

2018 PROPERTY INSIGHTS

Healthcare
in Malaysia



ABOUT US

FORMATION OF CBRE | WTW

CBRE | WTW entered into an agreement in May 2016 to form a joint venture to provide a deep, broad service offering for the clients of both firms. This combines Malaysia's largest real estate services provider, WTW's local expertise and in-depth relationships in Malaysia with CBRE's global reach and broad array of market leading services.

The union of CBRE and WTW is particularly significant because of our shared history. In the 1970s, CBRE acquired businesses from WTW in Singapore and Hong Kong, which remain an integral part of CBRE's Asian operations.

The wider WTW Group comprises a number of subsidiaries and associated offices located in East Malaysia including:

- C H Williams Talhar Wong & Yeo Sdn Bhd (1975)
- C H Williams Talhar & Wong (Sabah) Sdn Bhd (1977)
- C H Williams Talhar & Wong (Brunei) Sdn Bhd

ABOUT WTW

Colin Harold Williams established C H Williams & Co in Kuala Lumpur in 1960. C H Williams & Company merged in 1974 with Talhar & Company founded by Mohd Talhar Abdul Rahman and the inclusion of Wong Choon Kee to form C H Williams Talhar & Wong (WTW).

In 1975, C H Williams Talhar Wong & Yeo (WTWY) was established in Sarawak. C H Williams Talhar & Wong (Sabah) (WTWS) was established in 1977.

The current management is headed by Group Chairman, Mohd Talhar Abdul Rahman.

The current Managing Directors of the WTW Group operations are:

- CBRE | WTW: Mr. Foo Gee Jen
- C H Williams Talhar & Wong (Sabah) Sdn Bhd: Mr. Leong Shin Yau
- C H Williams Talhar Wong & Yeo Sdn Bhd: Mr. Robert Ting Kang Sung

ABOUT CBRE

CBRE Group, Inc. (NYSE:CBG), a Fortune 500 and S&P 500 company headquartered in Los Angeles, is the world's largest commercial real estate services and investment firm (in terms of 2014 revenue). The Company has more than 70,000 employees (excluding affiliates), and serves real estate owners, investors and occupiers through more than 400 offices (excluding affiliates) worldwide. CBRE offers strategic advice and execution for property sales and leasing; corporate services; property, facilities and project management; mortgage banking; appraisal and valuation; development services; investment management; and research and consulting.

SYSTEM AND STRUCTURE

WHY HEALTHCARE?

It is natural that welfare enhancement comes under the spotlight in the process of economic advancement, the healthcare services and demand should thus, grow in tandem. As Malaysia climbs up the economic ladder, the population would be more affluent, health-conscious and therefore, has higher propensity to spend on healthcare.

From the aspect of income, improving spending power provides allowance for consumers to seek for presumably better quality healthcare services from the private sector at higher charges. Viewing from demographic standpoint, ageing Malaysian population will translate into natural demand source for healthcare.

The expansion of healthcare sector is not solely dependent on the demand from the local population. Apart from the conventional medical services, there are also other associated sectors that would complement and supplement the overall healthcare system. Examples would be the medical insurance and medical tourism. In reality, these auxiliary sectors could play the supply and demand roles for each other interchangeably. They have to be included in the context of healthcare, which we will go through in the later sections.

HEALTHCARE IN REAL ESTATE

Hospitals are becoming a viable component in a township development that can enhance overall property value. Proximity to a hospital has also been regarded as essential to developments with potential for retirement living. In recent years, we are seeing developers such as Sunway and Sime Darby have taken one step further to venture directly into the private healthcare sector.

The provision of land within a township development for a future hospital establishment should be a natural choice to developers as part of the development mix. To fulfil such purpose, land of about 1.5 acres would suffice for city area but with more land available in the suburban areas, 4 – 6 acres would be preferable. Depending on the number of beds planned, the gross floor area of a 100-bed hospital will be about 175,000 square feet and may be as large as 500,000 square feet for a 250-bed hospital.

When should the hospital be developed? For a 100-bed hospital, CBRE | WTW estimates a minimum population catchment of about 200,000 based on the current ratio of 1.9 beds per 1,000 population. A hospital development is therefore likely to arise in the advanced/matured stages of the township development.

The further upside of hospital allocation is that this land parcel would have been provisionally approved for commercial use. If a hospital development is not required in the future, there will be other alternative commercial developments.

HEALTHCARE DELIVERY SYSTEM

Similar to all countries, the healthcare industry in Malaysia is highly regulated with regards to licensing and registration requirements for medical practitioners to safeguard the safety and quality of products and services provided to the public. Legislations also address public other healthcare-related matters such as disease control, handling of harmful materials, fair and healthy market practices and so on.

Apart from the Ministry of Health (MOH), it is required by laws that healthcare professionals and the associated workforce obtain registration from the respective registrars in order to practice in Malaysia.

The administration of healthcare system in Malaysia is centralised on the hands of MOH, supported by central, state and district offices. The Ministry plays a tri-partite role of administrator, funder and operator of public healthcare facilities. This centralisation enables the Ministry to establish standards of medical practices and stable growth in the healthcare industry nationwide.

The other public healthcare providers in Malaysia are the public university teaching hospitals such as University Malaya Medical Centre (UMMC) and Universiti Kebangsaan Malaysia Medical Centre (UKMMC). Apart from that, other ministries and government agencies also take part to provide healthcare services catered for specific groups like the Ministry of Defence and the Ministry of Home Affairs.

SYSTEM AND STRUCTURE

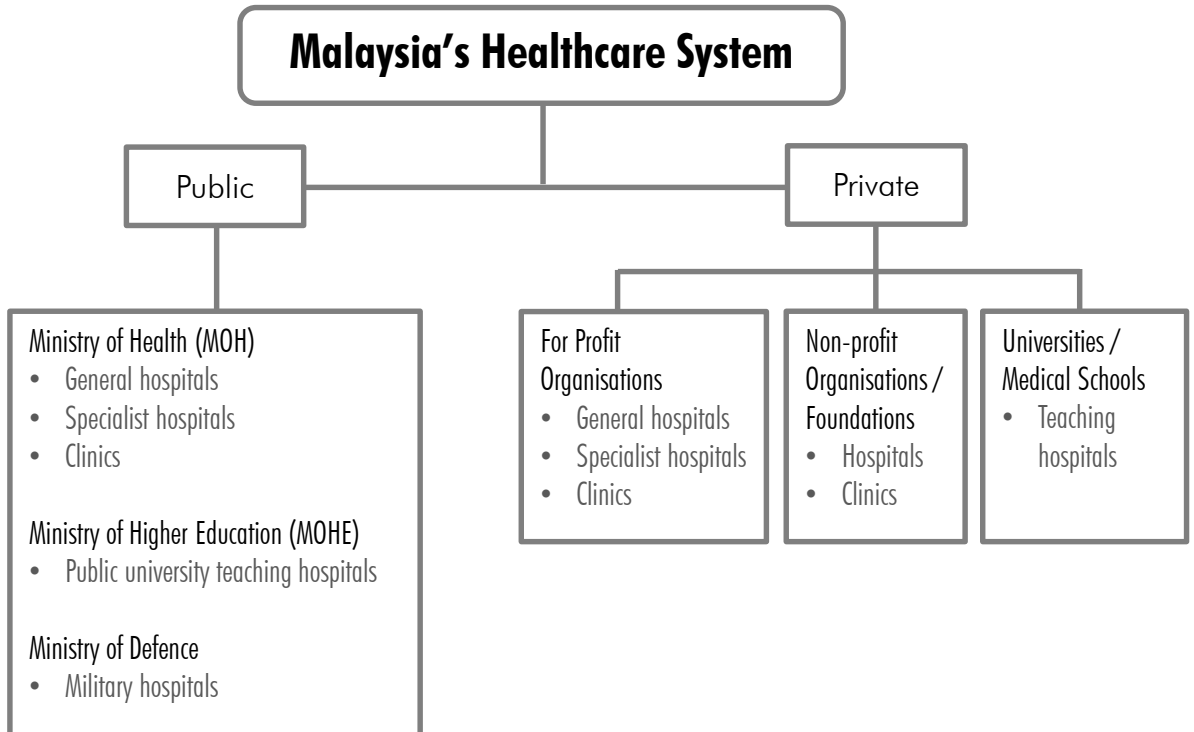


Regulatory Bodies

- Malaysian Medical Council for medical practitioners (doctors and specialists)
- Malaysian Dental Council for dentists
- Nursing Board for nurses
- Midwives Board for midwives
- Malaysia Pharmacy Board for pharmacists
- Medical Assistants (Registration) Board for medical assistants
- Malaysian Optical Council for opticians and optometrists

Functions

- Register and deregister professionals
- Issue practice certificates
- Approve training degrees
- Approve premises for training
- Issue guidelines and standards
- Conduct examinations
- Conduct inquiries into malpractice complaints



Source: Frost & Sullivan

SYSTEM AND STRUCTURE

The private sector generally operates in urban areas providing curative, diagnostic health services and some ambulance services. Generally, it is estimated that the public sector serves about 82% of the Malaysian population, leaving 18% to the care of private hospitals.

Social and civil organisations in Malaysia - the Fire Brigade, Red Crescent Society and St. John's Ambulance Brigade - are also contributors to the healthcare system. These organisations complement and support the public hospitals through provision of medical care for minor injuries and ailments in areas. They also conduct public gatherings that public hospitals are unable to cover and raise awareness through campaigns.

FUNDING AND REVENUE

The funding for public healthcare in Malaysia comes principally from federal-level tax revenue which is then channeled to the Ministry of Health through annual budget allocations. The allocation is utilised mainly for operations, capacity building and procurements of pharmaceuticals and medical supplies.

Patients in Malaysia's public healthcare facilities are entitled to free medical and dental services if they are civil servants, old age pensioners, school children or the very poor. Public healthcare services are still very accessible for the general Malaysian population since they are entitled to very low government fees/charges for general care services and medical prescriptions. These subsidised charges are not available to foreigners seeking medical services from public healthcare facilities.

Some public hospitals and facilities in Malaysia appears to be lagging behind in terms of capacity which then resulted in over-crowding and long-waiting times. Jam-packed public healthcare facilities has driven healthcare seekers with higher disposable income or better medical benefits from insurance providers or employers to opt for private healthcare services. Private healthcare is able to expedite cases but charges full medical fees.

Although the Private Healthcare Facilities and Services Act 1998 together with the Malaysian Medical Association provide guidelines and recommendations on fees chargeable for private medical care services, private hospitals are free to set their prices. A similar situation applies to the dental health sector as the dental charges in the provision are only indicative.

SETTING-UP A PRIVATE HOSPITAL

The establishment of a private hospital requires zoning approval from the local authority and a license from the Ministry of Health.

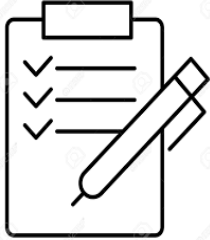
The zoning application essentially requires justification for the need of a private hospital in the area and demonstration of compliance to specifications set for different types of hospital buildings

An applicant needs to prepare a feasibility study of the circumscribed study area of 30 km for Peninsular Malaysia and 50 km for Sabah and Sarawak. The study should include the existing supply of public and private hospitals with total number of beds and the projected population in the locality for the next 3 years.

The subsequent phase of establishment application look into the site plan and detailed floor plan, outlaying the setup of the private hospital.

As part of the procedure in license application to operate or provide the respective healthcare facilities or services, inspection on the premise will usually be carried out including physical equipment. This is to ascertain that they are consistent with the site plan, floor plan and other specifications declared in the establishment approval. Inspection may also be undertaken on intellectual properties - records, guidelines, policies and other documents - possessed by the private facility or service to determine its adherence to the standards and requirements outlined by MOH.

SYSTEM AND STRUCTURE



Considerations in approving a hospital

- ✓ The nature of the healthcare facility or service – multidisciplinary or niche
- ✓ The extent to which the private and public healthcare facilities and services are already available in the prescribed area
- ✓ The demand for healthcare facilities and services as defined in the ratio of 2.5 beds:1000 residents for an area within a circumscription of 30 km for Peninsular Malaysia and 50 km for Sabah and Sarawak
- ✓ The future demand for healthcare facilities and services in an area
- ✓ Any other relevant matters such as replacement of existing private hospital or for health tourism

Approval Processes to Set-up a Private Hospital



- Exact location of the proposed hospital
- Compliance to building specifications
- Facilities and services to be offered
- Size of workforce
- Feasibility study
- Ownership of the entity for the private hospital
- 4 to 5 weeks to process

Proceed within 6 months

- Breakdown of workforce by facilities, equipment and services
- Site plan at a minimum scale 1:5000
- Floor plan with building layout and mechanical and electrical, design, construction, specification and the types of facilities or services to be offered
- 5 to 9 weeks to process

Proceed within 3 years

- Inspection, usually within 1 to 3 weeks after lodgment
- 1 to 3 months to process
- Renew every 2 years

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MARKET OVERVIEW

HEALTHCARE DEMAND

Malaysian healthcare sector comprises two parallel systems: government-run hospitals which provide medical services to the majority of the population and private hospitals and clinics that cater to the more affluent including foreigners.

Changes to demography in the forms of aging population, longer life expectancy and higher incidence of health problems due to the stresses of modern-day work and living conditions, has increased the demand for greater and more diverse healthcare services. This presents a tremendous expansion opportunity for healthcare business. On the public welfare perspective, healthcare is a major component of the Malaysia's federal budget. On the commercial consideration, healthcare is indeed an uprising economic sector, poised to be one of the engines of growth of Malaysia's economy.

The demand for healthcare services is fundamentally driven by the country's population base, while the types of services in demand are influenced by its age profile, income, occupation, lifestyle, etc. Previously a developing country with a relatively smaller population base, Malaysia's population growth is persistent with a

moderate to high birth rate while death rate declines as living conditions improved. As of 2017, Malaysia's population amounted to 32.1 million, resultant of an annual growth of 1.58%.

Latest estimates of life expectancy by MOH indicates that the average lifespan of male and female are 72.5 and 77.2 years old respectively. The birth and death rates per 1,000 population are 16.1 and 5.1, respectively. These are comparable with regional and global health standards using World Health Organisation data.

The combination of higher life expectancy and lower crude birth rate observed suggests an ageing population. Statistics by DOSM indicate that ageing group accounts for 6% of the Malaysian population in 2016. By 2050, 20% or 4.46 million Malaysians will be over 60 years old.

Malaysia possesses a large productive population (15 – 64 years) estimated at about 70% of the total population. There is a growing middle income group and GDP per capita is higher than most SEA countries with the exception of Singapore and Brunei. The rise of middle and high income segment spurs demand for better quality healthcare.

Economic and Population Indicators					
	2006	2010	2014	2016	2017
GDP (RM billion)	597	821	1,106	1,230	1,353
GDP per capita (RM)	22,238	28,807	36,026	38,924	42,149
Population (million)	26.8	28.5	30.7	31.6	32.1
0 - 14 years (%)	32.4	30.3	25.3	24.5	24.1
15 - 64 years (%)	63.3	64.9	69.0	69.4	69.6
Over 65 years (%)	4.3	5.10	5.7	6.1	6.3
Ageing Population, over 65 years (million)	1.2	1.4	1.7	1.9	2.0

Sources: BNM, DOSM

Population Health Comparisons			
	Malaysia *	South East Asia	Global
Life Expectancy (2015)	75.0 *	68.7	71.1
Male	72.5 *	67.0	68.8
Female	77.2 *	70.4	73.4
Birth rate per 1,000 population (2013)	16.1 *	19.9	23.4
Death rate per 1,000 population (2013)	5.1 *	7.5	7.8

Note:

* Data for Malaysia is for 2016

Sources: WHO, MOH

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MARKET OVERVIEW

INCIDENCE OF MEDICAL CONDITIONS

For any developing country, there is an increasing trend of urban lifestyle diseases caused mainly by a more stressful and longer work routine, dietary, heavier use of electronic devices and lack of exercise.

The causes of hospitalisation in MOH hospitals and private hospitals exhibit similar patterns – dominated by respiratory, infection and pregnancy. These 3 causes contributed to 40% – 45% of the admissions in both types of hospitals in 2016.

Diabetes poses critical issues in Asia and in Malaysia, especially diabetes linked to obesity. In Malaysia and parts of Asia, breast cancer is on the rise in a younger demographic population and fatality rate is concerning. Infectious diseases like dengue are also prevalent as well as a very steep increase in cardiovascular diseases.

High incidence of these complications infers that healthcare services for these medical conditions would be in demand.

Cause of Hospitalisation in 2016			
MOH Hospitals	%	Private Hospitals	%
Pregnancy, childbirth and puerperium	23.07	Diseases of the respiratory system	15.93
Diseases of the respiratory system	12.80	Infectious and parasitic diseases	14.57
Infectious and parasitic diseases	8.74	Pregnancy, childbirth and puerperium	9.90
Conditions originating in the perinatal period	8.67	Diseases of the digestive system	9.56
Injury, poisoning and other external causes	7.66	Injury, poisoning and other external causes	7.51
Diseases of the circulatory system	7.50	Diseases of the circulatory system	7.32
Diseases of the digestive system	4.58	Diseases of the genitourinary system	6.92
Diseases of the genitourinary system	4.29	Musculoskeletal system and connective tissue diseases	5.92
Neoplasms	4.17	Neoplasms	4.24
Others	3.24	Others	3.81

Source: MOH

HEALTHCARE EXPENDITURE

Tracking back to late 1990s, the total expenditure on health (TEH) in Malaysia has been consistently rising even in GDP-adjusted term, In 2016, TEH in Malaysia was RM51.7 billion, 4.4 times the amount recorded in 2000. TEH increased at an average of 10.3% annually since 2000. TEH in 2016 amounted to 4.21% of Malaysia's GDP. For 2016, 8.57% (or RM22.9 billion) of the national budget was allocated as health budget for operation and development use.

Since 2009, the share of public and private sector in domestic health expenditure has been converging. Healthcare expenditure in Malaysia are contributed by public and private sources in the approximate ratio of 52%:48% in 2016. Average expenditure per capita was RM1,636.. Government spending on healthcare by and large incurs on operational costs, capacity building,

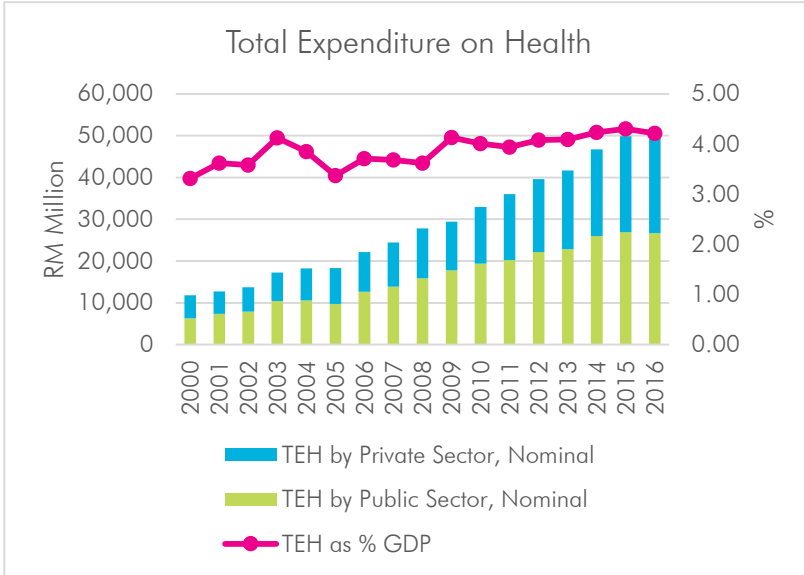
pharmaceuticals and medical supplies. The funds are sourced from tax collections and channeled through annual budget allocations to MOH.

In 2016, private health expenditure amounted to about RM25.1 billion of which RM19.6 billion were paid directly by individuals; RM3.8 billion was funded by medical insurance; RM1.2 billion was sourced from corporations; and RM0.5 billion originated from other sources.

The mean monthly expenditure on health by Malaysian households in 2016 was close to RM75 which represented 1.85% of the monthly household expenditure. Comparing with 2010, health consumption by household has grown by 2.5 times from RM29 (1.32% of monthly household expenditure) back then. As expected, health consumption by urban population outweighed that of rural consumption by 1.5 times. Overall, health expenses as a percentage of household expenditure remains quite low.

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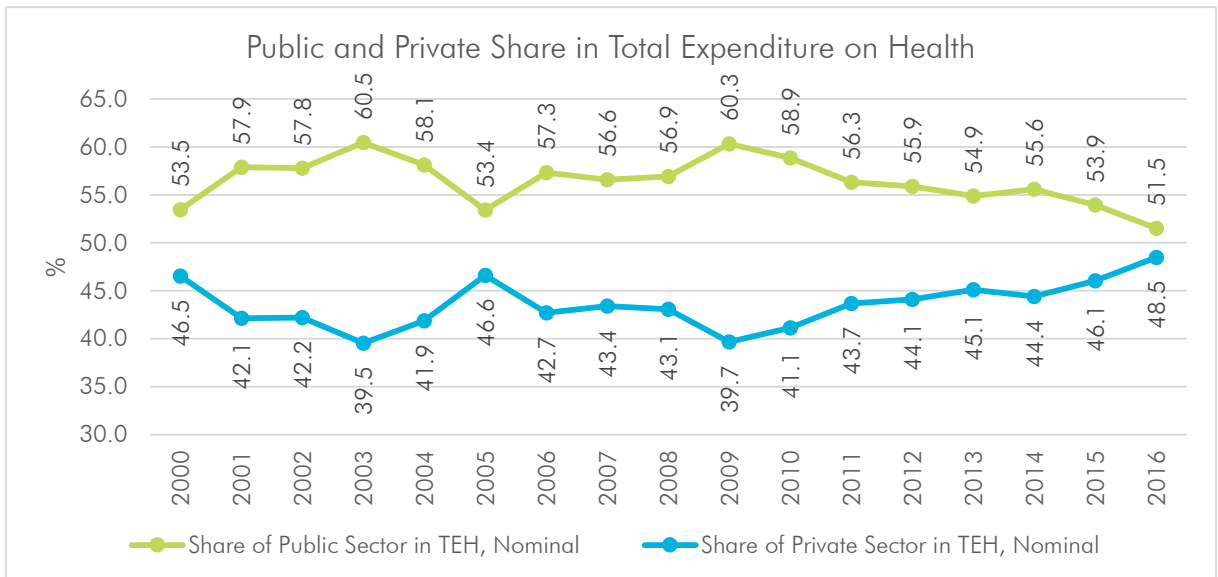
Source of Finance, 2016		
	RM Million	%
MOH	22,287	43.1
MOHE	1,378	2.7
Other public	2,997	5.8
Total public	26,662	51.5
OOP	19,570	37.8
Private insurance	3,811	7.4
Corporates	1,173	2.3
Other private	527	1.0
Total private	25,081	48.5
TOTAL	51,743	100

Notes:

1. MOHE: Ministry of Higher Education
2. OOP: Out of Pocket

Source: MOH

Source: MOH



Source: MOH

Public healthcare is heavily subsidised, making it almost free to the majority of the public. Civil servants, pensioners, school children and the very poor enjoy free medical and dental services while privately employed persons pay a low fee when seeking treatment and medication in public hospitals and clinics.

Due to its cheaper cost, patients at public hospitals often encounter over-crowding situation and long waiting list for major surgeries and treatments, ranging from 4 weeks to 6 months. The public health system is under strain from growing public demand and insufficient supply. Private hospitals on the other hand charge full medical fees which could be very costly, is able to provide surgeries within one week.

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MARKET OVERVIEW

INTERNATIONAL COMPARISONS

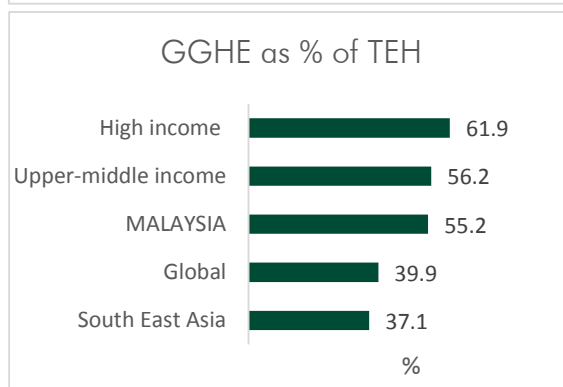
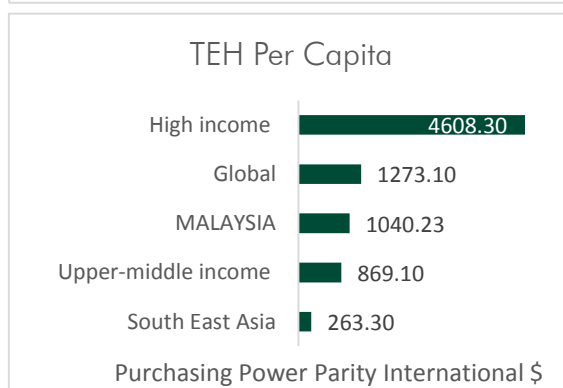
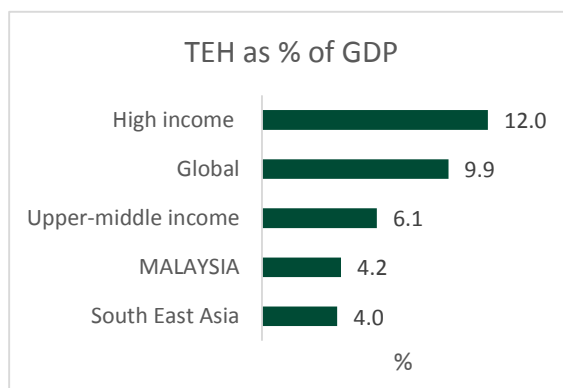
This section adopts data by the World Health Organization (WHO). Malaysia is classified as an upper-middle income country

The contribution of Malaysia's healthcare industry towards the domestic economy was 4.2% in 2014 according to WHO – higher than SEA's aggregate but less than all other comparatives.

At \$1,040.23, Malaysia's TEH per capita was 4 times higher than that of SEA countries (\$263.30) and 16.5% more than citizens of upper-middle income countries (\$869.10). As of 2014, the share of government health expenditure - measured by General Government Health Expenditure (GGHE) as percentage of TEH – can be regarded as on par with governments of upper-middle income economies.

When expressed in Purchasing Power Parity (PPP) value, the Malaysian government's health expenditure per capita amounted to \$573.95, which was marginally higher than upper-middle income economies (\$494.60) but much lower than the global benchmark of \$738.90.

As a summary, the public sector participation in the healthcare system in Malaysia was ahead of most of its neighbouring countries in but marginally behind the standard set by countries around the world. GGHE as % of TEH was comparable globally but when comparing GGHE per capita, there was still a gap to catch-up with other countries. More funds injection will be needed in order for Malaysia's healthcare system to be on par with high income nations as they were at least 4 times ahead of Malaysia.



Source: WHO

International Comparisons of Health Expenditure					
	Malaysia	South East Asia	Global	Upper-middle income economies	High income economies
TEH as % of GDP	4.2	4.0	9.9	6.1	12.0
TEH per capita (PPP International \$)	1,040.23	263.30	1,273.10	869.10	4,608.30
GGHE per capita (PPP International \$)	573.95	94.40	738.90	494.60	2,825.30
GGHE as % of TEH	55.2	37.1	39.9	56.2	61.9
GGHE as % of GGE	6.5	6.1	15.5	10.2	17.6

Source: WHO

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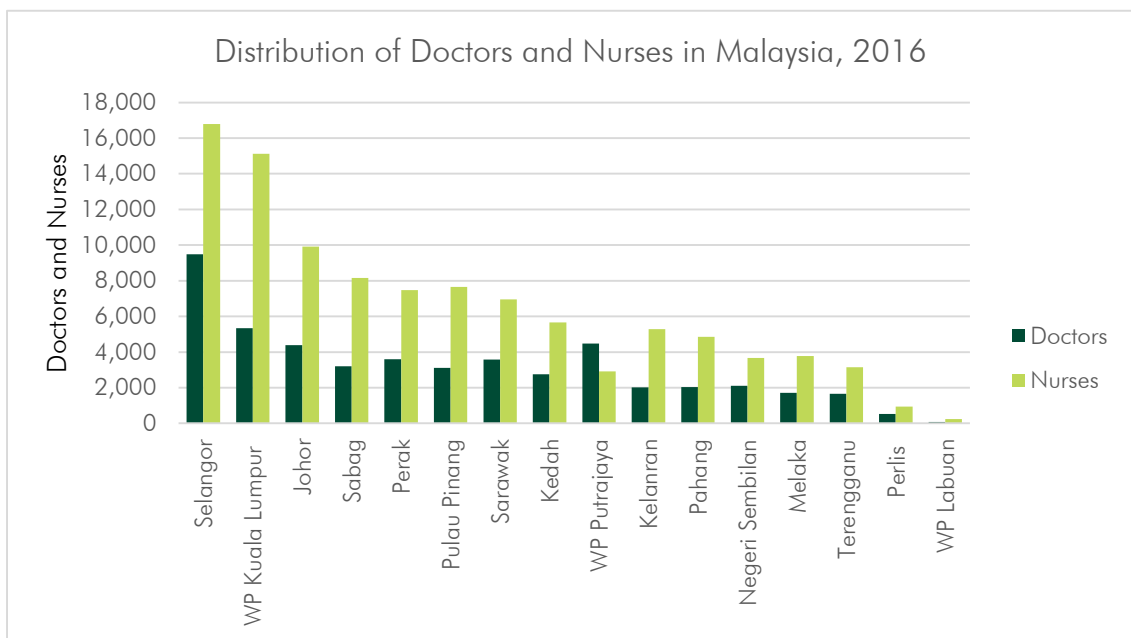
MARKET OVERVIEW

WORKFORCE

The number of doctors in Malaysia totalled to 50,087 in 2016, which converts into 1.6 doctors per 1,000 population. 72.7% of the doctors are serving in the public sector while the private sector employs 13,684 doctors. For nurses, the ratio stood at 3.2 per 1,000 population for the same year. Nurse workforce in the public sector of 72,025 more than doubled the nurses in private sector of 30,335. Of all the states in Malaysia, WP Labuan, Sabah and Kelantan had

the lowest doctor per 1,000 population of 0.8 for both WP Labuan and Sabah, and 1.2 for Kelantan.

Despite the steady increase of doctors and nurses over the years, the number of specialists in Malaysia is fairly small and concentrated mainly in the private sector. The areas of specialisation are also imbalance, skewing towards few disciplines such as cardiology, orthopedic surgery and obstetrics and gynecology.



Source: MOH

Healthcare Workforce						
	2011	2012	2013	2014	2015	2016
Doctors	36,607	38,718	46,916	45,565	46,491	50,087
Public	25,845	27,478	35,237	33,275	33,545	36,403
Private	10,762	11,240	11,679	12,290	12,946	13,684
Doctors per 1,000 population	1.3	1.3	1.6	1.5	1.5	1.6
Nurses	74,778	84,968	89,167	92,681	99,925	102,564
Public	50,063	56,089	62,514	64,348	69,590	65,227
Private	24,725	28,879	26,653	28,333	30,335	37,337
Nurses per 1,000 population	2.6	2.9	3.0	3.1	3.3	3.2

Sources: MOH, DOSM

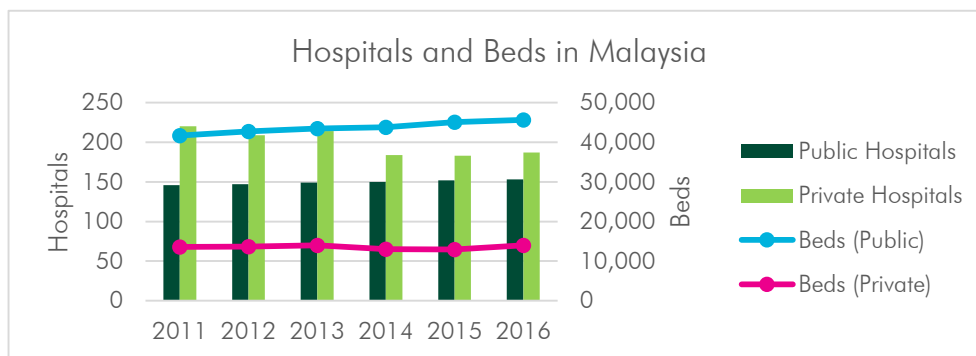
MARKET OVERVIEW

BED COUNT

As of 2016, the total number of hospitals in the country stood at 340, offering 59,627 beds nationwide. The supply of public hospitals in Malaysia has always been on soft growth, registering at 153 in 2016. Supply of beds in public hospitals increased by 1.31% from 2015 to 45,678. Turning to the private sector, 187 private hospitals were established across Malaysia in 2016. Rebounding from 2 consecutive annual declines, supply of beds in the private sector rose by 7.67% in 2016 to register at 13,957. Klang Valley – consisting of Selangor, WP Kuala Lumpur and WP Putrajaya – is home to 22 public hospitals and holds

close to one-quarter (24.1%) of the country's total beds in public hospitals.

Benchmarking Malaysia's ratio of beds per 1,000 population of 1.9 in 2016 against the OECD's average of 3.1 in 2010, there is still a shortfall of hospital beds calculated at 38,437. Assuming 2016's private healthcare sector bed share of 23%, the private hospital beds shortage could be about 8,997. Assuming an average of 150 beds per hospital, the current market may be able to sustain an additional 60 private hospitals. However, the demand for a new hospital has to be viewed at local level.



Source: MOH

Distribution of Public Hospitals and Beds in Malaysia, 2016

Hospitals			Beds		
	Hospitals	%		Beds	%
Sabah	25	16.3	Perak	5,542	12.1
Sarawak	23	15.0	Selangor	5,531	12.1
Perak	16	10.5	Johor	5,185	11.4
Selangor	14	9.2	WP Kuala Lumpur	4,890	10.7
Johor	12	7.8	Sabah	4,815	10.5
Pahang	11	7.2	Sarawak	3,978	8.7
Kelantan	10	6.5	Kedah	2,689	5.9
Kedah	9	5.9	Kelantan	2,589	5.7
Negeri Sembilan	7	4.6	Pahang	2,316	5.1
WP Kuala Lumpur	6	3.9	Pulau Pinang	2,130	4.7
Pulau Pinang	6	3.9	Negeri Sembilan	1,825	4.0
Terengganu	6	3.9	Terengganu	1,645	3.6
Melaka	4	2.6	Melaka	1,420	3.1
WP Putrajaya	2	1.3	WP Putrajaya	593	1.3
Perlis	1	0.7	Perlis	408	0.9
WP Labuan	1	0.7	WP Labuan	122	0.3
Malaysia	153	100.0	Malaysia	45,678	100.0

Source: MOH

MARKET OVERVIEW

PRIVATE HEALTHCARE PROVIDERS IN MALAYSIA

Private hospitals are required to be licensed under the Private Healthcare Facilities and Services Act 1998 (Act 586). Under Act 586, a private hospital means any non-government premises “used for the reception, lodging, treatment and care of persons under medical or dental treatment that requires hospitalization.

For the purpose of this report, we have further defined private hospitals to have a minimum of 30 beds for the accommodation of inpatients. Private hospitals in the country operate either independently or by group. A group generally is a collective entity of different hospitals under one holding company.

The growth prospect of private healthcare over the long-term is positive underpinned by an ageing population, rising affluence and increased life expectancy, plus the catalytic role of medical tourism. There is also emerging demand for specialised treatments and wellness care such as geriatric care, physiotherapy, dermatology, plastic surgery, etc. which are not available on elective basis in public hospitals.

As a result, the share of private sector healthcare has increased from RM9.5 billion in 2006 to RM25.1 billion in 2016 which translates into an average annual growth of 10.7%.

MAJOR HEALTHCARE PROVIDERS IN MALAYSIA

The major healthcare providers namely, KPJ Healthcare, IHH Healthcare, Ramsay Sime Darby, Sunway and Columbia Asia have a combined establishment of 24 hospitals.

KPJ Healthcare is the largest private healthcare operator group in Malaysia, with 27 healthcare facilities across the nation, with a total of 3,914 licensed beds. KPJ has 20 Malaysian Society for Quality in Health (MSQH)-accredited hospitals, of which 4 of them also obtained accreditation from Joint Commission International (JCI) at the same time. One-third of KPJ's establishments are located within the Klang Valley.

KPJ is expecting 5 new hospitals to commence operations in 2018 and 2019. KPJ's capacity expansion will progressively raise the group's number of beds by 17% or 716 beds.

IHH Healthcare is currently the second largest private healthcare provider in Malaysia with 14 hospitals under its wings. Of the 14 hospitals, 10 operate carry the brand name of 'Pantai' and the remaining 4 operate are branded as 'Gleneagles'. 3 of the group's hospitals in Malaysia are JCI-accredited while MSQH accreditation are granted to 14 Pantai and Gleneagles hospitals. IHH currently have 2,780 licensed beds. Pantai Hospital Kuala Lumpur is scheduled for expansion by 120 beds in 2018 while Pantai Hospital Ayer Keroh will add another 160 beds in 2020.

Ranked third largest in Malaysia, Columbia Asia is operating 12 healthcare facilities across the country, each comparatively smaller with less than 100 beds per hospital. Its hospitals are mostly located in high density residential areas with the aim of providing efficient, accessible and cost-effective healthcare to the population. Columbia Asia is 30% owned by the Employees Provident Fund (EPF) and 70% by a US-based fund, the International Columbia USA LLC (ICU), which comprises over 150 individual and institutional investors.

Sime Darby is another prominent private hospital brand. Operated under Ramsay Sime Darby, the partnership offers 913 beds in 3 hospitals – all of which are located in Klang Valley only. Having 535 beds in Sunway Medical Centre, Sunway Group is a relatively new player in the healthcare sector. Nonetheless, Sunway Group is undergoing expansion, the 240-bedded Sunway Velocity Medical Centre is expected to be operational in 3Q 2018.

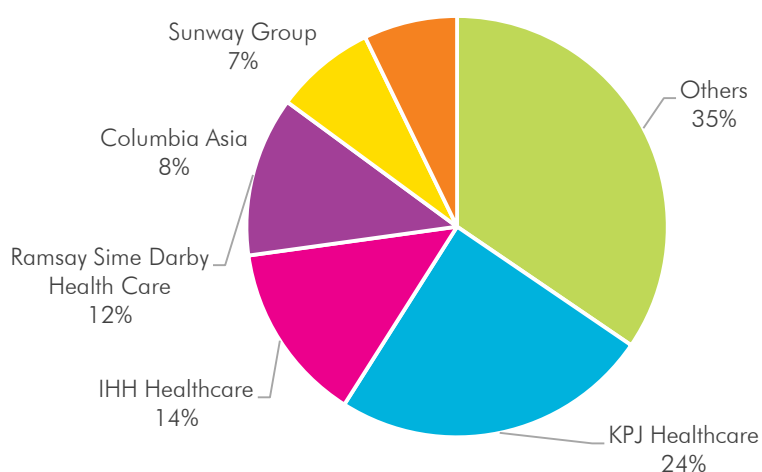
There are also a few niche private healthcare players around Malaysia such as Prince Court Medical Centre in Kuala Lumpur which was recently acquired by Khazanah Nasional from Petronas, its operation is likely to be in collaborate with IHH Healthcare Berhad.

The other well-known private healthcare names are Tong Shin, Assunta in the Klang Valley and Hope Children, Island Hospital, Adventist Health International, Loh Guan Lye, Tanjung Medical, TDM Berhad, TMC Life Sciences, Health Management International Ltd, Regency Specialist, and Amanjaya Specialist Centre Sdn Bhd.

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No. of Beds by Major Private Healthcare Providers in Klang Valley



Source: CBRE | WTW

Hospitals by Major Healthcare Providers in Klang Valley

Providers	Name of Hospitals	Beds	Providers	Name of Hospitals	Beds
KPJ Healthcare	KPJ Ampang Puteri Specialist Hospital	200	Ramsay Sime Darby	Sime Darby Ara Damansara Medical Centre	220
	KPJ Damansara Specialist Hospital	260		Sime Darby Subang Jaya Medical Centre	393
	KPJ Kajang Specialist Hospital	132		Sime Darby ParkCity Medical Centre	300
	KPJ Klang Specialist Hospital	187		Columbia Asia Extended Care Hospital - Shah Alam	54
	KPJ Rawang Specialist Hospital	160		Columbia Asia Hospital - Bukit Rimau	74
	KPJ Selangor Specialist Hospital	252		Columbia Asia Hospital - Cheras	100
	KPJ Sentosa Specialist Hospital	200		Columbia Asia Hospital - Klang	85
	KPJ Tawakal Hospital	200		Columbia Asia - Petaling Jaya	100
	Tawakkal Health Centre	220		Columbia Asia - Puchong	78
IHH Healthcare	Gleneagles Kuala Lumpur	330	Columbia Asia Hospital - Setapak	84	
	Pantai Hospital Ampang	116	Sunway	Sunway Medical Centre	535
	Pantai Hospital Cheras	143			
	Pantai Hospital Kuala Lumpur	331			
	Pantai Hospital Klang	108			

Source: CBRE | WTW

MARKET OVERVIEW

CBRE | WTW Research estimates that there are at least 55 private hospitals in Klang Valley, supplying 7,440 beds. Comparison between Selangor and WP Kuala Lumpur reveals that the former holds a bigger private healthcare sector with 34 hospitals and 4,507 beds than the latter of 2,933 beds from 21 hospitals. KPJ Healthcare is the single largest operator, accounting for almost one-quarter (24%) of total bed count in Klang Valley. This is followed by IHH Healthcare (14%) and Ramsay Sime Darby (12%).

A closer look reveals that the major healthcare providers namely, KPJ Healthcare, IHH Healthcare, Ramsay Sime Darby, Sunway and Columbia Asia dominated the market as they have a combined establishment of 25 hospitals which constitutes close to half of Klang Valley’s private hospitals. The notable private hospitals around Klang Valley are more abundant in the state of Selangor than in WP Kuala Lumpur, examples of hotspots are Petaling Jaya and Shah Alam. These above-mentioned private healthcare providers supply about 4,900 beds (or 65.5% of Klang Valley’s beds in private hospitals). KPJ Healthcare is leading the pact by supplying 24% of that, followed by IHH Healthcare (14%), Ramsay Sime Darby (12%), Columbia Asia (8%) and Sunway (7%).

SOURCES OF REVENUES

For the case of Malaysia, sources of revenue in private healthcare comprises mainly out of pocket (OOP) expenditure by individuals, and corporates and medical insurance. In 2016, this cluster of expenditure was RM25.1 billion or 48.5% of TEH.

There are 33 registered medical insurance providers in Malaysia as at 2016 of which 10 are life insurance companies. 19 are general insurers while the remaining 4 are license holders for both insurance types.

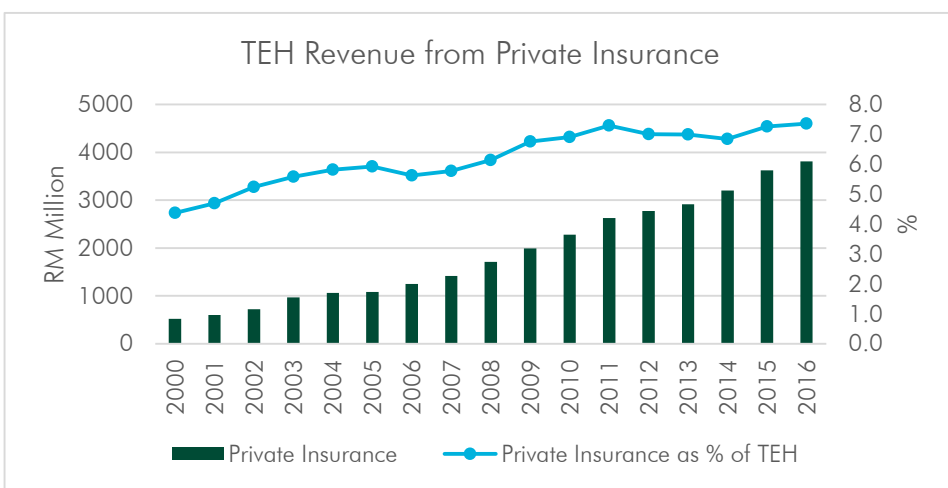
In 2016, health expenditure sourced through private insurance was reported at RM3.8 billion or 7.4% of the country’s TEH. Private insurance was the third largest contributor to Malaysia’s healthcare system but still lagging far behind the public sector (RM26.6 billion) and private households OOP (RM19.5 billion).

Bank Negara Malaysia concluded that the insurance industry in the country is in expansionary mode in the light of persistent growth of aggregated insurance premiums and the takaful contributions in recent years. In terms of penetration rate however, the growth is moderate, penetration rates ranged between 54% and 56% in 2011 – 2015 period.

The insurance industry is expected to continue expanding as economic growth increases affluence and awareness of the population. The government is keen to alleviate the insurance penetration rate to 75% by 2020. Parallel to this aim, Bank Negara has introduced guidelines and framework to promote the insurance industry by improving insurance affordability and enhancing the attractiveness of insurance packages. The increasing availability and uptake of medical insurance has encouraged the transition from public to private healthcare, in particular for the middle-income population.

MEDICAL INSURANCE

Health Expenditure Sourced by Private Insurance (RM Million)	
2007	1,058
2008	1,277
2009	1,458
2010	1,596
2011	1,789
2012	1,971
2013	2,247
2014	2,740
2015	3,163
2016	3,811



Source: MOH

Source: MOH

2018 PROPERTY INSIGHTS

DIALOGUE WITH KPJ



In photo Dato' Amiruddin Abdul Satar, President and Managing Director of KPJ Healthcare Berhad; Aziah Mohd Yusoff, Director of CBRE | WTW

Since its first private specialist hospital in Johor in 1981, KPJ has expanded to a network of 25 specialist hospitals throughout Malaysia. KPJ has constantly remained at the forefront of the country's healthcare industry through its extensive geographic reach. Abroad, KPJ has 2 hospitals in Indonesia, and one hospital each in Thailand and Bangladesh. In Australia, KPJ operates a retirement and age-care resort. KPJ's hospitals are recognised by accreditation bodies such as the Malaysian Society for Quality in Health (MSQH) and the Joint Commission International (JCI). In addition, their hospitals have been certified by Integrated Management System (IMS) for Quality Management System (MS ISO 9001:2000); Environment (MS ISO 14001:2004); Occupational Safety and Health (OHSAS 18001:1999) Systems as well as other ISO and SIRIM certifications.

CBRE | WTW spoke with Dato' Amiruddin Abdul Satar, President and Managing Director of KPJ Healthcare Berhad to get his perspective on Malaysia's private healthcare sector. CBRE | WTW would like to express our appreciation to Dato' Amiruddin for sharing his insights with us.

DIALOGUE WITH KPJ

By convention, the healthcare facilities and services are primarily provided by the government. In Malaysia, the public-private share on healthcare is about 52%:48%. How do you see the role of private sector in local healthcare system?

It is subjective in terms of selecting the parameters to define the shares of public and private sectors in the healthcare system. By number of patients, I think private healthcare treats 25% of the population while the remaining 75% is taken care of by public healthcare.

The role of public healthcare is to serve the needs of the mass public especially those who are physically and financially secluded from access to healthcare. It is the responsibility of the public sector to preserve the wellbeing of the general population in terms of health, as well as administering reliable medical practices.

Meanwhile, as the economy progresses, Malaysians are looking for better medical services, advanced treatments and shorter waiting time – all of which the private hospitals are able to fulfill. Private healthcare is complementary to a country's healthcare system by bringing in additional capacity to patients. Overall, Malaysia does have an extensive and affordable healthcare system which covers almost all of the Malaysian population.

The Ministry of Health is responsible for the regulation, funding and provision of healthcare. In your view, what could be done by the Ministry to further improve the efficiency and cost-effectiveness of the facilities or services?

The Ministry can further improve the system by delivering excellent clinical services and reducing unnecessary waiting time. This can be achieved by having more public-private partnerships. For instance, government can acquire or outsource services to private healthcare at special rates. There are some equipment in private hospitals that are currently under-utilised, such as MRI, CR scans etc.

It is also essential to have constant reviews on regulations and public policies pertaining to the country's healthcare system. Eventually, public healthcare insurance is needed where patients are assured of medical treatment whether in public or private hospitals (at a higher cost).

Turning to human capital, the supply of doctors in coming years is good, but there are shortages of specialists in certain disciplines, bearing in mind that the medical world is advancing and there are more sub-specialisations. Training of specialist consultants by the public sector is done selectively and the shrinking budget allocation on healthcare would not help on this.

If a medical graduate has spent about RM1 million to become a doctor, it is unlikely that he/she would fork out about another RM1 million to undertake a specialist course, especially if they have not paid off their study loan. Nonetheless, KPJ is the first to offer a Master's degree programme to train specialists and we hope to see more of this initiative in Malaysia.

Based on the current trend, what are the conventional or basic healthcare facilities and services for a hospital?

Today, among the services and facilities that are considered as basic for a hospital include Critical and Intensive Care & Emergency unit, Recovery Services, Ambulance Services, Hemodialysis, Radiology, Physiotherapy, Surgical Services, Obstetrics & Gynecology Services, Pediatric, Ear, Nose & Throat, Dentistry, Orthopedic, Cardiology, Nephrology, Urology, Neurology and Gastroenterology. Some disciplines like Neurology, Cardiology and Nephrology may not be available in smaller hospitals, or will change according to the local patient profiles.

In order to set up a proper or satisfactory hospital, is there an ideal or optimum land size for a hospital? What would be the cost of investing, establishing and operating a hospital annually?

A smaller hospital with 60 - 150 beds would take up 2 - 3 acres while a bigger hospital with 150 - 300 beds would need 4 - 5 acres.

However, the sizes of hospitals are on a convergence to about 100 beds in capacity. A hospital of this size would require RM80 – 120 million per hospital depending on the level of equipment available. The operational cost for the first year is approximately RM30 million and this is estimated to increase by 11% the subsequent year.

DIALOGUE WITH KPJ

Given the operational cost for a hospital, what are the considerations when deciding to establish a hospital apart from population catchment?

Purchasing power, population and economic growths are primary considerations. The reason why we have most hospitals established in Klang Valley. Basically, we are looking at those who can afford to purchase insurance as an indication.

The other potential that we currently look at is the potential to attract foreign patients. We take into consideration the proximity of airports and frequency of direct flights to support health tourist arrivals. For example, Penang and Johor Bahru have direct flights from other countries, Johor Bahru of course, also has international ferry services.

What is the proportion between in-patient and out-patient on average? What is the volume of patients needed before a hospital can breakeven?

On average, the in-patients make up 80 - 90% while the remaining 10 - 20% are out-patients. Revenue wise, the proportion is flipped.

Breakeven point varies by hospitals, from time to time. Generally, a new hospital would expect a gestation period of 3 - 5 years. As a Group, our sight is set on improving the profit margin, we are now at 7% profit before tax, while profit after tax would be about 3 - 4%.

On average, how much does a patient spend during a hospital stay? What is the trend observable with regards to average length of stay, preferred room type and bed-occupancy?

It depends on the type of room and services they require. An average patient spends about RM1,000 per day and the average length of stay is 2 - 3 days. Everyone prefers single-rooms but it goes down to affordability. In terms of average occupancy rate, it is 75 - 85% and this fluctuates seasonally.

Referring to the operational cost, how significant are rental and capital costs?

For the case of KPJ, 60% of our hospitals are sold to our REIT. Rental usually would not exceed 5% of the total

operational cost, at most 6 - 7%, because salaries, drug costs and doctor fees are more significant.

What are the strategic considerations for selling your assets to REIT? Would future rental increases be a major concern? What are the advantages and disadvantages of transferring to REIT?

Rental is something to be closely reviewed but it is not a substantial concern compared to salaries which tend to grow by at least 4 - 5% every year.

Rental with a REIT is typically tied down for 15 years, broken down into blocks of 3 years. Within each block, contractual rental rate increases by 2% per year for 3 years. A revaluation of the property is undertaken towards the end of the third year ahead of the subsequent block of another 3 years. The starting rental yield rate is usually about 7% of the property value.

By transferring to a REIT, one of the advantages is we have additional liquidity to roll into other business, build new hospitals or acquire new businesses which normally have higher returns than the 7% rental yield rate that we are paying.

Healthcare tourism was identified as one of the National Key Economic Areas. Based on KPJ's experience, what is the proportion of revenue derived from healthcare tourism? Where does Malaysia stand in healthcare tourism in the region?

Foreigners currently constitute less than 5% of KPJ's total patients. Most of our hospitals in Klang Valley are at full capacity therefore, we would first need to expand our capacity in order to fully penetrate the healthcare tourism sector.

Malaysia faces stiff competition from Singapore and Thailand. Nonetheless, if you compare our prices to neighbouring countries like Indonesia, our prices are still low for the quality of services and facilities provided. Medical tourist arrivals to Malaysia are predominantly from Indonesia and some from Bangladesh, China, India, Japan and United Kingdom. There is also increasing arrivals from Middle East (Saudi Arabia and the UAE) who are attracted to the halal practices in Malaysia in terms of medical treatments, food and other facilities - all of which appeal to Muslim medical tourists.

DIALOGUE WITH KPJ

KPJ is operating a retirement and age-care facility in Australia, what is your assessment on the concept retirement living/village in Malaysia? Is that a potential opportunity to be venture into?

It is definitely a market with promising opportunities. In fact, KPJ has started venturing into this market with KPJ Tawakkal Health Centre in Kuala Lumpur and Jeta Gardens in Australia. Nonetheless, the domestic market for retirement or senior living is still at its infancy stage. In other countries such as Australia and the United States, the people are more receptive to retirement or senior living whereby they are willing to let go their residential properties to relocate to and pay for retirement or senior living. Malaysians are not ready to go to that extent yet.

To explore the concept of retirement villages, healthcare providers will have to work with the developers. From a healthcare provider's perspective, to sell and manage a property may be an unnecessary risk to take on. Instead, for KPJ, we are willing to provide the necessary healthcare services which is our forte, and leave the property sales and management matters to developers or parties who are real estate experts.

Looking at long-term, in what aspects do you think the healthcare system in Malaysia needs to continue to strive to stay competent and comprehensive? How would your organisation fit into this big picture?

Similar to what is observable in almost all industries, information technology will influence the industry and operations. At a micro level, adoption of information technology will improve the efficiency of day-to-day

operations of a hospital. From macro standpoint, one of the prevailing challenges with healthcare provision is accessibility. The further away you are in the rural areas, the harder it will be to seek for quality medical services. Again, information technology would be vital to facilitate integrated communications between rural and urban areas, this subsequently enhances access and overcome the physical distances.

KPJ recognises the significance of information technology and is actively adopting it to improve its services and operations.

What is your outlook on the healthcare industry in Malaysia? Which services (medical disciplines) do you expect to experience increasing demand in near future? Will the current players continue to do well as the industry is gathering more interest and participation?

Economic prosperity brings about improvements in income level and living standards, both of which would then create higher demand for healthcare services. I am optimistic about the business outlook for the industry as well as our Group.

With reference to uprising medical disciplines, the anticipation is on Oncology, Reconstructive & Plastic Surgery, Bariatric (Obesity) Surgery, Orthopedic Care and Cardiology.

The major healthcare providers have their share of the pie and equal chance to progress further. As far as KPJ is concerned, we strive to remain competitive. Looking at the projects in the pipeline, I think we can achieve that, because we have more hospitals than our competitors.

MEDICAL TOURISM

Medical tourism generally refers to the activity of travelling to foreign countries seeking medical treatment (based on western medical practices), due to prevailing illness but may include elective procedures. Medical tourists typically cross border to seek for complex/sophisticated cases include heart surgery, hip/knee replacement, cancer and organ transplants which might be unavailable or costly in their home country. Major elective procedures include physical enhancement (cosmetic, dental and plastic surgeries), gender change and fertility treatment. Some of these treatments could be deemed to be illegal or socially unacceptable in certain countries and generally require hospitalisation and post-operation care.

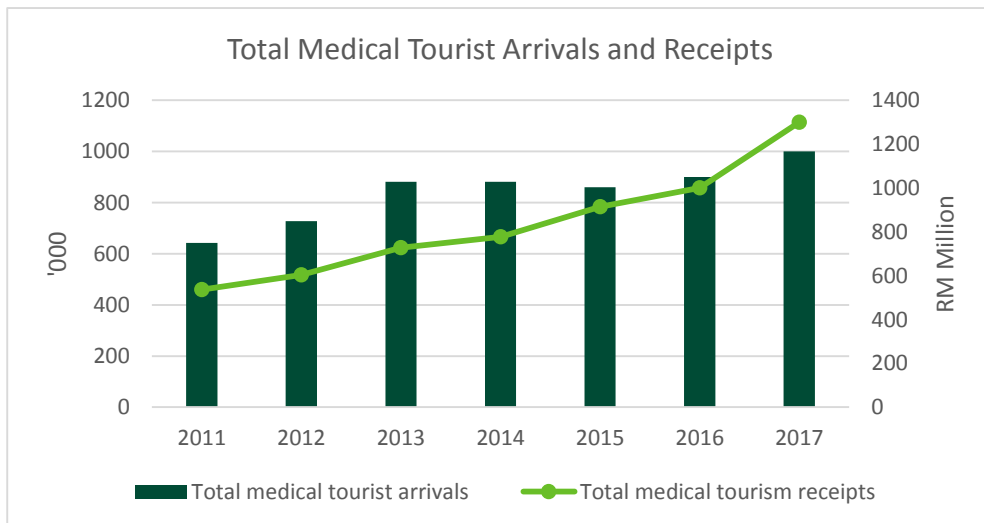
Quality assurance is an utmost importance for private healthcare to stand out in the internationally competitive and open medical tourism industry. Regarded as the ‘gold standard’ of healthcare quality, the Joint Commission International (JCI) accredited 13 healthcare facilities in Malaysia as of 2017. Apart from that, a number of private healthcare institutions in Malaysia obtained accreditations from International Society for Quality in Healthcare (ISQua). In fact, Malaysia also established its own healthcare accreditation agency known as the Malaysian Society for Quality in Health (MSQH), whose vision is to advocate, promote and support continuous quality improvement and safety of the country’s healthcare.

PERFORMANCE OF MEDICAL TOURISM

For the year 2017, tourist arrivals experienced a decline of 3% to register at 26 million. Tourist receipts however, rose minimally by 0.1%, totaling to RM82.2 billion. Breakdown of tourist expenditure reveals that out of the RM82.2 billion revenue generated in 2017, shopping, accommodation and F&B sectors were the top 3 receivers. 3.7% (or RM3 billion) of tourist expenditure was incurred on medical expenses. Which ranked 8th among all the tourist expenditure components. When measured by growth rate, medical was the 4th biggest gainer, it increased by 2.9% year-on-year in 2017.

In terms of sources of tourists, Indonesians made up the largest portion of medical tourists. Malaysia’s medical tourism has maintained steady growth since 2011 even when there was a slip in medical tourist arrivals in 2015 and 2017.

1 million medical tourists flocked into Malaysia in 2017. According to Malaysia Healthcare Travel Council (MHTC), the top 5 countries of origin of Malaysia’s medical tourists in 2016 were Indonesia, China, India, Japan and United Kingdom. New demand for Malaysia’s healthcare services is anticipated from South East Asia to Middle East and the Pacific. MHTC stated that the top 5 most sought after healthcare services in Malaysia by foreigners are cardiology, oncology, orthopedic, in-vitro fertilisation and blood-related treatments.



Source: MHTC

MEDICAL TOURISM

PROSPECTS OF MEDICAL TOURISM

As one of the National Key Economic Areas (NKEAs), healthcare tourism is poised to a strategic economic activity in Malaysia. On fiscal front, tax incentives are available to increase participation in and expand the healthcare tourism.

Economic growth tends to precede healthcare advancement – this position countries like Malaysia, Singapore and Thailand in the forefront healthcare advancement in South East Asia region. For the case of medical tourism, the healthcare system in Malaysia is able to offer comprehensive and good quality services at relatively affordable price compared to neighbouring and developing countries.

Using the medical costs in the United States as a benchmark, Patients Beyond Borders suggests that the medical costs in Malaysia are 65% – 80% cheaper while Singapore’s and Thailand’s are 25% - 40% and 45% - 70% cheaper respectively.

The quality assurance of Malaysia’s healthcare system is backed by availability of high-tech and complete medical infrastructure and equipment in the local healthcare institutions. On the other hand, there is abundance of doctors in Malaysia who are graduates from the United States, United Kingdom and Australia hence, they are well-trained. The language barrier in Malaysia is also low as the doctors and the Malaysian population in general, are well-versed in English. The excess capacity in the private hospitals promises shorter waiting time. Malaysia capitalised on its Islamic cultural influence by offering

full halal medical services which then appeals to Muslim medical tourists.

Looking at macro-level, Malaysia’s social and economic environment can be regarded as modest and stable. A series of awards received by the country serve as testament to the modernity and stability that Malaysia has achieved.

Tax Incentives for Healthcare Tourism

- Companies that establish new private healthcare facilities or existing private healthcare facilities undertaking expansion / modernization / refurbishment for purposes of promoting healthcare travel are eligible to apply for an income tax exemption equivalent to Investment Tax Allowance (ITA) of 100% on the qualifying capital expenditure incurred within a period of 5 years.
- Private healthcare facilities registered as the member of MHTC is entitled to enjoy the double deduction incentive on the expenditure incurred for the purpose of obtaining domestic or internationally recognised quality accreditation.
- Tax exemption on the increased value of exports in the provision of private healthcare to foreign clients in and from Malaysia.

Price Comparisons of Medical Procedures (in USD)				
	Malaysia	Singapore	Thailand	USA
Heart Bypass	15,100	17,200	15,000	123,000
Heart Valve Replacement	13,500	16,900	17,200	170,000
Hip Replacement	8,000	13,900	17,000	40,364
Dental Implant	1,500	2,700	1,720	2,500
Spine Fusion	6,000	12,800	9,500	110,000
Cataract Surgery (per eye)	3,000	3,250	1,800	3,500
IVF Treatment	6,900	14,900	4,100	12,400

Source: medicaltourism.com



Recognitions on Malaysia:

2018

Ranked 5th in 'Best Place to Retire' by International Living

2015, 2016 & 2017

Ranked 1st in 'Health and Medical Tourism: Destination of the Year' for 3 consecutive years by International Medical Travel Journal

2017

Ranked 1st in '4 Countries with the Best Healthcare in the World' by International Living

CONCLUSION



Private healthcare expenditure has grown tremendously over 10 years with Compound Annual Growth Rate (CAGR) of 9% from 2007 to 2016 recorded. Similarly, private healthcare expenditure share in Malaysia's TEH has been on the rise, it stood at 48.5% in 2016. These trends underline the expansionary mode that private healthcare sector is experiencing.

The top 3 challenges faced by the country's healthcare sector would be the number of trained resources including ancillaries and specialists and equality in terms of access to healthcare nationwide. In addition, management of healthcare costs shall continue to be the focus of discussion.

On one hand, the public healthcare system is heavily subsidised hence, public hospitals tend to suffer from over-crowding. There is a need to widen the revenue source and assess the sustainability of current funding mechanism. On the other hand, the affordability of private healthcare system is also debatable, due to the expensive charges and lack of comprehensive coverage by insurance policy.

This could be overcome via a cooperation between the government and private healthcare providers to optimise the capacity in both sectors. Another potential solution could be public healthcare insurance whereby contribution from a wide population base is utilised to provide basic healthcare cover for all with option to acquire healthcare services from the private sector at reasonable extra charges.

Looking beyond core medical services, there will also be growth opportunities in the healthcare sub-sectors which include medical tourism, day care surgery, specialty hospitals, private medical insurance, and healthcare information technology.



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