PUBLIC HEALTH RESEARCH

A Study on the Health Economics of General Practitioners in Malaysia: Trends, Challenges and Moving Forward

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ABSTRACT

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Introduction Health care systems play a vital role in providing health services and in optimising the population's health of each nation. The Malaysian health care system primarily consists of the public and private health services. One of the prominent private health care services offered in the General Practitioner's (GP) Clinic. Despite the prominent role GPs play in the health care system in this country, little is known about their practices, the issues and challenges faced by GPs in this country. The objective of this study was to describe the current GP practice operations in Malaysia in terms of its general operations, financial expenditure and revenue, market competitiveness and laboratory services offered by the clinics.

Methods A cross-sectional survey design was used in this study. The study sample comprised of 1800 GPs throughout the West of Malaysia selected using convenient sampling technique. This study provides the general description of the GP operations in terms of the nature of business, operations hours, and number of patients, the third party administrator and managed care organisation linkages, financial expenditure, market competitiveness and laboratory services.

Results The findings of the study reveal that the expenditure of managing GP services has increased over the years due to the changes in policies as well as the involvement of third party administrators in the healthcare system despite it playing an instrumental role in complimenting the healthcare services for the public at large.

Keywords General practitioners – healthcare services – clinics.

INTRODUCTION

Health care systems play a vital role in providing health services and in optimising the population's health of each nation. The Malaysian Ministry of Health's vision is for Malaysia to be a nation of healthy individuals, families and communities, through a health system that is equitable, efficient, technologically appropriate, environmentally adaptable and consumer-friendly, with emphasis on quality, innovation, health promotion and respect for human dignity and which promotes individual's responsibility and community participation towards an enhanced quality of life. This is achieved by providing efficient and effective health care services for the population.

The Malaysian health care system primarily consists of the public and private health services.[1,2] Public health services are tax-funded, organised under a civil service structure and are centrally administered and regulated by the Ministry of Health. The public health services are heavily subsidised by the government. Patients seeking public health care pay a nominal sum for treatment and medication. Patients pay RM 1 for accident and emergency treatment or visits to the government health clinics. Meanwhile, for specialist clinics, patients pay RM 5 inclusive of consultation, investigation, and treatment.[3] The public health care system takes care of curative and rehabilitative care as well as disease prevention and health promotion and is spread throughout urban and non-urban areas with the smaller clinics situated in the rural areas.[4,5]

Private sector healthcare complements the medical services provided by the public health care system.[2] The private sector health care services are dominantly located in urban and highly economics activities area providing mainly curative care and diagnostic through physician clinics often referred as private general practitioners (GPs) and private hospitals.[4,6] Medical fees for private health care services are paid out-of pocket by the patients themselves or covered by their employers or paid through their personal health insurance scheme. As of to date, Malaysia does not have a compulsory health insurance scheme. Personal health insurance scheme are purchased voluntarily by the public from private health insurance providers such as AIA, ING Insurance, Prudential, Allianz and many more offering various schemes. The public can choose whether to seek treatment in the public or private health care services. Often private health care services are preferred by the more affluent society or even by middle or low income earners if the cost is paid by employers as part of employees' medical benefit.

Despite the coexistence of the public and private health care services serving the health needs of the populations, there has been a longstanding and polarised debate on the appropriate role and balance of the public and private sector in providing health care services to populations particularly in the low and middle income countries.[7] One of the issues is accessibility of the private health care services to the lower income group.[7] Similarly, one of the pending concerns of the government is that there are high concentrations of private practices in the urban areas due to the demand by the affluent community making it inaccessible to all.[8] To address this concern and as part of the government's health initiatives, the 1Malaysia Clinics were established. The clinics, with over 50 outlets nationwide are located in various housing areas. It was formed for residents who either lived too far from private clinics or could not afford its services.[9] Patients at 1Malaysia Clinics are attended by Assistant Medical Officers (AMO) and the clinics are meant to operate for 12 hours, from 10 am to 10pm. It is free for senior citizens but others pay RM 1.[10] This health care system resembles the previous three tier system practices in Malaysia in the 70s/80s with the exception that it is now run by AMOs. However, the recent years has witnessed the sprouting of many new 1Malaysia Clinics, sometimes in the midst of GP Clinics in the same row of shop. In situations such as this, the objective of this government clinic is not met in offering services to pockets of communities who have restrictions to accessibility to health care services.

GP practices often operate in solo practices, and some are in group practices, mostly by non-specialist medical practitioners.[6] The presence of GP clinics have tremendously helped to relieve the constantly overcrowded public health outpatient clinics.[11] GP clinics mostly cater to self-paying public or private sector employees through panel doctor contract/insurance arrangement. Apart from the fact that the medical cost incurred at the private clinic is often covered by many employers or personal insurance, the choice for such private clinic consultations and treatment is also due to easier access, simpler registration and appointment and shorter waiting times.[11] Besides, there is also possibly a greater continuity of care with better personal attention from one's own family physician or general practitioner whom the patients are familiar with. Superior personal touches and closer encounters are the added values in private clinic visits, despite higher fees for consultation and medicines.[11] However, of late, with the mushrooming of many GP clinics in close proximity to one another, the presence of the 1Malaysia Clinic, competition for patients has become keener, and many clinics are simply struggling to survive.[11]

Despite the prominent role GPs play in the health care system in this country little is known about their practices as well and the issues and challenges faced by GPs in this country. With the combination of quality clinical practice, compulsory vocational training prior to entry into General Practice along with a positive move towards

preventive health care and chronic disease management, GPs have a lot to offer to the improvement of health care in Malaysia. It is important, therefore, for the Malaysian government to acknowledge the significant role GPs play in this country and complement each other accordingly. The objectives of this study were to describe the current GP practice operations in Malaysia in terms of its general operations, financial expenditure and revenue, market competitiveness and laboratory services offered by the clinic.

METHODS

A cross-sectional survey design was used to describe the current landscape of General Practitioners in the Malaysia.

Study sample

The study sample comprised of 1800 General Practitioners throughout the West of Malaysia selected using convenient sampling technique based on respondents' willingness to participate in the study. As getting the contact details of all the GP in Malaysia was a challenge, the research team had approached MMA to forward the questionnaire to all their members to be part of the sample in the study. The members who had responded and agreed to be part of the study was the sample of the study which comprised of 1,142 male GP and 658 female GP. About half of the respondents were Malay, and the remaining respondents were Indian (24.8%), Chinese (21.4%), and others ethnic group (2.7%) and indigenous group (2.3%). The average age of the study respondents was 48 years old.

Study instrument

A Self Administered Questionnaire (SAQ) was developed to identify the nature of the GP business, revenue and expenses and the market competitiveness of the GP clinic. The instrument was tested and items in the questionnaire were validated by lecturers in the field of Public Health.

Data collection

Data were collected from the respondents using electronic mail. The data collection process started in February 2016 and ended in April 2016 whereby questionnaire was emailed to GPs throughout the country that are registered as members of Malaysian Medical Association (MMA). Members who agreed to partake in the survey had then emailed the completed questionnaire to the researchers. As the use of electronic mails are more prevalent in organisations even in health care services, the use of electronic mails for collecting data has become a more appropriate medium for collecting data because researcher could collect data speedily and conveniently.[13]

Data analysis

Quantitative data were analysed using SPSS employing descriptive statistics such as mean, standard deviation, frequency and percentage.

RESULTS

The following are findings from the survey carried out throughout Malaysia. The main purpose of the survey is to describe the current landscape focusing on the landscape of GP practice in Malaysia.

General Practitioner Clinic Profile

Most of the clinics in this study were situated in semi urban area (46%) and urban area (35.5%). Few clinics (n=321) were located in the rural area. A closer inspection in Table 1 found that Selangor (20.1%), Kedah (12.3%) and Kuala Lumpur (12.1) ranked the top three highest distributions in terms of clinic's location. In terms of year of establishment, some clinics have operated up to nine years while some have just started their clinic in 2016. The average year of establishment was 2.5 years.

About 39% of the clinics have averagely 1-3 staff, while about 42 % of the clinics have an average of 4-6 staff. Only few clinics (less than 20%) employ more than seven or above staff in this study. In terms of the number of full time and part time doctors currently working in the clinic, it was found that the number of full time doctors currently working in the clinic ranges between 1 to 5 doctors with an average number of 1.45 full-time doctor. Meanwhile, the number of the part-time doctors ranges between 0 to 8 doctors with an average number of 1.67 doctors. About half of the respondents in this study used less than hundred thousand to start up their business, while a few of them (5.6%) spent more than three hundred thousand to start up their business. Cross tabulation analysis found that those Urban and Semi Urban clinics tend to report a higher business startup costs than rural clinics (not shown in the table).

GP Clinic Operations

This section describes the general clinic operations, financial expenditure and revenue, market competitiveness and laboratory services offered by the clinics.

General operations

This section covered 13 different aspects of GP clinic operations. Majority of the GP clinic operated as a sole proprietorship (61.1%) and about a quarter of GP (26.4%) had chosen to set up their business as a private limited company. In terms of the length of operating hours, more than half of the GP clinics operate for more than ten hours a day (54.7%), some clinics (38.85) operate less than ten hours in a day. Few clinics (6.6%) were reported to operate on a 24 hours basis. Our cross tabulation analysis showed that rural clinics and in-house clinics tend to report

shorter operating hours compared to urban and semi urban clinics (not shown in the table).

The average number of patient visits per week shows that 26.3% of the clinics in this study received less than 100 patients in a week. About 44.1% reported to receive patients between 101-300 patients; 19.1% reported to have patient between 301-500 patients and 10.5% reported to have more than 500 patients in a week.

In terms of the numbers of GPs registered with Third Party Administrators and Managed Care Organisations (TPA/MCO), majority of them are under TPA/MCO (78.2%). Based on their past experiences, 57.1% of them stated that TPA/MCO used to interfere in choice of treatment and consultancy of patients. In terms of time taken by TPA/MCO to reimburse the GP clinic, it was found that 8.7% of the clinics in this study received their reimbursement in less than 60 days. About 36.3% reported in the range of 60-90 days; 30% reported between 90-120 days while 12.3% reported receive their reimbursement after more than 120 days. It was also found that many clinics (76.1%) received their reimbursement lesser than the actual charges or invoices and many (69.3%) of them also have experienced non-reimbursement cases from TPA/MCO.

Table 1 GP Clinic Profile

Variable	Frequency	Percentage	Mean	Standard Deviation
Location of clinic				
Perlis	21	1.2		
Melaka	55	3.1		
Pahang	61	3.4		
Negeri Sembilan	65	3.6		
Sarawak	67	3.7		
Terengganu	83	4.6		
Perak	109	6.1		
Kelantan	114	6.3		
Sabah	126	7.0		
Penang	148	8.2		
Johor	149	8.3		
Wilayah Persekutuan	218	12.1		
Kedah	222	12.3		
Selangor	362	20.1		
Clinic's Locality				
In-house	12	0.7		
Rural (Local Council)	321	17.8		
Urban(Under City Council	639	35.5		
Semi Urban (Under Town Council)	828	46.0		
Business Startup Costs				
Less than RM100,000	827	45.9		
RM 101,000 - RM200,000	696	38.7		
RM 201,000- RM300,000	163	9.1		
RM301,000 and above	101	5.6		
Number of staff employed by the clinic				
1-3	703	39.1		
4-6	764	42.4		
7-9	208	11.6		
10 and above	125	6.9		
Year of Clinic Establishment			2.61	2.09
Number of full-time doctors in this clinic			1.45	0.81
Number of part-time/locum doctors in this clinic			1.67	1.88

As for the type of payment received from patients, Table 2 shows that a higher percentage of clinics (15.9%) receive more self-paying cash patients (more than 90%) compared to cashless

patients (1.4%). In terms of types of drugs used in the clinic, the result shows that most of the companies (60%) purchase more than 50% generic drugs than original drugs.

Table 2 GP clinic operations

Information on nature of business	Frequency	%
Nature of Business		
Partnership	214	11.9
Private Limited partly owned by a Medical Practitioner	99	5.5
Private Limited solely owned by Medical Practitioners	376	20.9
Society	12	.7
Sole Proprietorship	1099	61.1
Clinic operating hours		
< 10 Hours	698	38.8
>10 Hours - 20 Hours	984	54.7
24 Hours	118	6.6
Average number of patient visits per week		
Less Than 100	473	26.3
101 – 300	794	44.1
301 – 500	343	19.1
501 – 700	103	5.7
701 and above	87	4.8
Status of clinic under any TPA/MCO?		
Yes	1408	78.2
No	392	21.8
Have the MCO/TPAs interfered in choice of treatment and consultation of patients?		
Yes	1027	57.1
No	563	31.3
Time taken by TPA/MCO to reimburse clinic		
<60 days	157	8.7
60-90 days	654	36.3
90-120 days	540	30.0
>120 days	222	12.3
Experience of reimbursement by TPA/MCO lesser than the actual charges		
Yes	1216	76.1
No	381	23.9
Experienced of non-reimbursement by TPA/MCO		
Yes	1103	69.3
No	489	30.7
Percentage of bad debt by TPA/MCO		
<25 percent	1002	85.3
25-50 percent	135	11.5
>50 percent	37	3.2
Percentage of self pay (Cash Paying) patients		
<10 percent	69	3.8
11-30 percent	255	14.2
31-50 percent	453	25.2
51-70 percent	429	23.8
71-90 percent	307	17.1
More than 90 percent	287	15.9

Information on nature of business	Frequency	%
Percentage of Cashless (TPA/Insurance/MCO) patients		
<10 percent	449	24.9
11-30 percent	438	24.3
31-50 percent	439	24.4
51-70 percent	341	18.9
71-90 percent	107	5.9
More than 90 percent	26	1.4
Percentage (%) of Original drugs purchased by clinic in a month		
<10 percent	591	32.8
11-30 percent	741	41.2
31-50 percent	332	18.4
>50 percent	136	7.6
Percentage (%) of Generic drugs purchased by clinic in a month		
<10 percent	70	3.9
11-30 percent	215	11.9
31-50 percent	423	23.5
>50 percent	1092	60.7

TPA/MCO = Third Party Administrators and Managed Care Organisations

Financial expenditure and revenue

This section presents the financial expenditures incurred by the clinic for personnel cost, utility and rental as well as the revenue gained from the GP clinic business as shown in Table 3 and Table 4 respectively.

Table 3 present the average monthly expenditure incurred by the GP clinics in this study. In terms of monthly fixed cost, on an average, clinics in this study were reported to have a mean expenditure of RM 8409.00 for staff salary; RM 1868.00 for utilities and, RM 3578.00 for rental. In general, the highest monthly expenditure for the clinics is for staff salary.

Table 3 Average monthly expenditure

Clinic expenditure	Mean (RM)	Median (RM)	Range (RM)
Staff Salary (admin, clinic assistance, cleaners)	8409.00	5000	500-451,000
Utilities (Electrical/Water/Telekom/Internet)	1868.00	1100	120-100,000
Premise Rental	3578.00	3000	100-50,000

Table 4 present the average gross monthly revenue earned by the clinics. Looking at the monthly gross revenue, about 21% of the total 1,800 clinics earned less than RM 20,000 per month, which ranked as the lowest level. About 32 % of the total 1,800 clinics earned in between RM 20,000 to RM 39,999. Only a few clinics (5. 2%) managed to earn monthly gross revenue of one to 1.2 million or even up to 1.2 million and above (6.4%). The high revenue is generated mostly from clinics in the Urban and Semi Urban location. Compared to all four localities, the results revealed that clinics located in the urban and semi urban clinics tend to report to have higher monthly gross revenue than those clinics situated in the rural area.

Table 4 Average Gross Monthly Revenue by Locality

Monthly Gross	Overall		In-house		Rural		Semi-Urban		Urban	
Revenue	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
< 20,000	380	21.1	0	0.0	67.0	17.6	194.0	51.1	119.0	31.3
20,000-39,999	583	32.4	4	0.7	128.0	22.0	261.0	44.8	190.0	32.6
40,000-59,999	332	18.4	2	0.6	61.0	18.4	153.0	46.1	116.0	34.9
60,000-79,999	184	10.2	1	0.5	26.0	14.1	87.0	10.5	70.0	11.0
80,000-99,999	112	6.2	2	1.8	19.0	5.0	40.0	10.5	51.0	13.4
1 – 1.2 million	94	5.2	1	1.1	10.0	10.6	37.0	39.4	46.0	48.9
>1.2 million & above	115	6.4	2	1.7	10.0	8.7	56.0	48.7	47.0	40.9

Market competitiveness

In terms of market competitiveness as presented in Table 5, majority of the respondents in this study felt that they could feel the business pressure between their clinic compared with (1) other private clinics (52.1%); (2) other pharmacy (70%) and; government clinics (55.4%). Similarly, most of them agreed (77.6%) that the business market is getting more competitive as compared to five years ago.

Table 5 Market Competitiveness

Market Competitiveness	Frequency	%
Presence of pressure to get patients between this clinic and other private clinics?		
No	862	47.9
Yes	938	52.1
Presence of pressure to get patients between this clinic and community pharmacy.		
No	540	30.0
Yes	1260	70.0
Presence of pressure to get patients between this clinic and Public Clinics (Klinik Kesihatan/Klinik 1 Malaysia).		
No	802	44.6
Yes	998	55.4
Current competition to get patients as compared to 5 years ago in relation to this clinic and other clinics within its location.		
Less competitive	49	2.7
More Competitive	1396	77.6
The same	355	19.7

Laboratory Services

As laboratory services have been an imperative part in complementing the services rendered to the public and GPs includes these services in their diagnosis, this aspect was also included in this study. In general, clinics need to send samples for testing and disclosing the results to their patients. In fact 851 out of 1,800 clinics in this study do engage laboratory services to cater for walk-in patients. When asked, most of the clinics answered that they do not impose high laboratory service charges on the total bill. Most of the clinics (59.7%) reported that a small percentage (less than 10%) of the clinic revenue is from the laboratory services.

The key consideration of the respondents in the selection of pathological laboratory services is the accuracy of the laboratory result (M=4.56; SD=.81), followed by cost competitiveness (M=4.36; SD=.92). The least consideration is the frequency of sample collection and geotracking-logistics services.

In this study, Gribbles (53.6%), BP Diagnosis (32.8%) and Quantum Diagnosis (27.6%) were the top three most favourable laboratory services used by the respondents in this study. Pantai Premier (3.8%); Lablink (5.1%) and Integrated Lab (8.3%) are the lowest three least favourable laboratories used in this study. A total of 82 clinics do not send any samples for general testing. Instead, they refer their patients directly to the laboratory.

DISCUSSION

The objectives of this study were to describe the current GP practice operations in Malaysia in terms of its general operations, financial expenditure and revenue, market competitiveness and laboratory services offered by the clinic. The findings show that a large number of the GP clinics are operating at urban and semi-urban areas. Most of the clinics employ between 1 to 6 staff. In terms of clinic operations, the results revealed that the business model of most of the GP clinics is a sole-proprietor. A sole-proprietor business poses the risk of personal liability on the GP for any losses, debts or violations from the business and will be personally subject to any legal suit against the business up to the full extent of his personal wealth or asset because there is no legal distinction between the natural person and the business entity unlike a company.[14] In a sole proprietor business, the GP would typically make all the decisions and runs the entire clinic operation possibly with the assistance of clinic assistants. If the GP becomes ill or disabled, there may be nobody else who can take over and keep the business going, resulting in possible closure of the clinic operations. In terms of GP clinic locality, the study confirms the assertion that most GP clinics are located in the urban and semi-urban areas, thereby suggesting that the 1Malaysia Clinic is best located at the rural areas where GP clinics are limited. Otherwise the objective of the establishment of 1Malaysia clinic will not be met and the wrong groups of community

are targeted for public health care services. Strategic locations for the 1Malaysia Clinics are vital to ensure that they do not encroach into the livelihood of GPs who have been serving in that particular community for years. This is also in line with the initial concept of these clinics in serving those who are unable to reach or afford these clinics.

Many of the GP clinics in this study operate more than ten hours a day. This suggests that the presence of the GP clinics enables the public to have better and easier access to general health care services after office hours. The presence of GP clinics could accommodate the problem face of excessive number of patients seeking outpatient treatment in Government hospitals during office hours or after hours for minor emergency care or non-life threatening cases. This, GP clinics fits with the complimentary role played by the private health care services.

The findings show that a large number of GPs are registered with a Third Party Administrators and Managed Care Organizations (TPA/MCO). MCO is an organisation regulated under the provisions in Part XV of the Private Healthcare Facilities and Services Act 1998 [Act 586]. Based on the Malaysian Guidelines for Managed Care Organisations and Private Healthcare Facilities and Services (Section 82), MCO refers to any organisation or body, with whom a private healthcare facility or service provider makes a contract or has an arrangement or intends to make a contract or have an arrangement to provide specified types or quality or quantity of healthcare within a specified financing system through or a combination of the following mechanisms: (a) delivering or giving healthcare to consumers through the organisation or body's own healthcare provider or a third party healthcare provider in accordance with the contract or arrangement between all parties concerned; (b) administering healthcare services to employees or enrolees on behalf of payers including individuals, employers or financiers in accordance with contractual agreements between all parties. Proponents of managed care believe that managed care could shift the emphasis of medicine to preventive and primary care, increase efficiency in the healthcare system, promote the provision of medically necessary care and help to control costs.[15] Despite this noble purpose of MCO many GPs have indicated that the TPA/MCO used to interfere in choice of treatment and consultancy of patients. They also experience some reimbursement issues such as late payment or non-payment from the TPA/MCO. This may be largely due to the controlling function that most TPA/MCO undertakes predominantly for the purpose of cost containment.[16] The problem that GP encounter with TPA/MCO may affect the GP practice. Besides, GPs may compromise the type of treatment, diagnostic tests or medication to be rendered to patient in order to achieve cost savings. There has been a huge criticism on managed care practice and how it affects the physicians in countries such as the U.S and Europe.[17-20] For instance, in one of their study, it was reported that most managed care physicians are less able to avoid conflict and less able to place the best interest of the patients.[18] Therefore, administrators of TPA/MCO need to look into this issue and examine the impact they have on GPs because they are the backbone of any health plan. When physicians are informed and satisfied with the TPA/MCO services, they were more likely to remain with a plan and more likely to provide high quality care, while their patients were also more likely to feel satisfied.[19] Therefore, they suggest that working with the GPs to alleviate the problems related to managed care may be of benefit in the long run. There should be a proper regulation of MCOs in Malaysia by the Government and a proper appeals process and independent review of disputed decisions to protect the welfare of the GPs.[15]

In terms of financial expenditure, besides the medicine cost, the highest cost incurred by the GP is for personnel cost. This cost may further escalate with the revision of the minimum wage from RM900 to RM1000 per month. In terms of the type of drugs purchased, most of the GPs tend to purchase generic drugs compared to original drugs. This may largely be due to the cost-control measures taken by GPs due to the cost-control undertaken by TPA/MCOs.

In context of revenue, the study reveals that although fee capping is imposed through the 13th Schedule set by the Ministry, a big part of the revenue comes from cashless patients through TPAs and insured clients. Most of these agencies set their own fees which is much lower than recommended in the fee schedule.[21] Not only has that, up to 25% of this payment gone into bad debt. Despite this, the expenditure of fixed cost in running of the clinics affects their overall revenue. On another aspect, laboratories provide confirmatory diagnosis of patient care and the study reveals that less than 20 percentage of the revenue is from laboratory services for majority of the GP clinics.

From these findings, GP clinics are important to serve the health care needs of the general public alongside the public sector healthcare services. These clinics encounter emerging challenges such as with the TPA/MCO and increasing market competition not only form other private clinics but also from the 1Malaysia Clinics set by the government. In order to withstand these challenges and remain resilient there is need for the Ministry of Health, MMA and the GPs themselves to work together to find ways towards a more cost-effective, integrated, and resilient system of health care. Moreover, considering the changing healthcare needs of the general population, the role of GP has to be revisited as well to meet the emerging health

care needs of the populations. There should also be a stronger drive from policy-makers and MMA to promote greater understanding of the value that generalised care brings to the health service.

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REFERENCES

1. Safurah Jaafar, Kamaliah Mohd Noh, Khairiyah Abdul Muttalib, Nour Hanah Othman, Judith Healy, *et al*. Malaysia Health System Review, Health Systems in Transition. 2013; 3(1), p. 7.
2. Yu CP, Whynes DK and Sach TH. Equity in health care financing: The Case in Malaysia. International Journal for Equity in Health; 2008.
3. Lee PH. What lies ahead for Malaysian healthcare? ISEAS Economics Working Paper. 2015; 2015-4.
4. Awang Bulgiba Awang Mahmud. The Evolution of Public Health in Malaysia. In: Academy of Sciences Malaysia, 2 July 2013, Kuala Lumpur; 2013.
5. Chew BH, Cheong AT, Ismail M, Hamzah Z, Mohd-Radzniwan A, Md-Yasin M, & Bashah B. A nationwide survey of public healthcare providers' impressions of family medicine specialists in Malaysia: a qualitative analysis of written comments. BMJ open. 2016; 6(1). e009375.
6. Chew BH, Cheong AT, Ismail M, Hamzah Z, Mohd-Radzniwan A, Md-Yasin M, & Ali N. (2014). A nationwide survey on the expectation of public healthcare providers on family medicine specialists in Malaysia—a qualitative analysis of 623 written comments. BMJ Open. 2014; 4(6). e004645.
7. Basu S, Andrews J, Kishore S, Panjabi R, Stuckler D. Comparative performance of private and public healthcare systems in low- and middle-income countries: A systematic review. PLoS Med. 2012; 9(6). e1001244.
8. Thomas S, Beh L. & Nordin R. Health care delivery in Malaysia: changes, challenges and champions. Journal of Public Health in Africa. 2011; 2(2): 23.
9. Najib Wants Feedback on 1Malaysia Clinics. Utusan Online [Internet]. 2010 October.
10. Modern Docs: Changing trends of Medical Practise in Malaysia. The Star Online [Internet]. 2016 January 16.
11. Quek D. The Malaysian healthcare system: A review. In Intensive workshop on health systems in transition; 2009 29-30 April; Kuala Lumpur.
12. Wan NC, Noran Nagiah Mohd Hair Ng CJ, Adeeba Kamarulzaman. (2012) Universal Health Coverage in Malaysia: Issues and Challenges. UM.
13. Sproull L. (1986). Using electronic mail for data collection in organisational research. The Academy of Management Journal, 1986; 29(1): 159-169. Available from: http://www.jstor.org/stable/255867.
14. Health Policy Research Associates, Institute for Health Systems Research & Institute for Health Policy. Malaysian Health Care Demand Analysis; 2013.
15. Phua KL. HMOs and managed care in Malaysia: what can we anticipate from the experience of Singapore and the United States?. Jurnal Kesihatan Masyarakat. 2000; 6: 167-175.
16. Forrest CB, Shi L, von Schrader S, & Ng J. Managed care, primary care, and the patient-practitioner relationship. Journal of General Internal Medicine. 2002; 17(4): 270–277. Available from: http://doi.org/10.1046/j.1525-1497.2002.10309.x.
17. Miller RH, & Luft HS. Does managed care lead to better or worse quality of care? Health affairs. 1997; 16(5): 7-25.
18. Feldman DS, Novack DH, Gracely E. Effects of Managed Care on Physician-Patient Relationships, Quality of Care, and the Ethical Practice of Medicine A Physician Survey. Arch Intern Med. 1998; 158(15):1626-1632. doi:10.1001/archinte.158.15.1626.
19. Warren MG, Weitz R, & Kulis S. (1999). The impact of managed care on physicians. Health Care Management Review. 1999; 24(2): 44-56.
20. Deom M, Agoritsas T, Bovier PA, & Perneger TV. (2010). What doctors think about the impact of managed care tools on quality of care, costs, autonomy, and relations with patients. BMC health services research. 2010; 10(1): 1. doi:10.1186/1472-6963-10-331.
21. Kenny K & Madhavan P (2016). Dispensary Separation: Perception of Public Visiting Primary Care Clinics in Malaysia, Malaysian Journal of Pharmaceutical Sciences. 2016; 14 (1).