government-owned hospitals, receives the same benefits and privileges from the MHTC (see Section 3).

3.4 Contributions of the public and private healthcare systems

Malaysia, which has a mix of private and public healthcare systems, was described as having the best integrated healthcare system in the world for the last several years (See Section 2). The public healthcare system consists of hospitals, health clinics and community clinics. Since Independence in 1957, the majority of the population depends on the public sector healthcare service which is very inexpensive as it is heavily subsidised and financed by taxation. Although public health expenditure has increased steadily over the years, private health expenditure has kept pace. The share of private expenditure in total expenditure averaged about 48% for the period 2008-2016 (MOH, *Health Facts,* 2008-2016)

The number of private hospitals exceeds the number of public hospitals; in 2009, there were 251 private hospitals compared to 147 public hospitals. This situation has not changed significantly over the years. In 2017, there were 223 private hospitals compared to 150 public hospitals. However, generally private hospitals are smaller and thus have fewer beds. The number of public hospital beds outnumbered private hospital beds by a ratio of 3 to 1. For example, in 2017, there were 43,822 public hospital beds compared to 13,646 private hospital beds. Correspondingly, the number of admissions in public hospitals was more than double that in private hospitals (2.528 million public hospitals admissions compared to 1.045 million private hospital admissions in 2017). The number of doctors serving in all the public healthcare facilities, including hospitals, health clinics and community clinics was 43,348, about three times the number of doctors in the private sector (MOHVirtual Library, Health Indicators, 2009, 2017).

3. The Policy Environment and the Malaysian Advantage

3.1 Policies

The growth of the industry has been nurtured by a supportive policy environment; the focus has been on facilitation, promotion and regulation, to sustain the momentum of the industry.

3.1.1 Facilitation

Medical tourism in Malaysia started just after the Asian Financial Crisis in 1997-98. It was in response to the drastic drop in demand for medical services and treatment from private healthcare facilities which in turn had to bear the higher import costs of drugs, medical supplies, and equipment because of the depreciation of the Ringgit. Declining revenues have necessitated private hospitals to seek alternatives to cushion the impact on their revenue. A viable alternative was to increase the number of foreign patients to make up for the declining number of local patients. In support of this private sector initiative, the government set up the National Committee for the Promotion of Medical and Health Tourism (NCPMHT) in January 1998 (Chee, 2007). The main objective of this committee was to provide the necessary policies to facilitate the development of the medical tourism industry. The strategies included identifying source countries for promoting health tourism, instituting tax incentives, fee packaging and drawing up accreditation and advertising guidelines.

The development of the medical tourism industry was given a second impetus in 2010 when the Economic Transformation Programme (ETP) was launched to transform the country into a high-income economy. The healthcare industry is one of the 12 National Key Economic Areas (NKEAs) identified as drivers of economic growth and thus is given relatively more government support and funding. Medical tourism was expected to play a major role in the development of the healthcare industry, with forecasted arrivals reaching 1.9 million in 2020, generating RM9.6 billion in revenue (Pemandu, 2010). The target obviously cannot be achieved since, in 2018, the number of healthcare travellers was only 1.2 million contributing RM1.5 billion only (Table 1). Moreover, the ongoing coronavirus pandemic is taking a heavy toll on global tourism.

Medical tourists do not face problems entering the country, as Malaysia has a liberal stand on entry requirement for all tourists. There is no need for a visa for travellers for 3 months' stay in the country from 63 jurisdictions including all the European Union countries. Another 97 jurisdictions are granted visa-free entry to Malaysia for 30 days while two jurisdictions are given 14 days' stay. For 10 countries (out of 37) which require a visa, visitors can apply online through the Electronic Visa (eVisa Medical) and Electronic Travel Registration and Information (eNTRI) facilities which allow 30 days' stay (MHA, 2016).

Also, foreigners, including medical tourists, are allowed to stay for ten years on a multiple-entry social visit pass which is renewable under the Malaysia My Second Home (MM2H) program (MOTAC, 2014). The program was introduced in 2002 to attract foreigners, who fulfil certain criteria, to make Malaysia their second or holiday home (MM2H). The foreign residents under the MM2H program are included in the classification of healthcare travellers in Malaysia when they seek treatment in hospitals.
Another initiative to ensure a seamless travel experience for healthcare travellers is the establishment of the Malaysia Healthcare Concierge and Lounge (MCL) at international airports. MCL is operated by the Malaysia Healthcare Travel Council (MHTC). The MCL is the first point of contact for medical tourists upon their arrival in Malaysia. Among services offered are assisting health travellers in expediting immigration and

customs clearance, providing all relevant information on tourism options, facilitating arrangements for transport, accommodations, and travels and providing comfortable spaces for health tourists to rest while waiting for on-ground transport services by their medical providers to arrive (MHTCa, nd). A team of dedicated medical personnel is also available to assist and facilitate all medical travel inquiries from providing information about treatment centres to certified doctors, treatment available and assisting with the appointment requests with participating hospitals (Malays**ia** Tourism Promotion Board 2013).

To add to the convenience of the healthcare travellers, the hospitals are also allowed by the Commercial Vehicle Licensing Board to provide transportation for them to and from the airports. Also, many hotels are now catering to healthcare travellers and are partnering hospitals in offering health travel packages.

Aside from facilities which are set up to expedite the entry of healthcare travellers, restrictions on advertisements on healthcare services were also liberalized. Before 1998, the medical profession and sale of medicine were governed by the Medicines (Advertisement and Sale) Act 1956 (Revised 1983) which prohibited the advertisement of any skills or services of medical practitioners unless it is with the approval of the Minister of Health or the Medicine Advertisements Board. Since 1998 however, healthcare providers are allowed to advertise their medical services. According to the guidelines of the Medicine Advertisements Board, the information provided in the advertisements must be factually accurate and capable of being substantiated. Medical service providers are also allowed to advertise professional services available, certificates of accreditation as well as a listing of the names, qualifications and field of speciality of practitioners.

3.1.2 Promotion

As mentioned previously, the MHTC coordinates promotional activities for Malaysian healthcare providers and acts as a 'one-stop centre' for all matters related to healthcare travel, assists health travellers with providing information on policies and programmes on healthcare travel development and promotion, including solutions on matters related to healthcare travel.

MHTC has identified four key target markets, namely, Indonesia, China, Myanmar, and Vietnam for promotion of its medical tourism industry. Efforts are also being made to penetrate other important markets such as Singapore, Brunei, Bangladesh, the Middle East, India, Australia, and New Zealand. In particular, it has a niche strategy to establish a stronger brand presence in the Middle East market, leveraging on its Syariah-compliant medical services and procedures (Azmi, Chandran and Puteh, 2017). Malaysia's standing as a Global Halal Hub appeals to consumers seeking halal-compliant options and environments, not only for themselves but also for accompanying family members.

Aside from promotional efforts, MHTC also facilitates public-private sector collaboration so that issues affecting this industry can be effectively addressed. Additionally, it coordinates government-to-government agreements with countries which allow them to pay for their citizen's healthcare services in Malaysia. As indicated previously, members of MHTC also have access to tax incentives. To be qualified for these incentives, the private healthcare facility must have at least 10% of its total number of patients drawn from healthcare travellers in each year of assessment and at least 10% of its gross income for each year of assessment must be derived from healthcare travellers. The 21 elite partners of the MHTC should not have any problem in meeting these two criteria. From information obtained from two private healthcare providers, it is was evident that most, if not all, of these elite partners, have about 40% of their total patient numbers made up of healthcare travellers. One hospital in Penang, which is an

MTHC elite partner, stated that 40% of their patients are medical tourists,[5] while another MHTC elite partner in Kuala Lumpur (Pantai Hospital KL), told the media recently that 67% of their patients are medical tourists (*The Sun*, July 9, 2019). It was also reported that in the government-owned IJN (National Heart Institute), 20% of the patients are foreign patients (*The Star*, March 13, 2019). Also, to encourage medical specialists to serve in Malaysian hospitals, employment/professional passes are offered automatically to qualified foreign medical specialists on condition that they are registered with the relevant professional bodies (MIDA, 2020).

The 79 partners registered with MHTC are also entitled to enjoy the double deduction incentive on the expenditures incurred to obtain quality accreditation from five quality accreditation bodies/organisations such as the Joint Commission International (JCI), Malaysian Society for Quality in Health (MSQH), the Australian Council on Healthcare Standards (ACHS), Accreditations Canada, and the CHKS Accreditation Unit (UK). An ordinary member institution possesses at least one accreditation from international healthcare accreditation bodies *(*MIDA, 2020*).*

3.1.3 Regulation

When a patient decides on a particular country for services and treatment, quality is a determining factor. To instil confidence in foreign patients, medical service providers have sought international accreditation certification to assure service quality and safety. One of the highest levels of recognition accorded for quality medical service is the Joint Commission International (JCI) certification. Currently, there are 14 Malaysian medical service providers (out of 79 providers that are actively promoting medical tourism under the MHTC partnership programme) which have the certification. Many hospitals have multiple international accreditations such as the Joint Commission International in the USA, QHA Trent Accreditation in the United Kingdom and the Australian Council for Healthcare Standards (Khairunnisa and Hatta, 2017). Locally, the Malaysian Society for Quality in Health (MSQH) was established in 1997 by the Ministry of Health (MOH) in partnership with the Association of Private Hospitals Malaysia (APHM) and Malaysian Medical Association (MMA). The objectives of internationally-recognized MSQH are to advocate, promote, and support continuous quality improvements and safety in Malaysian healthcare services.

Another measure to ensure the quality and safety of medical service is to enact legislation to oversee the medical profession. In this regard, the medical tourism industry is rigorously regulated by MOH to ensure impeccable standards of quality, safety, and ethics in Malaysian healthcare services. The healthcare industry has been regulated even before the country obtained its independence in 1957. Currently, there are 28 health legislations in Malaysia (MOHVirtual Library, Health Indicators, 2009, 2016, 2017, 2019). The regulations on medical professionals are enacted to ensure that these professionals adhere to a code of conduct befitting their respective professions. Among the other regulations are those on food safety and drugs.

To ensure public health and safety, the medical devices industry is regulated by the Medical Device Authority (MDA) which ensures that medical devices are of high quality, effective and safe (MDA, 2019). Under the Medical Device Act 2012, no medical devices shall be imported, exported or placed in the market unless it is registered with the MDA. The medical device can only be registered when the MDA is fully satisfied with the results of tests conducted on the medical devices by an independent

[5] Information provided by the CEO of a prominent private hospital in Penang

testing organisation known as the Conformity Assessment Body (CAB) which is registered with the MDA.

The medical fee that can be charged by private hospitals is regulated by the MOH. The Private Hospitals and Other Private Healthcare Facilities Regulations 2006 of the Private Healthcare Facilities and Services Act 1998 (13th Schedule) provides for the maximum chargeable fees for registered medical and dental practitioners practising in private hospitals in terms of their professional fees such as consultation and performance of procedures (*The Star,* March 6, 2014). The last revision of the maximum doctor's fee schedule was in 2014. Also, private hospitals can charge higher medical fees (up to 25% higher), on healthcare travellers compared to local patients.

It must be noted, however, that the other components of the hospital charges such as fees for accommodation, laboratory investigations, nursing care, use of equipment and operation room, and drugs administered are not regulated by the Act, 1998. This arose because hospitals in different localities have different operating and maintenance cost structures.

3.2 The Malaysian Advantage

The favourable policy environment was fashioned to take advantage of several attractions that Malaysia offers to medical tourists, particularly from the region including Indonesia. Factors that encourage medical tourism have been labelled as the 5-As: affordability, accessibility, availability, acceptability and additional considerations (cited in Al-Lamki, 2011). Of these, affordability, accessibility, availability, and acceptability may be termed as "push" factors. The additional considerations represent the "pull" factors.

3.2.1 Affordability

Malaysia ranks high on the affordability scale, more so to patients from developed countries like the US, UK, Australia, and Canada where private health care is expensive and some procedures are not covered by insurance (Table 2). Even though there are several "preferred" destinations around the globe in terms of affordability, Malaysia is ranked the second most preferred destination for the average range of savings that can be expected. The approximate savings was based on an assessment by *Patients Without Borders,* a medical travel site. It compared US costs across a range of specialities and procedures before computing the average range of savings to be expected in these "most travelled destinations" for US patients (Surendra, 2017).

Table 2 Preferred destinations and expected cost savings for US patients

Destination	% Cost Savings
India	65-95
Malaysia	65-80
Thailand	50-75
Turkey	50-65
Mexico	40-65
Costa Rica	45-65
Taiwan	40-55
South Korea	30-45
Singapore	25-40
Brazil	20-30

Source: *Patients Without Borders* (as cited in Surendra, 2017).

A comparison of some common medical procedures sought by medical tourists reveals that Malaysia provides them at the cheapest cost in the region, while not compromising on quality (Table 3)

Table 3 Average prices (USD thousand) in Major Medical Tourism Countries in Asia, 2019

Procedure	US	India	Thailand	Singapore	Malaysia
Heart bypass	123	7.9	15	17.2	12.1
Heart valve replacement	170	9.5	17.2	16.9	13.5
Angioplasty	28.2	5.7	4.2	13.4	8
Hip replacement	40.4	7.2	17	13.9	8
Knee replacement	35	6.6	14	16	7.7

Source: Medical Tourism.com (2019).

The average cost of a heart bypass surgery in Malaysia is USD12,100 or 30% cheaper than in Singapore and 20% lower than in Thailand. The cost advantage to a US patient is tremendous; the procedure is approximately ten times more expensive in the US as compared to the cost in Malaysia. This would be even more attractive to patients without health insurance from developed countries, or those who have inadequate health insurance coverage. However, the number of healthcare travellers from developed countries coming to Malaysia remains relatively small except for patients from Singapore, and therefore the affordability factor may not be a major attraction.

3.2.1 Availability

The bulk of the healthcare travellers are from the region, notably Indonesia, China, Vietnam, and Myanmar. For them, availability may be a more important motivator. Many medical procedures may not be available, or even if available, the quality may be suspect. Malaysia is seeking to establish herself as the Fertility and Cardiology Centres in Asia, as both specialisations are being widely demanded by health travellers from the region, by 2020 (*Bernama,* August 15, 2018). Other areas demanded widely by medical tourists include oncology, orthopaedic, dentistry, and cosmetic treatments.

3.2.3 Accessibility

This is equally important to patients from developing countries where the wait to gain access to specialised care is very long. Research in Thailand (Jaturapatporn and Hathirat, 2006) and Indonesia (Ekawati et al., 2017), for example, suggest that patients' trust in general practitioners is low because of their shorter training stints and prefer to see specialists. But this is not possible without a referral from a primary care physician. Patients in this situation will find Malaysia an ideal destination. As the International Living Website noted, "Here (in Malaysia), you don't need to make an appointment to see a specialist and you don't need a referral from a general practitioner. It's as simple as registering at a hospital of your choice and waiting in line to see your specialist of choice."[6]

3.2.4 Acceptability

This refers to medical services which may not be available simply because it is not acceptable in the patient's own country due to religious or social reasons. Sex change

[6] International Living Website. See https://internationalliving.com/countries-best-healthcare-world/

operations are popular in Thailand but cannot be performed in Malaysia because it is not sanctioned by Islam, the official religion of the country. Similarly, organ sale and transplants are rampant in India but not available in Malaysia. This factor is probably irrelevant to medical tourists coming to Malaysia since unapproved or unethical medical procedures are not carried out in hospitals engaged in the medical tourism industry.

3.3.5 Fall in transportation costs

Among the pull factors may be counted the dramatic decline in transportation costs, the availability of accredited medical facilities and care, the increasing flow of information through word of mouth as well as via information and communication technology (ICT), and ease of adjustment in the destination country.

The rise in budget airlines offering lower fares and greater connectivity from and to smaller destinations frequently ignored by full-service airlines has provided a major fillip to the medical tourism industry. The phenomenal rise of short-haul low-cost carriers is reflected by the rise in the number of passenger seats sold which increased by 88% between 2009 and 2016 – from 908 million to 1.7 billion (cited in *Verdict*, September 27, 2017)[7]. The same source noted that more passengers rated price over comfort in making their decision to travel. The success of medical tourism centres such as Penang and Kuala Lumpur was due, in no small way to the growing network of low-cost flights linking them to Indonesia, Singapore and other parts of the region. Another airport, KLIA2, has been set up to serve budget airlines and is located next to the international airport in Kuala Lumpur (KLIA). The dramatic fall in transport costs is undoubtedly a strong pull factor.

3.3.6 Accredited medical care

The availability of medical care that is accredited internationally is another major pull factor. The US-based Joint Commission International (JCI), the oldest and largest standards-setting and accrediting body in health care, has spread its services worldwide. According to its website, "JCI works to improve patient safety and quality of health care in the international community by offering education, publications, advisory services, and international accreditation and certification. In more than 100 countries, JCI partners with hospitals, clinics, and academic medical centres; health systems and agencies; government ministries; academia; and international advocates to promote rigorous standards of care and to provide solutions for achieving peak performance"[8]. Among the plus factors highlighted was the fact that 14 hospitals in the country had been accredited by Joint Commission International (JCI), (see Section 3) with almost all doctors being fluent in English and the majority having received training from the United Kingdom, the United States or Australia (*The Star*, February 7, 2019).

3.3.7 Reduction in search costs

A recent study on medical tourism noted that patients cited word-of-mouth and internet searches as the leading determinants of the choice of destination (Weis, Sirard and Palmieri, 2017). The ease of internet searches has reduced the cost and effort involved in identifying and assessing alternative medical tourist destinations. In response to this need for information, numerous medical tourism companies have cropped up. Their websites "sell custom-made packages in warm climates, for the procedure (they seek), as well as ancillary arrangements such as hotel, transfers, and flights" (Weis, Sirard and Palmieri, 2017). Malaysia too has set up a website under Medical Tourism

[7] https://www.verdict.co.uk/world-tourism-day-low-cost-carriers/
[8] https://www.jointcommissioninternational.org/

Malaysia (https://medicaltourismmalaysia.com/) to disseminate valuable information to intending medical travellers.

3.3.8 Ease of adjustment at the destination

Despite the decline in the number of Indonesian medical travellers over the years, they make up an important share of medical travellers in the region. In competing for a share of the Indonesian medical travellers, both Singapore and Thailand have fallen behind Malaysia. High costs in Singapore has eroded its competitiveness, while in the case of Thailand, higher costs and unfamiliarity with its culture, religion, and language have made the country less popular among Indonesians. In contrast, medical centres in Malaysia are attractive to Indonesians not only because the care is cheap and of high quality, but the culture, customs and food are familiar.

. 4. Services Offered

The global medical tourism market in 2018 was segmented by types of treatment to Cosmetic treatment, dental treatment, cardiovascular treatment, orthopaedic treatment, bariatric treatment (on weight loss) and so on in terms of revenue generated (Mordor Intelligence, 2018).

The treatments sought after by healthcare travellers in Malaysia follow the global trend. In 2016, cardiology, oncology, orthopaedics, fertility treatment, dental care, and cosmetic surgery were the top six treatments sought by healthcare travellers (MHTC, 24 April 2017). In 2017, the top medical fields in demand remained the same**:** cardiology, fertility treatment, orthopaedics, oncology, neurology, gastroenterology, dental care and cosmetic surgery (MHTC, 13 September 2018). To propel the industry to the next level of growth, there was a need to carve a niche identity in the industry. It was decided that cardiology and fertility treatments would be used to provide the catalyst for growth as the industry excels in these two areas (MHTC, 15 August, 2018).

The contribution to medical tourism revenue by the type of treatment in Malaysia is difficult to compute as relevant data are not readily available. It was reported, however, in 2016, dental treatment was the largest contributor, accounting for 36% of healthcare travellers and generating revenue of about RM399 million (TMR, 2017). This was followed by cosmetic surgery, orthopaedic treatment, and health screening. The four types of treatment accounted for more than 70% of the total medical tourism revenue in 2016.

5. Challenges

While there are tremendous benefits of the ever-increasing inflow of healthcare travellers, rumbles of discontent have also been heard. This was particularly evident in Penang state, which attracts the bulk of all medical tourists coming to Malaysia.

The first concern was expressed by the state executive member in charge of health for the state who feared that medical tourists were crowding out local patients in the publicly-run Penang General Hospital (PGH) (Mok, 2013). This occurs when a medical traveller who is admitted to a private hospital develops complications that were not foreseen in the beginning. And if these complications require specialist attention not available in the private facility, he/she will be referred to PGH if such specialists are found there. For example, in sub-specialities such as rheumatology and nuclear medicine,

all specialists in the state are located in the PGH[9]. Referrals to such specialists from the private hospitals on behalf of medical tourists compete with locals struggling to get appointments. And if medical tourists are admitted, they take up bed spaces in the already crowded facility that might have otherwise gone to locals. Furthermore, foreign patients who can no longer afford long stays at the private hospital either to recuperate or to receive intensive care often opt to transfer to PGH because, although they are charged full fees, the cost borne remains substantially below what they would pay in the private facility. Being a publicly funded medical facility, PGH cannot turn away patients

To reduce this problem, the state has organized meetings with private hospitals. One of the solutions suggested is for private hospitals to take in medical tourists based on their respective resource capacities and capabilities; this will at least reduce future spill-overs to the public hospital (Mok, 2013).

Another concern, particularly in Penang, is the fear that communicable diseases like tuberculosis (TB) can re-emerge through health travellers coming to the state and staying in residential properties that have been converted, often without the knowledge of the authorities, to short-term home-stay premises (Chow, 2018). Under the Town and Country Planning Act, this is not allowed as residential properties cannot be used for short-stay rentals (*The Star*, May 20, 2016). Yet, there is no indication that health travellers with communicable diseases are being monitored on arrival to ensure the danger of spreading is being minimized. The fact that these homestay facilities are found in heavily populated residential properties compounds these fears, and more so since the majority of healthcare travellers to the state are from Indonesia. Heath tourists from Indonesia were reportedly the source responsible for one-half of the multidrug-resistant TB (MDR-TB) cases reported in Singapore (cited in Chow, 2018).

More generally, another adverse effect of medical tourism is that the financially lucrative industry is concentrated in the private health care sector. This draws away highly trained and experienced medical care personnel from the public healthcare system, resulting in a shortage of doctors and specialists in the latter. The country had a ratio of 1.6 doctors per 1000 population (in 2016) in the ASEAN region, lower than in Singapore and Brunei (Malaysian Healthcare Performance Unit, 2020). The shortage of doctors (including specialists) is intensified by the growth of healthcare travellers. Overcrowding and long queues are a daily occurrence in public hospitals. To mitigate the problem, the government now allows major public hospitals to set up private wings, where patients are charged full fees. This scheme was initiated to allow government doctors to earn extra income and reduce their incentive to migrate to the private sector. Major government hospitals that have set up private wings include University Malaya Medical Centre (UMMC), Universiti Kebangsaan Malaysia Medical Centre (UKMMC), and at the Putrajaya and Selayang hospitals (*The Sun*, May 27, 2014).

To prevent abuse of the scheme, strict regulations are implemented. At the UMMC, for example, government doctors are allowed to work in the private wing for only three sessions a week and these sessions are limited to the afternoon and after office hours. In practice, many doctors are only able to benefit from one or two sessions a week due to their commitments in the public wing. Moreover, doctors are not allowed to transfer their private patients to the public wing. Doctors found to be flouting these regulations are subject to disciplinary action including suspension (*The Sun*, May 27, 2014). There have been allegations of abuse of the system including claims that some senior medical consultants allocate their office hours in the public wing to seeing their full-paying patients because they could earn higher fees. However, the Malaysian Medical

[9] A rheumatologist is a sub-specialist dealing with rheumatic diseases while nuclear medicine uses molecular therapy and radiopharmaceuticals for diagnosis and therapy.

Association (MMA) believes that such lapses are not widespread (*The Sun*, May 27, 2014; Idris, 2010).

An alternative approach used by the government to reduce the loss of specialists to the private sector is to permit government specialists to work in private hospitals one day per week. As most public hospitals do not have private wings, the latter approach is more often practised especially in the major cities that have private hospitals which are actively involved in promoting medical tourism such as Kuala Lumpur, Penang and Johor Bahru. Besides, government doctors, including general practitioners, are allowed to provide locum services in the private sector on a controlled basis.

Another major concern is the multiple roles the government plays in the healthcare system. It is the provider of public healthcare, the regulator as well as the major investor in private healthcare. This involvement of government-linked healthcare institutions implies a conflict of interest and the existence of divergent priorities of the government since the primary purpose of public healthcare of the government is to provide affordable healthcare to the general public. To mitigate this potential problem, the government might consider apportioning a part of the revenue from medical tourism derived from their private healthcare institutions for the benefits of Malaysian private healthcare users. Unfortunately, there is an absence of transparency on how the revenue is utilised. In fact, there is anecdotal evidence to suggest that the rapidly increasing medical charges of private healthcare are, in part, due to the rising demand from the expansion of medical tourism.

The industry is also facing at least two short-term or immediate challenges; these include the following:

5.1 Jaminan Kesehatan Nasional

One of the major challenges faced by private hospitals dependent heavily on Indonesian patients was the *Jaminan Kesehatan Nasional* Programme (JKN) in Indonesia that took effect in 2014. Meant to cover all Indonesians, its coverage expanded to about 76% of the population by mid-2018. It is providing access to health services, especially for the poor and the near-poor or the bottom 40% of the population by income (Britton, Koseki and Dutta, 2018). Since the start of the programme, Penang hospitals reported a significant drop in medical tourists from Indonesia (Liew and Lim, 2015).

The Chief Executive Officer of Gleneagles Hospital in Penang estimated that a reduction of a quarter of the peak Indonesian visits in 2013 would translate into a revenue loss of RM100 million for all private hospitals in Penang. And in the extreme scenario of a complete halt of Indonesians coming to Penang would result in losses equivalent to the closure of two medium-sized hospitals (cited in Liew and Lim, 2015).

The Penang Adventist Hospital, where about 92% of medical tourists are Indonesian, appeared less perturbed by the development. Its director of business development and marketing noted that the JKN might reduce patients by about 5% since its greatest impact will be on the lower-income group; middle-and higher-income class patients will still find treatment abroad attractive (cited in Liew and Lim, 2015). In any case, the uptake of JKN, despite its claimed coverage, appears to be slow due to misgivings on the part of patients, including the perception that patients in Java are better served by JKN than patients elsewhere (Ekawati et al., 2017). This suggests that there is a potential tremendous base available in Indonesia that can still be tapped.

The longer-term solution is, of course, to move away from over-dependence on a single source country. Potential markets include Myanmar, Vietnam, China, and Bangladesh— where a growing middle class is finding charges in government hospitals either too high, or the standards of service too low, and domestic private alternatives too

few. Of course, the Malaysian Government support for these initiatives is crucial and thankfully appears to be forthcoming.

5.2 Weakening Ringgit

The financial implications of the weakening ringgit have caused concern among hospitals engaged in medical tourism. Although it may be a short-term concern, it can affect the bottom-line of hospitals severely. On the one hand, the weakening ringgit has made destinations like Singapore unattractive because its strong dollar translates into high medical care costs to medical tourists. (*Singapore Business Review, 28 August 2018*). And by the same token, the weakening ringgit makes medical care costs in Malaysia even more affordable to the medical tourist (*The Malaysian Reserve, 2 Jan. 2019*). On the other hand, many of the key inputs in the healthcare industry like drugs, medical supplies, and medical equipment are imported inputs denominated in US dollars. A weakening ringgit raises the cost of these inputs and hospitals are left with the difficult choice of absorbing the rising cost or passing it on to patients. The jury is still out on whether or not the net outcome of these opposing effects of the weak ringgit will favour the Malaysian health tourism sector.

6. Summary and Looking Ahead

The medical tourism industry has provided a boost to the economic growth of the country by providing employment (both directly and indirectly) and revenue (both directly and through spill-over activities). The government has not only established a healthy policy environment but has also participated directly by holding a stake in all the major private healthcare facilities that actively participate in this industry.

The flip side is that there is a potential conflict of interest as the government also sponsors the heavily used public health system. The greater challenge facing the industry is to realistically assess its long-term prospects. In the current phase, with medical travellers flooding into the country, many hospitals are scurrying to expand physical infrastructure, and services apart from medical services, to meet, greet and house them. New hospitals by new players are also in the pipeline to tap into this lucrative market. But the market cannot grow forever and at least three developments would point to this. First, as the medical services in the source countries improve and their capacities to serve their citizens grow, there will be growing pressures within these source countries to restrain their citizens from travelling abroad for medical attention. The loss of foreign exchange suffered by these source countries on account of medical travellers alone will be a strong reason to discourage their citizens from seeking medical attention abroad. Second, as incomes in these source countries increase, healthcare travellers will likely explore other healthcare destinations, especially for specialized services, because cost becomes less of an issue. Thus, for example, people who come to Malaysia seeking cosmetic surgery because it is closer and cheaper may turn to a destination like Korea, which is famed for such services, even if it costs more. Third, the fact that the majority of Malaysian specialists are foreign-trained is a major pull factor. This advantage is likely to be eroded over time as more and more specialists become domestically trained. Unless their expertise level is known to be as good as foreign-trained specialists (and this knowledge is transmitted through personal experiences of patients through word of mouth), Malaysia's attraction as a medical tourism destination may be adversely impacted.

Industry players in Malaysia appear to be oblivious about these issues, or at least, appear not to be too worried about such a prospect. Being a long-term prospect (and no one can foresee how long it will take for these developments to affect the local medical

tourism market), not much weight is being given to it. But one can foresee a time when high-cost players will be forced to close operations and long-time players being left with excess capacities if these issues are not addressed in a timely fashion.

The Malaysian experience also provides some insights for the challenges likely to be faced by the Thai medical tourism industry as well. As in Malaysia, medical tourism has seen a rapid expansion over the last two decades and contributed to the Thai economy by providing employment (both directly and indirectly) and revenue (both directly and through spill-over activities). Like in Malaysia, the Thai government has played an active role in promoting medical tourism and has provided a healthy policy environment for its growth. However, as the industry continues to expand, Thailand too will face challenges not unlike the ones discussed earlier in the Malaysian context. Three are particularly relevant; first, the brain drain of experienced and highly trained public healthcare workers to the private sector will undoubtedly strain the public healthcare system, and, if not addressed, will compromise the care available to the general public. Second, the flood of medical tourists willing to pay for health services will surely push the demand and price of private healthcare up further beyond the reach of many Thai citizens. Third, the prospect of excess capacity that looms over the private health care system in Malaysia is equally relevant for Thailand as the sources of medical tourists for both countries overlap. In this context, it is noteworthy that some private healthcare facilities in Singapore are already suffering from excess capacity and "the Singapore Tourism Board has confirmed that it is no longer pursuing medical tourism '*as a travel strategy*'". A health economist was quoted as saying that [the Singapore] "government did not anticipate the competition from surrounding countries" (cited in International Medical Travel Journal, May 1, 2019). A potentially similar scenario awaits both Malaysia and Thailand in the face of improving medical services in source countries.

References

Al-Lamki, L. (2011). Medical tourism: Beneficence or maleficence? *Sultan Qaboos University Medical Journal*, 11(4), 444–447.

Azmi N.A., Chandran S.D., & Puteh F. (2017). Medical tourism industry in Malaysia in the 21st century. *Southeast Asian Social Science Review*, 2(2), 37-53.

Bernama (2018, August 15). Malaysia aims to be Asia's fertility and cardiology treatments hub by 2020. Retrieved from https://www.mhtc.org.my/mhtc /2018/08/15/malaysia-aims-to-be-asias-fertility-and-cardiology-treatments-hub-by-2020/

Bernama. (2018, December 29). Weakening ringgit a boost to Malaysia's healthcare tourism. Retrieved from http://health.bernama.com/news.php?id=1679711

Britton, K., Koseki, S., Dutta, A. (2018). *Expanding markets while improving health in Indonesia: Private health sector market in the JKN era*. Washington, DC: Palladium, Health Policy Plus; and Jakarta, Indonesia: TNP2K.

Buletin Mutiara (2017, April 17). Penang takes the lead in health tourism. Retrieved from https://www.buletinmutiara.com/penang-takes-the-lead-in-health-tourism/

Chee, H.L. (2007). Medical tourism in Malaysia: International movement of healthcare consumers and the commodification of healthcare, *Working Paper Series* No. 83, Asia Research Institute, Singapore.

Chow, S. L. (2018). Public health concerns and implications of medical tourism in Penang. *Turkish Journal of Public Health*, 16(3), 237-240.

Department of Statistics Malaysia (DOSM) (2017). Malaysia Economic Statistics. Retrieved from https://www.dosm.gov.my/v1/uploads/files/3_Time%20Series/ MalaysiaTime Series_2016/01_Akaun_Negara.pdf

Drawing in the medical tourists. (2011, March 7). The Edge Markets. Retrieved from https://www.theedgemarkets.com/article/drawing-medical-tourists

Ekawati F. M., Claramita, M , Hort K, Furler J, Licqurish S, & Gunn J. (2017). Patients' experience of using primary care services in the context of Indonesian universal health coverage reform. *Asia Pacific Family Medicine*, 16(1), 1-10.

Golden Emperor (2015). Penang hospitality market growth. Retrieved from https://goldenemperor.com/others/news/penang-hospitality-market-grow th-eng/

Idris, S. M. (2010, March 9). Private wings will cripple public healthcare. Retrieved from https://www.malaysiakini.com/letters/126095

International Medical Travel Journal (2019, May 1). Medical tourism in Singapore "No longer a priority". Retrieved from https://www.imtj.com/news/medical-tourism-in-singapore-no-longer-a-priority/

Jaturapatporn, H., & Hathirat, S. (2006). Specialists' perception of referrals from general doctors and family physicians working as primary care doctors in Thailand. *Quality Primary Care*, *14*(1) 41-48.

Khairunnisa, C., & Muhammad Hatta (2017). The development of health tourism Industries in Malaysia. *Scientific Journal of PPI-UKM, 4*(1), 1-11.

Liew D., & Lim C.H. (2015, October). Medical tourism: A billion-ringgit industry for Penang. Retrieved from https://penangmonthly.com/article.aspx?pageid=3936 &name=medical_tourism_a_billionringgit_industry_for_penang

Malaysian Device Authority (MDA) (2019). List of registered conformity assessment body (CAB). Retrieved from https://portal.mda.gov.my/industry/conformity-assessment -body-cab/status.html

Malaysian Healthcare Performance Unit (2020). Malaysian Health at a Glance, 2018. Retrieved from https://www.moh. gov.my/moh/ penerbitan/MYHAAG2018.pdf

Medical Tourism.com (2019). International Medical Treatment Prices, 2019. Retrieved from https://medicaltourism.com/Forms/price-comparison.aspx

MHTC (2017, April 24). A million medical tourists for Malaysia in 2017. Retrieved from https://www.mhtc.org.my/mhtc/2017/04/24/a-million-medical-tourists-for-malaysia-in-2017/

MHTC (2018, August 15). Malaysia aims to be Asia's fertility and cardiology treatments hub by 2020. Retrieved from https://www.mhtc.org.my/mhtc/2018/08/15/malaysia-aims-to-be-asias-fertility-and-cardiology-treatments-hub-by-2020/

MHTC (2018, Sept. 13). Getting hotels to cater to healthcare travellers in Malaysia. Retrieved from https://www.mhtc.org.my/mhtc/2018/09/13/getting-hotels-to-cater-to-healthcare-travellers-in-malaysia/

MHTC (2019, May 3). Malaysia's medical tourism on a high. Retrieved from https://www.mhtc.org.my/mhtc/2019/05/03/malaysias-medical-tourism-on-a-high/

MHTC (2019, December 6). Getting hotels to cater to healthcare travellers in Malaysia. Retrieved from https://www.mhtc.org.my/mtma/2019/12/06/getting-hotels-to-cater-to-healthcare-travellers-in-malaysia/

MHTC (nd). Global recognition. Retrieved from https://www.mhtc.org.my/global-recognition/

MHTCa (nd). Malaysia healthcare concierge & lounge. Retrieved from https://www.mhtc.org.my/discover-mhtc/malaysia-healthcare-concierge-lounge/

Malaysia Tourism Promotion Board (2009). Launching ceremony of the rebranding of the Malaysia My Second Home Programme. Retrieved from https://www.tourism.gov.my/media/view/launching-ceremony-of-the-rebranding-of-the-malaysia-my-second-home-programme

Malaysia Tourism Promotion Board (2013). The first medical tourism concierge and lounge in Malaysia: Seamless service for medical tourists. Retrieved from https://www.tourism.gov.my/news/trade/view/the-first-medical-tourism-concierge -and-lounge-in-malaysia-seamless-service-for-medical-tourists

Malaysian Industrial Development Authority (MIDA) (2020). Medical and healthcare services, Malaysia: Investment in the services sector, Kuala Lumpur. Retrieved from https://www.mida.gov.my/home/administrator/system_files/modules/photo/uploads/20200131123700_BOOKLET%2015%20MEDICAL%20AND%20HEALTHCARE%20SERVICES.pdf

Malaysian Industrial Development Authority (MIDA) (2018). Guidelines: Application for tax incentive for the promotion of healthcare. Retrieved from https://www.mida.gov.my/home/administrator/system_files/modules/photo/uploads/20180215174549_Guidelines%20Application%20for%20Tax%20Incentive%20for%20the%20Promotion%20of%20Healthcare%20Travel%20as%20at%208%20February%202018).pdf

Ministry of Health Virtual Library (MOH) (2009, 2016, 2017, 2019). Health Indicators Retrieved from https://www.moh.gov.my/cms/content.jsp?id=com.tms.cms.Section.Section _3296f5dc-a0188549-72493700-64325650

Ministry of Health (MOH) (2008-2016). Health Facts. Retrieved from https://www.moh.gov.my/moh/resources/Penerbitan/Penerbitan%20Utama/HEALTH%20FACTS/Health%20Facts%202019_Booklet.pdf

Ministry of Home Affairs (MHA) (2016). Visa Requirement by Country. Retrieved from https://www.imi.gov.my/index.php/en/main-services/visa/visa-requirement-by-country

Ministry of Tourism, Arts and Culture Malaysia (MOTAC) (2014). Malaysia My Second Home Programme. Retrieved from http://www.mm2h.gov.my/index.php/en/home/programme/about-mm2h-programme

Mok, O. (2013, July 30). Penang medical tourism boom taxes state hospital, *Malay Mail*, Retrieved from https://www.malaymail.com/news/malaysia/2013/07/30/penang-medical-tourism-boom-taxes-state-hospital/502147

Mordor Intelligence (2018). *Medical Tourism Market - Growth, Trends, and Forecast (2019 - 2024).* Retrieved from https://www.mordorintelligence.com/industry-reports/medical-tourism-market?

Ormond, M., Wong, W.K., & Chan, C. K. (2014). Medical tourism in Malaysia: how can we better identify and manage its advantages and disadvantages? Retrieved from https://www.tandfonline.com/doi/full/10.3402/gha.v7.25201?scroll=top&needAccess=true

Pemandu (Performance Management and Delivery Unit). (2010). *Economic Transformation Programme: A Roadmap for Malaysia,* Putrajaya: Prime Minister's Dept. Retrieved from https://www.moh.gov.my/moh/resources/auto%20download %20images/5ca1b2091c93f.pdf

Pemandu (Performance Management and Delivery Unit). (2015*) National Transformation Programme, Annual Report, Putrajaya: Prime Minister's Dept. Retrieved from* http://lib.perdana.org.my/PLF/PEMANDU/PEMANDU/ENG_PEMANDU_NTP_AR2015_260416.pdf

Penang, a medical tourism destination, needs more space. (2016, May 20). *The Star*. Retrieved from https://www.thestar.com.my/lifestyle/travel/2016/05/20/penang-needs-more-space-for-medical-tourism

Singapore Business Review (2018, August 29). IHH Healthcare Q2 profits crashed 65.8% to $104.49m. Retrieved from https://sbr.com.sg/healthcare?page=2&page%3D10=

Surendra, E. (2017, November 3). Singapore Vs. Malaysia: Who reigns supreme in medical tourism? Retrieved from https://www. imoney.my/articles /singapore-vs-malaysia-reigns-supreme-medical-tourism

The Edge Markets (2020, July 21). MHTC lowers 2020 medical tourism revenue target to RM500 mil. Retrieved from https://www.theedgemarkets.com/article/mhtc-lowers-2020-medical-tourism-revenue-target-rm500-mil

The Malaysian Reserve (2019, January 2). Weakening ringgit a boost to Malaysia's healthcare tourism. Retrieved from https://themalaysianreserve.com/ 2019/01/02/ weakening-ringgit-a-boost-to-malaysias-healthcare-tourism/

The Star (2009, February14). Malaysian medical tourism growing. Retrieved from https://www.thestar.com.my/business/business-news/2009/02/14/malaysian-medical-tourism-growing/

The Star, (2014, March 6). Medical schedule shows hikes of more than 200% . Retrieved from https://www.thestar.com.my/News/Nation/2014/03/06/Fees-up-and-its-dizzying-Medical-schedule-shows-hikes-of-more-than-200/

The Star (2018, October 18). IJN to have three branches out of KL. Retrieved from https://www.thestar.com.my/news/nation/2018/10/18/ijn-to-have-three-branches-out-of-kl/

The Star (2019, February 7). Malaysia ranks 1st in world's best healthcare category. Retrieved from https://elevenmyanmar.com/news/malaysia-ranks-1st-in-worlds-best-healthcare-category-asianewsnetwork

The Star (2019, March 13). IJN rebuts Yahya's claims. Retrieved from https://www.thestar.com.my/news/nation/2019/03/13/ijn-rebuts-yahyas-claims/

The Star (2018, March 22). Khazanah buys Prince Court Medical Centre from Petronas. Retrieved from https://www.thestar.com.my/business/business-news/2018/03/22/khazanah-buys-prince-court-medical-centre-from-petronas

The Sun Daily (2014, May 27). Specialists at govt, teaching hospitals cash in on private patients Retrieved from https://www.thesundaily.my/archive/1059238-FRARCH 253890

The Sun Daily (2019, July 9). Expertise in oncology puts Malaysia on medical tourism map. Retrieved from https://www.thesundaily.my/local/expertise-in-oncology-puts-malaysia-on-medical-tourism-map-XM1079734

Tourism Malaysia (nd). Malaysia Tourism Statistics in Brief. Retrieved from https://www.tourism.gov.my/statistics.

Transparency Market Research (TMR) (2017). Malaysia medical tourism market: Snapshot. Retrieved from https://www.transparencymarketresearch.com/malaysia-medical-tourism-market.html

Verdict. (2017, September 27). World Tourism Day: How low-cost carriers changed the world. Retrieved from https://www.verdict.co.uk/world-tourism-day-low-cost-carri ers/

Weis, J. L., Sirard, R.B., & Palmieri, P. A. (2017). Medical tourism: the role of the primary care provider. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6169951/