

“1 Care for 1 Malaysia”?: Indicators and Rationales for Health Care Reform in Malaysia

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1. Introduction

Since the attainment of independence in 1957, Malaysia’s health care service has been characterized by a mix of dominant public provision and significant presence of private services. Despite considerable changes over the past three decades, the dual system has made significant achievement with a total national expenditure less than the WHO recommended 5% GDP on health care each year. This is indicated in the country’s decreasing infant death rate, from 75.5 per 1,000 live births in 1957 to 6.8 per 1,000 live births in 2010, and improvement in life expectancy of male and female, from 55.8 years and 58.2 years in 1957 to 71.9 years and 77 years in 2010 respectively (see Table 1), which is above the world average of 68.5 years for males and 73.5 years for females over the period 2010–2013.

Table 1: Infant death rate and life expectancy by sex in Malaysia, from 1957 to 2010.

Year	Infant death rate (per 1,000 live births)	Life Expectancy (in years)	
		Male	Female
1957*	75.5	55.8	58.2
1980	19.7	66.7	71.6
2000	8.1	70.2	75.0
2010	6.8	71.9	77.0

Source: Vital Statistics Time Series: Peninsular Malaysia 1911-1985 by Department of Statistics, and Health Facts (various years) by Ministry of Health.

Note: * Figure not inclusive of Sabah and Sarawak.

However, the government has recently proposed “1 Care for 1 Malaysia” to reform and restructure Malaysia’s health care system through replacing the existing tax-based funded system with a mandatory social health insurance scheme, which aims to “ensure universal coverage of healthcare services which can be provided at reasonable cost using available resources as optimally as possible in delivering continuity of care across programmes, across healthcare settings and across healthcare providers” (Ministry of Health 2010: vi).

What exactly are the challenges and problems of the existing dual system of health care in Malaysia? Will replacing the existing general taxation funded system with a mandatory social health insurance scheme solve these problems? This paper will identify the problems of the existing system before moving on to discuss the advantages and disadvantages of tax funded system and social health insurance system. Three concepts, equity, availability and accessibility, are utilised in this paper to evaluate the health system. There are two dimensions in the concept of equity. One concerns the fairness of treatment of apparent unequals, such as how to treat differently who are different in relevant aspects or how to direct attention to those disadvantaged or less privileged, which is referred to as vertical equity; another concerns treating equally those who are equal in some morally relevant sense, such as “equal treatment for equal need” regardless of their locality or stratum, which is referred to as horizontal equity (Culyer 2005; Wee and Jomo 2009). Availability and accessibility are also related to the concept of equity. The former measures “what resources are available and in what amount for delivering an intervention. This may include the number of health facilities, number of personnel, hours of operation, waiting time or the availability of different technologies (drugs, etc...)”, and the latter refers to “how physically accessible resources are for the population. The resources might be available but inconveniently located, therefore hindering physical access.”¹

This paper is divided into six sections, this section is introduction. The following section deals with challenges and problems of the existing public-private mixed system; the third section examines several health resource allocation indicators and calls for critical reading and interpretation of these indicators; the fourth section investigates the relations between health resource density and health outcome indicator before moving on to discuss the advantages and the disadvantages of tax-funded system and social insurance system in the fifth section and drawing conclusion in the final section.

¹Definition of availability and accessibility, available at <http://www.who.int/kms/initiatives/accessmod/en/index1.html> [accessed 1 Nov 2014].

2. Structural Stress: Public-Private Mixed System

As mentioned in the beginning of this paper, Malaysia's healthcare service has been characterized by a mix of public and private service since independence. Both public and private health care sector, however, have undergone changes since early 1980s, following the implementation of privatization and corporatisation. Non-clinical services, such as laundry, catering, and biomedical equipment and facility engineering maintenance services, as well as some medical services, such as general medical store, in the government hospital have been privatized since 1993 (7MP). In the meantime, the private health sector has been encouraged to grow and has changed from one dominated by solo private practitioners and non-profitable hospitals to one increasingly dominated by for-profits corporate hospitals. Under the 10th Malaysia Plan, the government even listed private healthcare sector as one of the twelve National Key Economic Areas (NKEA) or economic growth engines since 2010 (10MP: 133).

Despite that it has been the aim of the government to stimulate the growth of private health sector, the Ministry of Health(MOH) complains that "the existence of the dual system of care contributes to the mal-distribution of resources...led to duplication of services and to a certain extent, under-utilization of high end expensive technology" (Ministry of Health 2010: 20). The MOH has also blamed the dual system for brain drain of experienced doctors and specialists to the more lucrative private sector, which contributes to shortages of specialists in the public sector (Ministry of Health 2010: 17). According to the NHEWS 2008-2009 and the NHEWS 2010, there are variations in density of specialists and high end diagnostic technology between the public and the private sectors as well as across geographic areas (see section 3). A 22% increase has been noticed in the number of CT scanners in the private sector over a 2-year period between 2009 and 2010 (Sivasampu et al. 2012: 4).

The MOH also claims that these changes, combined with other challenges, such as aging population, changing disease patterns and rising healthcare expectation among the people, have resulted in greater strain, heavier workload, longer queue and problems of responsiveness in the public health sector. "The public sector delivery system subsidizes nearly 95% of the patients' cost of treatment for nearly 90% of the population that have access to some form of care. However, long queues for outpatient services, diagnostic procedures like CT-scan examinations, treatment modalities like endoscopic surgery and rationing of drugs for chronic diseases is a form of inequity (p.17)...Unless more resources are obtained, quality of care and responsiveness will be affected (p.20)," said the Ministry of Health in the *Country health plan: 10th Malaysia Plan 2011-2015*. In the 2011 National Health and Morbidity Survey, 6.9% interviewed subjects experienced hospital admission in last one year, of which 69.1% was in government facilities, and 12.6% reported receiving outpatient care in last 2 weeks, of which 53.8% was in private facilities. The statistics indicate that the public sector absorbed 70% of workload in inpatient service.

How exactly do equity and quality of services relate to health resource availability and density in Malaysia? To what extent can the recently proposed “1 Care for 1 Malaysia”, which aims to reform and restructure Malaysia’s health care system by replacing the existing tax-based funded system with a mandatory social health insurance scheme not only, solve the challenges of inequity? The following sections will examine problem of inequity by investigating cross-state and cross-sector resource availability to answer the first question, before moving to examine and answer the issues over health financing in the final section.



3. Location and Allocation: Resource Variation Across Sectors and Geographic Areas

Variation in the distribution of health care resources across geographic areas is a commonly encountered phenomena in many countries (Frehywot, et al. 2010) and has been identified by the Ministry of Health (MOH) as a form of inequity. One of the most common measure of spatial accessibility is geographically disaggregated doctor-population or physician density ratio. Over the past three decades, there has been considerable improvement in terms of disparity in physician density in Malaysia (see Table 2). The gap between the state with the highest doctor-population ratio and that with the lowest widened from 8.46 times in 1985 to 11.11 fold in 1999, before dropping to 6.87 times in 2005. Across public and private sectors, the percentage of physician in the public sector was kept above 50% since 1972 until early 1980s, and began to drop below 50% in mid 1980s, due to the blooming of private health care market and brain drain. It was not until 1997 that the share of doctor in the public sector began to rise above 50% and reached 71% in 2012 (Table 3). Despite that there has been overall increase of doctor density in the past few decades, Sabah remains the most underserved state throughout the years (Table 2). This fact leads the MOH to conclude that disparity in doctor population ratio is a form of “inequity” as “the population in urban areas like Klang Valley has more accessibility to doctors compared to the population in Sabah and Sarawak” (Country Health Plan 2010, p.17).

Table 2: Doctor-population ratio by state, from 1985 to 2005.

state	1985	1990	1999	2005
Johor	1: 4,187	1: 3,145	1: 1,808	1: 1,794
Kedah	1: 5,516	1: 4,277	1: 1,915	1: 1,872
Kelantan	1: 6,898	1: 3,764	1: 1,962	1: 1,596
Melaka	1: 3,012	1: 2,648	1: 1,111	1: 1,051
Negeri Sembilan	1: 3,353	1: 2,617	1: 1,455	1: 1,191
Pahang	1: 4,583	1: 3,508	1: 2,110	1: 1,786
Perak	1: 3,544	1: 2,823	1: 1,483	1: 1,509
Perlis	1: 3,794	1: 3,400	1: 1,701	1: 1,655
Penang	1: 1,925	1: 1,815	1: 1,063	1: 963
Sabah	1: 6,897	1: 5,082	1: 4,120	1: 2,719
Sarawak	1: 6,696	1: 5,175	1: 2,629	1: 2,078
Selangor	1: 3,335	1: 2,280	1: 1,431	1: 1,512
Terengganu	1: 5,555	1: 4,226	1: 2,194	1: 2,145
FT KL	1: 815	1: 721	1: 372	1: 396
Malaysia	1: 3,175	1: 2,560	1: 1,465	1: 1,387

Source: 6MP, 7MP, 8MP and 9MP.

Table 3: Distribution of doctors by sector, 1960-2012.

Year	Public Sector	Private Sector	Total	% in Public Sector
1960	421	558	979	43.00%
1970	725	1,406	2,131	34.02%
1972*	1,357	942	2,299	59.03%
1980	2,062	1,796	3,858	53.45%
1985	2,228	2,711	4,939	45.11%
1995	4,412	5,196	9,608	45.92%
1997	8,235	6,013	14,248	57.80%
2000	8,410	7,209	15,619	53.84%
2005	10,943	9,162	20,105	54.43%
2006	13,335	8,602	21,937	60.79%
2007	14,298	9,440	23,738	60.23%
2008	15,096	10,006	25,102	60.14%
2009	20,192	10,344	30,536	66.13%
2010	22,429	10,550	32,979	68.01%
2011	25,845	10,762	36,607	70.60%
2012	27,478	11,240	38,718	70.97%

Sources: Chee, Heng Leng. 1990. *Health and Health Care in Malaysia: Present Trends and Implications for the Future*. KL: Malaya University Press, p73-77; Health Facts (various years) by Ministry of Health.

Note: *The marked increase of doctor in public sector in 1972 was an outcome of a new policy in 1971, which changed the existing 1-year compulsory service in the government hospital for new medical graduates to three years.

In addition to physician supply, availability of other categories of health personnel and the paramedics are as essential to give us a more comprehensive picture of workforce distribution across geographical space. Table 4 (reproduced from the National Health Establishments and Workforce Statistics 2010 or NHEWS 2010 in short) shows the distribution of nurses with and without post-basic training, pharmacists, physiotherapists and occupational therapists in each state. The data are, however, incomplete as participation in the NHEWS survey was voluntary and the NHEWS 2010 report acknowledges under-reporting due to translation error in the survey forms. Table 5 shows variations in number of dentist, pharmacist and nurse across sectors. The share of dentist and pharmacist in the public sector began to outgrow those in the private sector in 2008 and in 2009 respectively, which is due to expanded private medical colleges and increasing enrollment in related courses since mid 1990s. Given that there are now more doctors, dentists and pharmacists in the public sector than in the private sector (Table 3 and 5), does health personnel availability still hold to be a good measurement of cross-sector variation in accessibility and equity? The NHEWS 2010 indicates that 34 out of 67 oncologists and 446 out of 756 Obstetric and Gynaecological specialists are in the private sector in 2010. Given that not all private hospitals participate in the survey, the actual share of specialists in the private sector may be higher.

Table 4: Distribution of nurses, pharmacists, physiotherapists and occupational therapist by state, 2010.

State	Nurse with post-basic training	Nurse without post-basic training	Pharmacist	Physio-therapist	Occupational Therapist
Johor	1,573	3,836	163	91	33
Kedah	1,121	2,129	145	39	17
Kelantan	1,158	2,303	101	58	30
Melaka	498	1,416	86	27	18
N. Sembilan	481	1,516	81	30	13
Pahang	575	2,003	71	46	37
Perak	1,578	2,507	269	71	83
Perlis	187	364	48	11	9
Penang	1,191	2,653	144	90	47
Sabah*	1,202	1,520	238	86	66
Sarawak	936	2,369	200	97	51
Selangor**	2,158	6,761	515	182	74

Terengganu	679	885	111	26	26
FT KL	1,774	6,698	281	164	60
Malaysia	15,111	36,960	2,453	1,018	564

Source: Sivasampu et al. (2012).

*Figure include that of Federal Territory of Labuan.

Table 5: Distribution of dentists, pharmacists and nurses by sector, 1995-2012.

Year	Dentist		Pharmacist		Nurse	
	Public	Private	Public	Private	Public	Private
1995	748	1,002	353	1,184	13,647	NA
2000	750	1,394	434	1,899	23,255	7,874
2005	1,263	1,488	955	3,057	32,580	11,540
2006	1,368	1,572	889	3,403	34,598	13,044
2007	1,540	1,625	1,250	3,321	36,150	12,766
2008	1,922	1,718	3,070	3,327	38,575	15,633
2009	1,858	1,709	3,877	2,907	45,060	14,315
2010	2,055	1,755	4,610	3,149	47,992	21,118
2011	2,452	1,801	5,288	3,344	50,063	24,725
2012	2,664	1,894	5,908	3,744	56,089	28,879

Source: Health Facts (various years) by Ministry of Health.

Other commonly used indicators of spatial accessibility include the density of diagnostic devices, eg. density of Computed Tomography scanners (CT scanners) units and density of Magnetic Resonance Image (MRI) units, which has also been used by the MOH to capture health resource distribution and equity. According to the NHEWS 2010, there are a total of 145 units of CT scanners across the country, of which 53 units are located in Selangor, Federal Territory of Putrajaya and Federal Territory of Kuala Lumpur (see Table 6). The nationwide average utilization rate in the public sector is 5,043 procedures per unit and the combined corresponding rate in Selangor, Federal Territory of Putrajaya and Federal Territory of Kuala Lumpur is 4,245. Standing at 12,308 procedures per unit, the CT scanner at the public hospitals in Penang has the highest utilisation rate compared to those in other states. Such figure is nearly 6.5 times the rate in Perlis, 3 times the average in Selangor, Federal Territory of Putrajaya and Federal Territory of Kuala Lumpur, and 2.5 times the nationwide average. In average, the CT scanner utilisation rate in the public sector is two times higher than that in the private sector. The usage of diagnostic devices can also be measured in “number of procedure performed per 10,000 population” to reflect how frequent the technology is applied on the population across certain geographic areas. The nationwide average in frequency of CT scanner usage measures 171.11 procedure per 10,000 population. Terengganu has the lowest rate, measuring 42.39 procedure per 10,000 population, and Federal Territory of Kuala Lumpur the highest, measuring 426.65 procedure per 10,000

population or 10 times higher than the rate of Terengganu and 2.5 fold the nationwide average.

In terms of MRI units, there are a total of 107 MRI machines nationwide, of which 46 units concentrate in Selangor, Federal Territory of Putrajaya and Federal Territory of Kuala Lumpur. The nationwide average MRI utilization rate in the public sector is 1,544 procedures per unit of machine, slightly lower than that in the private sector. In terms of cross-state utilisation rate comparison, the diagnostic machines in the Federal Territory of Kuala Lumpur stands at 2,863 procedures per unit or 5.4 times the corresponding rate in Perlis and 1.4 times the nationwide average. In terms of usage frequency, the nationwide average measures 60 procedures per 10,000 population, while the Federal Territory of Kuala Lumpur -- the state with the highest rate, measures 223.82 procedure per 10,000 population, and Terengganu -- the state with the lowest usage frequency, rates at 9.12 procedure per 10,000 population. There is a glaring 24-fold difference between the state with the highest frequency and that with the lowest (see Table 7).

The differences in CT scanner units and MRI units across region are directly associated with the number of hospitals in respective states, states with more hospitals have more units of these diagnostic devices than those with less hospitals (see Table 6, 7 & 8). Cross-state differences in the utilisation rate and usage frequency of both devices, however, defy simple explanation and beg further reflection. Does higher utilization rate reflect efficient use or over prescription of the diagnostic device? Does higher rate of usage frequency indicate better accessibility of the facility or worse health status of the population? The public-private disparity in utilization rate and usage frequency of both devices in each state also raise questions, as it is not entirely clear what such disparity means and how does it relate to equity. Does public-private gap in the utilization rate and usage frequency of these costly diagnostic devices reflect varying abilities to pay (ATP) of the population in each state? Does the disparity reflect intra-state differences in accessibility and affordability of these diagnostic technology? Does the gap indicate horizontal inequity or vertical inequity or both?

Table 6: CT scanner unit, utilization rate and frequency of usage by state and sector, 2010.

State	Public		Private		All		
	Unit	No. of procedure performed	Utilization (no. of proc performed per unit)	Unit	No. of procedure performed	Utilization (no. of proc performed per unit)	no. of procedure per 10,000 population
Johor	5	30,333	6,067	10	30,125	3,013	180.56
Kedah	3	17,914	5,971	4	9,362	2,341	140.04
Kelantan	4	12,718	3,180	1	903	903	88.47
Melaka	1	9,506	9,506	4	16,451	4,113	316.12

N.Sembilan	1	10,984	10,984	8	10,328	1,291	208.72
Pahang	2	10,467	5,234	2	2,870	1,435	88.87
Perak	3	22,565	7,522	7	13,009	1,858	151.21
Perlis	1	1,902	1,902	0	-	-	82.16
P.Pinang	2	24,615	12,308	10	40,888	4,089	419.51
Sabah*	4	12,318	3,080	3	8,643	2,881	63.64
Sarawak	5	20,514	4,103	10	9,352	935	120.86
Terengganu	1	4,297	4,297	1	95	95	42.39
Selangor & FT Putrajaya	10	45,030	4,503	17	48,196	2,835	168.45
FT KL	11	44,115	4,010	15	27,331	1,822	426.65
Sel, FT Putrajaya & FT KL	21	89,145	4,245	32	75,527	2,360	228.42
Malaysia	53	267,278	5,043	92	217,553	2,365	171.11

Source: Sivasampu et al. (2012).

*Figure include that of Federal Territory of Labuan.

Given that the socioeconomic status of the high end diagnostic technology users is currently unavailable and diagnostic procedures performed on medical tourists are not segregated (especially in those states with the highest number of medical tourists, eg. Penang, Melaka, Johor and Kuala Lumpur), what availability and density of these diagnostic devices can really tell us about variations in accessibility and equity across geographic areas is limited and unsatisfactory. Put another way, density of devices, like density of health personnel, should not be conflated with accessibility and equity. This paper suggests that, resource availability and density must be read together with health indicators, such as mortality rate and/or morbidity rate, in order to examine whether or not and to what extent people benefit from the allocated resources over certain geographic area.

Table 7: MRI unit, utilization rate and frequency of usage by state and sector, 2010.

State	Public		Private		All		no. of procedure per 10,000 population
	Unit performed	Utilization No. of (no. of proc performed per unit)	Unit performed	Utilization No. of (no. of proc performed per unit)	Unit performed	Utilization No. of (no. of proc performed per unit)	
Johor	3	3,161	1,054	7	15,490	2,213	55.70
Kedah	2	2,617	1,309	4	5,331	1,333	40.81
Kelantan	2	2,125	1,063	1	637	637	17.94
Melaka	1	1,643	1,643	3	7,301	2,434	108.93
N. Sembilan	1	1,925	1,925	5	3,481	696	52.94
Pahang	2	1,709	855	2	2,004	1,002	24.74

Perak	2	1,789	895	5	7,255	1,451	38.44
Perlis	1	532	532	0	-	-	22.98
P.Pinang	2	4,111	2,056	7	18,905	2,701	147.41
Sabah*	1	1,359	1,359	2	4,072	2,036	16.49
Sarawak	2	2,664	1,332	5	5,713	1,143	33.90
Terengganu	1	945	945	0	-	-	9.12
Selangor & FT Putrajaya	5	6,115	1,223	18	31,645	1,758	68.23
FT KL	6	17,180	2,863	17	20,301	1,194	223.82
Sel, FT Putrajaya & FT KL	11	23,295	2,118	35	51,946	1,484	104.37
Malaysia	31	47,875	1,544	76	122,135	1,607	60.00

Source: Sivasampu et al. (2012).

*Figure include that of Federal Territory of Labuan.

Table 8: Hospital distribution by state and sector, from 2000 to 2010.

State	2000			2010		
	Public	Private	Total	Public	Private	Total
Johor	10	21	31 (12.2%)	11	30	41 (12.2%)
Kedah	7	8	15 (5.9%)	9	10	19 (5.6%)
Kelantan	9	2	11 (4.3%)	10	3	13 (3.9%)
Melaka	3	4	7 (2.8%)	3	4	7 (2.1%)
N. Sembilan	5	4	9 (3.5%)	6	8	14 (4.2%)
Pahang	8	6	14 (5.5%)	10	7	17 (5.0%)
Perak	13	9	22 (8.7%)	14	15	29 (8.6%)
Perlis	1	0	1 (0.4%)	1	0	1 (0.3%)
Penang	5	17	22 (8.7%)	6	23	29 (8.6%)
Sabah*	17	5	22 (8.7%)	22	5	27 (8.0%)
Sarawak	18	6	24 (9.4%)	20	12	32 (9.5%)
Selangor**	8	28	36 (14.2%)	12	48	60 (17.8%)
Terengganu	5	0	5 (2.0%)	6	1	7 (2.1%)
FT KL	4	31	35 (13.8%)	4	37	41 (12.2%)
Malaysia	113	141	254 (100%)	134	203	337 (100%)

Source: Nooraini et al. (2011) and Sivasampu et al. (2012).

*Figure include that of Federal Territory of Labuan.

**Figure include that of Federal Territory of Putrajaya.

4. Contradictory Pictures: Health Resource Input, Health Indicator and Equity

Limited by time constraint and unavailability of geographically disaggregated data on morbidity, this paper only focuses on geographically disaggregated data on crude death rate, infant death rate, perinatal death rate and stillbirth rates, which are available in the Vital Statistics released by the Department of Statistics. Table 9 shows that Perlis records the highest crude death rate, 6.8, 7.1 and 6.9 per 1,000 population respectively, for a period of three years from 2009 to 2011. Pahang fares worst in infant death rate in 2011, and Terengganu has the highest perinatal death rate and stillbirth rate for a period of three years from 2009 to 2011 (see Table 10). Based on the same set of indicators, Sabah is the healthiest state for the same period of time. Despite that it has the lowest physician density, 2.18 per 10,000 population, and its number of CT scanner procedure per 10,000 population is 1/3 of the nationwide average and its MRI procedure per 10,000 population about 1/4 the nationwide rate, Sabah records the lowest crude death rate, infant death rate, perinatal death rate and stillbirth rate for three consecutive years from 2009 to 2011. If we pay attention to the relation between health status and resource density in other states, such as Terengganu and Perlis, the population in these states with the least health resources appear to fare poorly in terms of health outcome. The health status in the state with the richest resources, however, appears to defy the widely accepted assumption that higher density of resources will lead to better health status. This appears to affirm the result of an earlier study by Wee and Jomo (2009) that government health allocations in the 1980s were not related to health indicators by state, such as infant mortality rate, neonatal mortality rate, toddler mortality rate, stillbirth rate and maternal mortality rate.

The contradictory pictures of the connection between health status and resource density not only reveal the problematic assumption underlying certain resource allocation indicators, they also complicate the measurement of accessibility. Lack of health resources may lead to poor health outcome, but availability in health services does not automatically guarantee good outcome. These contradictions call for careful examination, explanation and interpretation of these indicators and beg us to look beyond health resources availability, whether in the form of health personnel or medical facilities, and to rethink what exactly influences accessibility and health status. The contradictions also call for a comparative study to examine what exactly contributes to good health outcome in the least resourceful but healthy state, such as Sabah, and what to poor health in the least resourceful and unhealthy state, such as Terengganu and Perlis.

Table 9: Crude death rate by state, 2009-2011.

state	crude death rate (per 1,000 population)		
	2009	2010	2011
Johor	5.0	4.8	4.8
Kedah	6.1	6.0	6.0
Kelantan	6.3	6.2	6.2
Melaka	6.1	5.4	5.5
N. Sembilan	6.0	5.6	5.6
Pahang	5.0	5.1	5.1
Perak	6.8	6.5	6.7
Perlis	6.8	7.1	6.9
Penang	5.9	5.8	5.7
Sabah	2.4	2.3	2.4
Sarawak	4.6	4.2	4.4
Selangor*	3.7	3.4	3.5
Terengganu	5.6	5.6	5.8
FT KL	4.1	3.9	4.1
Malaysia	4.8	4.6	4.7

Source: *Vital Statistics Malaysia* (various years) by Department of Statistics.

Note: *Figure for 2009 include that of Federal Territory of Putrajaya.

Table 10: Infant death rate, perinatal death rate and stillbirth by state, 2009-2011.

state	infant death rate (per 1,000 live births)			perinatal death rate (per 1,000 live births)			stillbirth rate (per 1,000 live births)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Johor	6.8	7.1	6.4	7.3	7.7	6.9	4.4	4.1	4.1
Kedah	7.7	7.8	6.6	9.7	9.4	8.9	5.3	5.4	5.3
Kelantan	9.5	8.4	7.7	10.2	10.0	9.9	6.2	6.2	6.3
Melaka	9.0	8.1	8.6	9.7	8.6	9.3	5.8	4.6	5.0
N. Sembilan	8.9	7.2	7.1	9.5	8.6	7.7	5.2	5.1	4.8
Pahang	8.8	7.6	9.5	8.2	7.6	9.4	4.7	4.6	5.0
Perak	7.2	8.0	6.2	7.7	8.4	8.0	4.4	4.6	4.7
Perlis	7.6	8.0	9.6	7.3	10.6	10.3	3.8	6.0	5.5
Penang	6.4	6.8	7.2	7.6	7.5	8.3	3.9	3.8	4.5
Sabah	3.9	4.2	3.8	4.5	5.3	4.9	2.5	3.2	3.3
Sarawak	7.1	6.8	6.5	8.0	7.2	7.3	4.8	4.4	4.5
Selangor*	5.9	5.7	5.6	6.3	6.4	6.4	3.6	3.7	3.7
Terengganu	8.7	8.3	8.9	11.7	12.4	11.1	7.6	7.8	6.8
FT KL	5.3	5.5	6.4	6.3	7.1	6.7	3.9	4.8	3.6
Malaysia	6.9	6.7	6.5	7.6	7.7	7.6	4.4	4.5	4.5

Source: *Vital Statistics Malaysia* (various years) by Department of Statistics.

Note: *Figure for 2009 include that of Federal Territory of Putrajaya.

If density and availability of health resources are poor predictors of health outcomes and weak indicators of accessibility and equity, what methods are we left to measure accessibility? The notion of “mobility” or the ability to overcome spatial impedance in order to move across geographic areas is essential to understand accessibility. As a matter of fact, geographical space always assumes a significant place in health policy planning and implementation. The existing concept of space in policy planning, however, is spatial division of Malaysia into different geographically structured units of formal jurisdictional space, which serves the purpose of health care administration. It is an administrator-centered and provider-centered concept adopted for the convenience of producing of statistical information and resource allocation. In contrast to this, the notion of mobility invites one to step out of the shoe of the administrator and that of the health care provider, and to define accessibility from the perspective of the users.

Earlier studies have already identified travel time, travel distance and travel cost as three different dimensions of spatial accessibility (Guagliardo 2004; Navarro 1970; Wee and Jomo 2009). In the past, traveling time and traveling distance were two important measures used by the MOH to evaluate the accessibility of government health services. It was also the government’s aim to develop and build public health facilities which allows access within one-hour walking distance or 5 km radius, though only 80% population live within 5km radius of a static health facility in 1996 in reality (Wee and Jomo 2009). For a country or a region with wide land area, travel time and travel distance are important and sensitive measurement of accessibility (Guagliardo 2004). Nevertheless, both travel time and travel distance are unable to capture the cost dimension of travel impedance in modern days. An anthropological study in remote Sarawak communities conducted two decades has shown that cost of transport are heavy indirect cost for access to free medical services (Alexander and Alexander 1993). A health equity study has pointed out that the transport cost for seeking government healthcare and medical services increased from RM2.30 in 1986/87 to RM4.14 in 1996 (Wee and Jomo 2009). The same study also reveals, for the poorest quintile in 2000, the average distance to the nearest government clinic was 5.7km and the nearest government hospital 23.6km, the corresponding figures for the richest quintile was 3.7km and 10.9km respectively. The statistics indicate that health facilities are located further from the poor than from the rich. Wee and Jomo (2009) also highlight that longer travel time increases opportunity cost, especially the self-employed and farmers. In two surveys by the MOH in 2008, travel cost has also been cited by some respondents as the reason of compromised regularity in using health services (Malaysia’s Health 2008: 43, 174). In the 2011 National Health and Morbidity Survey, overall mean travel time and distance to in-patient care facilities were 32 minutes and 21.8km respectively, the corresponding figure for out-patient care service were 17 minutes and 8.5km respectively. Thinking along this line, factors such as availability and affordability of transport service and rising petrol price are not unrelated to accessibility to health

services. For a country or a region with wide land area and low population density, such as Sabah and Sarawak, the ideas and practices of “mobile clinics” and “flying doctors” to overcome spatial impedance are thus not impractical.

In a nutshell, the concept of space in health planning should not be construed merely as geographically structured units of formal jurisdictional space, nor should we limit our understanding of physical hindrance to the perspective of the administrators and the providers. Whether or not availability of health resources translates into accessibility and equity depends on many other factors and it would be insufficient if we read resource input indicator without putting health indicator and care needs into the picture. The following section will discuss the advantages and disadvantages of tax funded system and mandatory social health insurance system.

5. Tax Funded System and Mandatory Social Health Insurance System

Variations in resource density or resource mal-distribution is not the only challenge that pushes the government to propose “1 Care for 1 Malaysia”. Perceived financial burden is the major reason that the government seeks to restructure the system. Table 11 compares the existing system and the proposed One Care reform. As a tax-funded system, Malaysia’s current public health service sector offers universal coverage of health service for all citizens by charging a nominal rate of RM1 registration fee for outpatient visit and RM5 for specialist consultation at all government clinics and hospitals. Nevertheless, high out-of-pocket spending, accounting for 35% of total health expenditure, suggests effective coverage is less than universal (see Table 12). Despite the increasing share of out-of-pocket spending in the past decade, the government considers the existing financing as unsustainable and calls for the re-channeling of resources through setting up a social insurance system: “As Malaysia has achieved universal coverage and the population is protected from catastrophic healthcare spending, the high out of pocket in the private sector reflects choice and preference of the payers. This is an indication of cost sharing by those who can afford. However, there is a need to harness this high out of pocket spending and ensure that it is spent efficiently and cost-effectively” (Country Health Plan 2010, p25).

Table 11: Comparing Malaysia’s existing health system with the proposed One Care reform.

	Current system	One Care
Relations between public and private services	Separated and independent from each other.	Integrated and regulated by a newly set up central authority (hereafter national health authority).
Financing	Public health system is general	Enrollment is compulsory for

	<p>tax funded.</p> <p>Private health services is paid out of pocket and/or covered by private health insurance.</p>	<p>all citizens and the premium is fixed at certain proportion of household income, with mandatory contributions from the government, employer and employee respectively each year. However, premium rate and proportion of each category of contributor are not known.</p>
Other source of financing	<p>Nominal registration fee, from RM1 to RM5, at government hospital/clinics.</p>	<p>Co-payment will be a source of income, but the rate is not announced.</p>
Purchasing and provision	<p>No separation in the public health service sector.</p> <p>Private insurance companies act as strategic purchasers of private health service.</p>	<p>Provision of health services will be separated from purchasing of health services and the national health authority will be a strategic purchaser who negotiates price and payments with service providers.</p>
Third party administrator (TPA)	<p>No such arrangement in a tax funded health system.</p> <p>Private insurance is the TPA, standing between patients and doctors, that negotiates price and payment.</p>	<p>The national health authority will act as TPA to (1) oversee the centralized fund collected from mandatory contribution, (2) to regulate supply and demand.</p>
Coverage of service	<p>All citizens are entitled to use all services at the government hospital at nominal charge.</p>	<p>All citizens covered by the national insurance are entitled to use health services at public and private sector. However, which area of services would be covered is unclear.</p>

Dispensing and prescription	Separated in all government hospitals and private hospitals, merged in small private clinics.	Separated. Doctor can only prescribe drugs, pharmacist will dispense drugs.
Gatekeeping mechanism	<p>Patients need referral letter to access specialist service at the government hospital.</p> <p>No such mechanism in the private sector, patients who can afford can walk in to any specialist service in the private sector.</p>	Primary care doctors or family doctors act as gatekeeper, patients need referral letter to access specialist service, whether at public or private hospitals. This is a mechanism to regulate demand.
Supply side control	Currently no state initiated mechanism to exercise such control. However, the behavior of private practitioners have been shaped by private health insurance.	Various arrangement of payment mechanism and other mechanism can be created to control supply, whether the behavior of hospital level or that of individual doctors.
Demand side control	<p>Public sector: referral system is a mechanism to control user's behavior in seeking specialist consultation.</p> <p>Private sector: No such mechanism.</p>	<p>Co-payment will be put in place to restrict overuse.</p> <p>Primary care doctor will act as gatekeeper of specialist service.</p>

Taking a look back at the history of Malaysia's health care system, this is not the first call for such reform. In late 1960s, came the first call for the establishment of insurance scheme to integrate public and private health sector from the private practitioner community. The recommendation, however, was rejected by the MOH on the grounds that "the climate [was] not right for health insurance scheme as there must be a certain level of affluence and enough doctors to put national health into place"² (Por 2014: 245-247). More than a decade later, came the first Health Services Financing Study under the sponsorship of Asian Development Bank in 1985, which recommended the creation of a National Health Security Fund (5MP: 513-514). The recommendation was viewed with caution and several studies on health financing sponsored by different institutions had been carried out over the past three decades (Chee 2008). It was not until the 7MP (1996-2000) that the government clearly charted the establishment of national health

² "Medical Services", *ST*, 11/8/1970, p.8.

financing scheme as a plan to reform healthcare in Malaysia (Chee and Por, forthcoming). The recently proposed “1 Care for 1 Malaysia” is just the rebranding of earlier government attempt to introduce a mandatory social health insurance.

Under the social health insurance (SHI), contribution or premium is fixed at certain proportion of household income, with mandatory contributions from the government, the employer and the employee respectively each year. A central authority or national health authority will be formed, who is responsible to the MOH, to manage the centralized fund and to act as a strategic purchaser of health service. Compared to tax-funded system, health fund under the SHI will be less influenced by political process as it is not subject to competition against allocation for other public services. Under a tax-funded system, the likelihood of increasing spending on health increases only when general revenues are more substantial and other needs are less pressing (Savedoff 2004).

In terms of manpower management, the workforce in the public sector is tied to civil service pay scales and condition, making it difficult to change the terms of work or to adapt to new specificities of the sector (Savedoff 2004). On the contrary, purchasing is separated from provision of healthcare under the SHI system, different provider payment arrangements can have different effects on the behavior of health providers, though not always in desired directions. International experience indicates that a fee-for-service payment may stimulate unnecessary diagnosis, prescriptions and treatment, and contribute to cost escalation (Lu and Chiang 2011; Tangcharoensathien, et al. 2011). Apart from payment arrangement, whether or not the new system will work also depends on other mechanisms. Gatekeeping mechanism, by instituting a referral system and assigning the panel primary care doctors as gatekeepers, is essential to regulate demands for secondary and tertiary services (Lu and Chiang 2011), though freedom of choice will be compromised.

In spite of some advantages of SHI, Tangcharoensathien et al (2011) has warned, “once a payment system is entrenched, particularly in cases for which private-for-profit providers dominate the health care market, radical reform from fee-for-service to capitation or case-based payment will face united resistance from the medical profession, as experienced in South Korea”. Given the current fee-for-service practice and the lack of gatekeeping mechanism in the private sector, we can anticipate collective resistance from the private sector if capitation or case-based payment is put in place under the new social insurance system. If that happens, it is likely to offset the cost-effectiveness of the new system. Whether or not a SHI will work depends more than just technical arrangement, political economic contexts is as important as institutional capacity. The past records of MOH in implementing privatization should also be taken into account (Phua 2009).

Cross-subsidization is one of the objectives “1 Care for 1 Malaysia”. However, one study has shown that if the new National Health Insurance is implemented, with a flat rate

scheme, it will reduce the progressiveness of the overall tax-financed system, as employment based insurance premiums paid by employers are likely to be offset by reductions in wages and salaries (Yu, Whynes and Sach 2008; 2011). Finally, in terms of protection against catastrophic health spending, defined as spending more than 10% of total household consumption expenditure on health, experiences elsewhere have shown that there is no strong evidence that countries with SHI offer better or worse protection than those with tax-financed system (Tangcharoensathien, et al. 2011).

Whether or not the government has the political will and institutional capability to change the system into a more equitable and sustainable one remains to be seen. In the *Economic Transformation Programme: Annual Report 2010*, Liow Tiong Lai, the Minister of Health, indicated that “numerous efforts are already underway to stem the expenditure trajectory, there is no coordinated effort to grow healthcare revenues. The Healthcare NKEA intends to address this asymmetry of focus and identify private sector opportunities to reframe health as an economic commodity as well as a social right” (Prime Minister Department 2010: 553). Can health be simultaneously an economic commodity and a social right?

6. Conclusion

Health personnel distribution has long been used as indicators of resource availability across geographic areas and across sectors. Given that the share of doctors, dentist and pharmacist in the public sector have outgrown that in the private sector, the new arising condition calls for new method of evaluating resource availability, such as distribution of specialists. Nevertheless, health personnel availability should not be conflated with service quality. Neither should we conflate health resource input with health outcome. The lack of significant relations between health allocation and health indicators calls for critical reading and interpretation of these indicators. The problem of distance and travel indicates that people of different socioeconomic and occupational status are differentially affected by any arrangement of health services.

Finally, there are advantages and disadvantages in both tax-funded and social insurance system. Emigration of skilled and experienced health personnel from the public sector to the private sector has been a perennial issue under an unintegrated public-private mix system. Nevertheless, to what extent distribution of specialists affects equity and population health is not entirely clear. In terms of cost effectiveness, international experience shows that whether or not any particular type of payment arrangement under a SHI system will work depends on a wide range of factors. To what extent the function of cross-subsidization will be improved under a SHI system is uncertain, as employment based insurance premiums paid by employers are likely to be offset by reductions in wages and salaries. In a nutshell, whether or not a financing reform towards SHI will make the system more cost effective, equitable and accessible depends as much on a whole range of factors beyond technical arrangements.

Table 12: Malaysia's health financing fixed account fixed at current PPP per capita, from 1995 to 2012.

Indicators	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total health expenditure (THE) % Gross Domestic Product (GDP)	2.79	2.74	2.72	2.93	3.03	3.04	3.40	3.40	3.95	3.74	3.29	3.65	3.60	3.47	3.98	4.00	3.91	4.03
General government expenditure on health (GGHE) as % of THE	53.65	54.67	55.00	55.28	55.31	55.59	58.43	57.38	59.58	56.41	51.20	54.91	54.26	55.62	58.60	57.09	54.74	55.01
Private expenditure on health (PvtHE) as % of THE	46.35	45.33	45.00	44.72	44.69	44.41	41.57	42.62	40.42	43.59	48.80	45.09	45.74	44.38	41.40	42.91	45.26	44.99
GGHE as % of General government expenditure	4.68	4.68	4.68	4.72	4.93	5.24	5.35	5.19	5.91	6.35	5.30	5.86	5.62	5.14	5.87	6.73	6.34	5.76
Social security funds as % of GGHE	NA	NA	NA	0.65	0.70	0.72	0.83	0.85	0.82	0.89	0.89	0.74	0.74	0.73	0.74	0.82	0.92	0.93
Out of pocket expenditure as % of PvtHE	74.74	74.74	74.74	73.77	74.01	76.01	73.46	73.49	74.67	77.02	77.98	78.93	78.12	78.17	75.85	76.27	77.41	77.52
Out of pocket expenditure as % of THE	34.64	33.88	33.63	32.99	33.08	33.76	30.54	31.32	30.18	33.57	38.05	35.59	35.73	34.70	31.40	32.73	35.03	34.87
Private insurance as % of PvtHE	8.86	8.86	8.86	10.23	10.70	11.09	12.41	13.37	14.89	14.11	12.80	13.06	13.26	14.86	17.56	17.32	17.47	16.91
Total expenditure on health / capita at Purchasing Power Parity (NCU per US\$)	215.8	231.3	244.8	241.1	262.7	286.0	322.0	338.6	416.9	425.2	399.2	474.1	502.4	509.1	569.2	611.9	630.1	691.5
General government expenditure on health / cap Purchasing	115.8	126.5	134.7	133.3	145.3	159.0	188.1	194.3	248.4	239.9	204.4	260.3	272.6	283.1	333.6	349.3	345.0	380.4

Power Parity (NCU per US\$)																		
General government expenditure on health as % of GDP	1.50	1.50	1.50	1.62	1.68	1.69	1.98	1.95	2.36	2.11	1.68	2.01	1.96	1.93	2.33	2.29	2.14	2.22
OOPS / capita at exchange rate	41.5	44.1	42.1	31.2	34.7	41.0	40.2	44.0	52.9	61.8	69.6	80.4	93.0	101.8	90.9	114.4	137.1	146.0

source: <http://apps.who.int/nha/database/ViewData/Indicators/en> [accessed 31 October 2014]

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