

CHAPTER VI THE URBAN BIAS IN THE DISTRIBUTION OF PRIVATE HOSPITALS AND DOCTORS

6.1 Introduction

Due to the different stages of maturity in healthcare development in the higher and lower level of urbanisation region, a variety of barriers may also be faced in this instance. As a result, some countries will have to implement different sets of policies and priority actions to meet the challenges of ‘uneven levels of development phases’ within a country.

In both developed and developing countries, higher level of urbanisation areas almost invariably has a substantially higher concentration of hospitals doctors than lower urbanisation areas. The urban concentration of health professionals is a recurring problem as well. Typically, only public hospitals populate the lower level of urbanisation areas as not only are people sparsely distributed but also they are generally unable to pay market rates for healthcare.

Malaysia is not an exception in this case, and hence it faces similar problems since private hospitals proliferate only in the higher level of urbanisation centres since the early 1980s. Also, urbanisation areas are more attractive to health professionals because of the social and professional amenities there. Imbalances in the distribution of healthcare facilities and professionals can exacerbate social disparities in a country.

Every state in the country has a general hospital that is equipped to provide a full range of healthcare services but they are located in urban areas. However, while the main public hospitals are located in urban areas, rural people have strong access to them as they are linked to rural government clinics. Also district hospitals are often accessible to rural people.

While Malaysia's healthcare system has a glorious past, privatisation initiatives may undermine these achievements as private hospitals tend to locate where there is a market for them. For these reasons, it is important to examine if there is a strong urban bias in the distribution of private hospitals and doctors.

Because of specific distances between the concentration of people and hospitals in lower level of urbanisation areas and the tendency of hospitals to be located in places with more people, the analysis in this chapter uses the criteria of higher urbanised and lower urbanised states. Since it is difficult to estimate the proximity of hospitals by this classification if viewed in literal terms, we have differentiated the concentration of hospitals by higher and lower level of urbanisation states. Although such a classification is not precise, it is still useful to show the market orientation of private hospitals. The breakdown of states by such classification is shown in Table 6.1. The classification is done based on ranking from high level of urbanisation states to low level of urbanisation states.

According to the Population Distribution and Basic Demographic Characteristics Report (2010) the highly urbanised area is defined as gazetted areas with their adjoining built-up areas which had a combined population of 10,000 or more. Built-up areas were

defined as areas contiguous to a gazetted area and had at least 60 per cent of their population aged 15 years and over engaged in non-agricultural activities.

Table 6.1: Level of Urbanisation by State, Malaysia

Rank	State	Level of Urbanisation (%)
1	Kuala Lumpur	100
2	Selangor	91.4
3	Penang	90.8
4	Melaka	86.5
5	Johor	71.9
6	Perak	69.7
7	N. Sembilan	66.5
8	Kedah	64.6
9	Terengganu	59.1
10	Sabah	54.0
11	Sarawak	53.8
12	Pahang	50.5
13	Kelantan	42.4

Source: Department of Statistics, Malaysia (2010).

The chapter is organised as follows. The next section (6.2) analyses the distribution of hospitals and beds in higher and lower level of urbanisation states. Second section (6.3) evaluates the distribution of doctors in higher and lower level of urbanisation states. Section (6.4) presents the summary.

6.2 Healthcare in High and Low Level of Urbanisation Areas

Uneven distribution of health personnel is a near-universal problem, particularly in developing countries. Health personnel, especially experienced doctors are very sparsely distributed. Transfers from health centres to hospitals in urban areas are seen as an inconvenience to not only the patient and family, but also puts pressure on the system of healthcare in Malaysia. Ensuring universal access to skilled health personnel, especially in remote or rural areas, is a necessary condition for realising the human right to health, a matter of social justice.

Malaysian public hospitals are organised by national, state and district levels spread across the country, while private healthcare services tend to be concentrated in the urban areas to cater for the affluent population. As explained earlier, the government has promoted the private sector towards the provision of health care for the country to complement the public healthcare sector. Table 6.2 shows the number of public and private hospitals in all the states in Malaysia. The number of private hospitals in Malaysia rose from 174 in 1990 to 245 in 2009.

The states that are considered as high level of urbanisation, such as, Penang, Federal Territory, Selangor and Johor have the highest number of private hospitals compared to the lower level of urbanisation states such as Kelantan, Pahang, Terengganu and Sabah. Obviously, the concentration of private hospitals in the lower level of urbanisation states is the least. In Eastern Peninsular Malaysia, Sabah and Sarawak, the number of private hospitals were very much less compared to Peninsular Malaysia. The number of private hospitals decreased in Sabah from 11 in 1993 to 7 in 2009.

The private healthcare started to expand in 1990s when the government introduced a Master Plan on privatisation to explain the policy and strategy for privatisation. This Master plan had further boosted the development of private healthcare in Malaysia. The highest growth of private healthcare compared to the previous year can be observed in the year 1992 for the state of Kuala Lumpur, Penang and Johor where the growth was around 24 per cent, 12 per cent and 19 per cent respectively. In Selangor and Melaka, the highest growth compared to the previous year can be seen in 1999 (22.5 per cent) and 1998 (28.6 per cent). During these years, government had introduced health tourism to help out the private hospitals that were badly affected due to the Asian financial crisis. In order to survive, they tried to attract foreign patients from foreign countries.

Table 6.2: Distribution of Public and Private Hospitals in Malaysia by States, 1990-2009

Years/ States	Kuala Lumpur				Selangor				Penang				Melaka				Johor			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	1	-	40	-	6	-	27	-	4	-	16	-	2	-	6	-	10	-	21	-
1991	2	100	38	-5	6	0	28	3.7	5	25	17	6.3	2	0	6	0.0	10	0	21	0.0
1992	2	0	47	23.7	6	0	29	3.6	5	0	19	11.8	2	0	6	0.0	10	0	25	19.0
1993	2	0	45	-4.3	6	0	24	-17.2	5	0	18	-5.3	2	0	5	-16.7	10	0	24	-4.0
1994	2	0	42	-6.7	7	16.7	25	4.2	5	0	19	5.6	2	0	7	40.0	10	0	27	12.5
1995	2	0	41	-2.4	7	0.0	30	20.0	5	0	21	10.5	2	0	7	0.0	11	10	30	11.1
1996	1	-50	42	2.4	7	0.0	29	-3.3	5	0	21	0.0	2	0	7	0.0	11	0	35	16.7
1997	1	0	45	7.1	7	0.0	35	20.7	5	0	23	9.5	2	0	7	0.0	11	0	39	11.4
1998	1	0	43	-4.4	7	0.0	40	14.3	5	0	22	-4.3	2	0	9	28.6	11	0	36	-7.7
1999	1	0	43	0.0	7	0.0	49	22.5	5	0	22	0.0	2	0	8	-11.1	11	0	34	-5.6
2000	1	0	43	0.0	8	14.3	48	-2.0	5	0	23	4.5	2	0	7	-12.5	11	0	35	2.9
2001	2	100	42	-2.3	9	12.5	47	-2.1	5	0	24	4.3	2	0	6	-14.3	11	0	35	0.0
2002	2	0	37	-11.9	9	0.0	44	-6.4	5	0	22	-8.3	2	0	5	-16.7	11	0	35	0.0
2003	3	50	40	8.1	12	33.3	46	4.5	6	20	23	4.5	3	50	5	0.0	11	0	33	-5.7
2004	3	0	42	5.0	11	-8.3	46	0.0	6	0	24	4.3	3	0	5	0.0	11	0	30	-9.1
2005	3	0	44	4.8	8	-27.3	47	2.2	6	0	24	0.0	3	0	5	0.0	11	0	31	3.3
2006	2	-33.3	44	0.0	11	37.5	51	8.5	6	0	26	8.3	3	0	5	0.0	12	9.1	36	16.1
2007	3	50.0	43	-2.3	13	18.2	52	2.0	6	0	25	-3.8	4	33.3	5	0.0	12	0	35	-2.8
2008	3	0.0	45	4.7	13	0.0	60	15.4	6	0	26	4.0	4	0	5	0.0	12	0	38	8.6
2009	4	33.3	44	-2.2	13	0.0	62	3.3	7	16.7	27	3.8	4	0	5	0.0	13	8.3	37	-2.6

Continue Table 6.2

Years/ States	Perak				Negeri Sembilan				Kedah				Terengganu			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	13	-	21	-	5	-	5	-	6	-	8	-	4	-	1	-
1991	14	7.7	21	0.0	5	0.0	5	0.0	6	0.0	8	0.0	4	0.0	1	0.0
1992	14	0.0	21	0.0	5	0.0	6	20.0	8	33.3	11	37.5	4	0.0	1	0.0
1993	14	0.0	16	-23.8	5	0.0	6	0.0	8	0.0	11	0.0	4	0.0	1	0.0
1994	14	0.0	16	0.0	5	0.0	6	0.0	8	0.0	10	-9.1	4	0.0	1	0.0
1995	15	7.1	17	6.3	5	0.0	6	0.0	9	12.5	11	10.0	5	25.0	2	100.0
1996	15	0.0	16	-5.9	5	0.0	6	0.0	9	0.0	11	0.0	5	0.0	2	0.0
1997	15	0.0	16	0.0	5	0.0	7	16.7	9	0.0	12	9.1	5	0.0	2	0.0
1998	15	0.0	13	-18.8	5	0.0	7	0.0	9	0.0	12	0.0	5	0.0	2	0.0
1999	15	0.0	15	15.4	5	0.0	9	28.6	9	0.0	14	16.7	5	0.0	2	0.0
2000	15	0.0	15	0.0	5	0.0	7	-22.2	9	0.0	14	0.0	5	0.0	2	0.0
2001	15	0.0	16	6.7	5	0.0	6	-14.3	9	0.0	16	14.3	5	0.0	2	0.0
2002	15	0.0	16	0.0	5	0.0	5	-16.7	9	0.0	15	-6.3	5	0.0	2	0.0
2003	16	6.7	16	0.0	5	0.0	5	0.0	9	0.0	14	-6.7	5	0.0	2	0.0
2004	16	0.0	17	6.3	5	0.0	4	-20.0	9	0.0	12	-14.3	6	20.0	2	0.0
2005	15	-6.3	16	-5.9	5	0.0	5	25.0	9	0.0	14	16.7	6	0.0	3	50.0
2006	15	0.0	15	-6.3	6	20.0	5	0.0	9	0.0	12	-14.3	6	0.0	3	0.0
2007	16	6.7	15	0.0	6	0.0	6	20.0	9	0.0	12	0.0	6	0.0	3	0.0
2008	16	0.0	16	6.7	7	16.7	7	16.7	9	0.0	11	-8.3	6	0.0	3	0.0
2009	13	-18.8	21	31.3	5	-28.6	5	-28.6	9	0.0	10	-9.1	6	0.0	3	0.0

Continue Table 6.2

Years/ States	Sabah				Sarawak				Pahang				Kelantan			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	16	-	8	-	17	-	13	-	8	-	6	-	7	-	2	-
1991	16	0.0	8	0.0	17	0.0	13	0.0	8	0.0	6	0.0	7	0.0	2	0.0
1992	16	0.0	12	50.0	19	11.8	13	0.0	8	0.0	7	16.7	7	0.0	2	0.0
1993	16	0.0	11	-8.3	19	0.0	11	-15.4	8	0.0	7	0.0	8	14.3	1	-50.0
1994	16	0.0	10	-9.1	18	-5.3	13	18.2	9	12.5	7	0.0	8	0.0	1	0.0
1995	18	12.5	10	0.0	21	16.7	14	7.7	9	0.0	7	0.0	8	0.0	1	0.0
1996	18	0.0	11	10.0	21	0.0	15	7.1	9	0.0	7	0.0	8	0.0	1	0.0
1997	18	0.0	11	0.0	21	0.0	13	-13.3	9	0.0	7	0.0	8	0.0	2	100.0
1998	18	0.0	11	0.0	21	0.0	10	-23.1	8	-11.1	8	14.3	9	12.5	3	50.0
1999	18	0.0	10	-9.1	21	0.0	9	-10.0	8	0.0	8	0.0	9	0.0	2	-33.3
2000	20	11.1	11	10.0	21	0.0	9	0.0	9	12.5	8	0.0	8	-11.1	2	0.0
2001	18	-10.0	11	0.0	19	-9.5	9	0.0	9	0.0	8	0.0	8	0.0	2	0.0
2002	18	0.0	10	-9.1	21	10.5	9	0.0	10	11.1	8	0.0	8	0.0	3	50.0
2003	18	0.0	11	10.0	21	0.0	9	0.0	10	0.0	10	25.0	9	12.5	3	0.0
2004	18	0.0	11	0.0	21	0.0	10	11.1	10	0.0	10	0.0	10	11.1	3	0.0
2005	19	5.6	10	-9.1	21	0.0	9	-10.0	10	0.0	10	0.0	9	-10.0	3	0.0
2006	22	15.8	10	0.0	20	-4.8	11	22.2	10	0.0	10	0.0	9	0.0	3	0.0
2007	22	0.0	9	-10.0	21	5.0	11	0.0	10	0.0	9	-10.0	9	0.0	3	0.0
2008	22	0.0	8	-11.1	22	4.8	13	18.2	10	0.0	10	11.1	10	11.1	3	0.0
2009	22	0.0	7	-12.5	22	0.0	14	7.7	8	-20.0	6	-40.0	9	-10.0	4	33.3

Source: Ministry of Health, (various years).

•Pub: Public, Pri: Private and % : Percentage Increase Over Previous Years

Aided by the devaluated currency on the one hand and government actions on the other hand, foreign patient number in private hospitals did indeed rose (MOH, 2002). This new phase was marked by a joint effort between government and private hospitals to market healthcare as a national enterprise, a notion that is belied by the increasing presence of transnational capital in the country. Most of the lucrative private hospitals that were involved in health tourism were located in the high level of urbanisation states. The availability of statistics on medical tourism is very poor, but according to MOH reports trend in a number of foreign patients as well as in revenue from foreign patients are increasing.

Selangor recorded the highest in terms of number and growth of private hospitals compared to the rest of the states in Malaysia. Since 1990 to 2009 the growth of private healthcare in Selangor is 130 per cent. Kuala Lumpur was the second highest state followed by Johor in terms of the number of private hospitals. Establishment of 'Kumpulan Perubatan Johor' (KPJ) under the Johor Corporation in 1981 had expanded the number of private hospitals in Johor largely.

Table 6.2 also reveals that Sabah and Sarawak have the highest number of public hospitals compared to the rest of the states. The largest states of Sarawak and Sabah are considered as less developed states, with relatively poor transport and communication facilities as well as higher levels of poverty than the other states in Malaysia. Sarawak had a population around two million living on a vast area of 125 450 km² of which about 75% is still covered by dense jungle (Kamil and Cheong, 2002).

Over 50% of Sarawak's population resides in remote areas with access to a variety of traditional healthcare systems. Providing modern healthcare to a population that resides in about 4000 longhouses and is linked to nearby towns through a network of rivers is

really an immense task (Kamil & Cheong, 2002). Clearly, half the population in Sarawak have no easy access to private hospitals, even if they wish to visit them. Moreover, because of the space and dispersed location of households, the demands for the private health care in these states are lower compared to the more urban states such as Penang, Selangor, Federal Territory and Johor.

Table 6.3: Total Number of Hospitals by State, Malaysia (1990-2009).

Year/States	1990		2000		2009	
	Total	Rank	Total	Rank	Total	Rank
Kuala Lumpur	41	1	44	3	48	3
Selangor	33	3	56	1	75	1
Penang	20	7	28	7	34	5
Melaka	8	12	9	12	9	12
Johor	31	4	46	2	50	2
Perak	34	2	30	5	34	5
N. Sembilan	10	10	12	10	10	11
Kedah	14	8	23	8	19	8
Terengganu	5	13	7	13	9	12
Sabah	24	6	31	4	29	7
Sarawak	30	5	30	5	36	4
Pahang	14	8	17	9	14	9
Kelantan	9	11	10	11	13	10

Source: Ministry of Health, (various years).

In terms of ranking, in 1990, Kuala Lumpur had the highest total number of hospitals, followed by Perak and Selangor. Terengganu recorded the lowest rank compared to the rest of the states (see Table 6.3). However, in year 2000, Kuala Lumpur is no longer in the first rank. Selangor overtook the position and followed by Johor and Kuala Lumpur. Terengganu was still the lowest in the particular year. Finally in 2009, the ranking of states are still the same as the year 2000.

The evidence discussed above clearly shows that the total numbers of hospitals are largely in the states with the higher level of urbanisation. This is due to the mushrooming of private healthcare after the introduction of Privatisation of Master Plan by Malaysian government in the year of 1991 and health tourism in 1997. The government, through the Ministry of Health and other agencies, is still the main provider of health services in lower urbanisation states in Malaysia. Private healthcare mainly are profit oriented and the locations are mostly in higher urbanisation states where the income levels of a critical mass of revenues are high. At present there are no incentives or regulations for the private sector to become really involved in delivering health care services in these lower urbanisation states, especially in remote areas (MMA, 1999).

The distribution of hospital beds in private hospitals were more concentrated in the higher level of urbanisation states compared to the lower level of urbanisation states. Selangor, Federal Territory of Kuala Lumpur, Penang and Johor had the highest number of private hospitals beds compared to the rest of the states in Malaysia. Meanwhile, Kelantan, Terengganu and Kedah possessed the lowest number of private hospitals beds in 2009. Table 6.4 display the number of beds in all the States in Malaysia from the year 1990 to 2009.

In addition, the numbers of public hospitals beds were also high in higher level of urbanisation states, especially in Selangor. The number of beds in public hospitals in Selangor rose from 2,265 in 1990 on average by 5.5 per cent per annum to 5,815 in 2009. The Federal Territory of Kuala Lumpur also followed a similar trend as Selangor, which was due to urbanisation where people moved from the countryside to live and work in big towns and cities. Indeed, it is likely that much of the residents of major

Malaysian towns and cities in states and federal territories such as Selangor, Kuala Lumpur and Penang were born elsewhere and moved to these big towns because of better educational and work opportunities.

In Selangor, the private healthcare sector share of beds increased around 236 per cent from 1990 to 2009 followed by Johor, Federal Territory of Kuala Lumpur and Penang increasing around 182 per cent, 144 per cent and 139 per cent each respectively. Interestingly, Melaka had the tremendous growth of private healthcare bed since 1990. The percentage of growth from 1990 to 2009 was around 609 per cent. In Melaka, the highest growth compared to previous year can be observed in 1995; around 271 per cent.

In the case of Sabah and Sarawak, Sabah had the lowest number of private beds compared to Sarawak. Sabah showed a decreasing trend in the distribution of private hospitals beds contrast with Sarawak where it showed an increasing trend. Although there was tremendous growth in the distribution of beds in private healthcare in most of the states, the public hospitals still were the largest provider of hospital beds in all the states in Malaysia.

Table 6.5 shows the rank of states in terms of total distribution of hospital beds from 1990 to 2009. In 1990, Perak was listed as the highest rank followed by Johor and Federal Territory of Kuala Lumpur meanwhile Kelantan, Terengganu and Melaka were in the lowest rank. The similar trend can be observed in the year 2000; however, in 2009 Perak was no longer in the first rank. Perak was overtaken by Selangor. This phenomenon clearly shows that higher level of urbanisation states has the most beds.

Table 6.4: Distribution Number of Beds in Malaysia by States, 1990-2009

Years/ States	Kuala Lumpur				Selangor				Penang				Melaka				Johor			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	2496	-	1143	-	2265	0.0	912	-	2245	-	872	-	910	-	113	-	4860	-	379	-
1991	2880	15.38	1149	0.5	2265	-0.7	922	-9.3	2245	0	1048	1.4	910	-	113	-	4860	0	379	0
1992	2814	-2.29	1484	29.2	2249	0.0	836	4.07	2221	-1.1	1063	-2.0	910	0	113	0	4619	-5.0	416	9.8
1993	2844	1.07	1755	18.3	2249	5.6	870	0.9	2191	-1.4	1042	22.5	910	0	131	15.9	4619	0.0	480	15.4
1994	2644	-7.03	1804	2.8	2374	0.4	878	19.3	2179	-0.5	1276	5.9	910	0	137	4.6	4633	0.3	500	4.2
1995	2644	0.00	1869	3.6	2383	0.0	1047	2.9	2034	-6.7	1351	-2.1	910	0	508	270.8	4695	1.3	600	20.0
1996	2644	0.00	1935	3.5	2383	0.0	1078	47.2	2023	-0.5	1323	15.8	835	-8.2	603	18.7	4725	0.6	637	6.2
1997	2652	0.30	2526	30.5	2383	0.9	1587	11.8	2023	0.0	1532	-1.2	835	0.0	614	1.8	4725	0.0	766	20.3
1998	2536	-4.37	2321	-8.1	2405	-14.4	1774	14.4	2023	0.0	1514	4.1	835	0.0	668	8.8	4700	-0.5	772	0.8
1999	2655	4.69	2358	1.6	2059	20.0	2029	-0.8	2011	-0.6	1576	4.3	835	0.0	685	2.5	4750	1.1	769	-0.4
2000	2502	-5.76	2358	0.0	2470	53.8	2012	12.3	2011	0.0	1644	9.4	835	0.0	677	-1.2	4760	0.2	784	2.0
2001	2774	10.87	2395	1.6	3800	4.3	2259	-0.8	1993	-0.9	1798	-1.2	807	-3.4	673	-0.6	4700	-1.3	770	-1.8
2002	2670	-3.75	2319	-3.2	3965	0.1	2242	4.2	1993	0.0	1776	14.9	807	0.0	619	-8.0	4668	-0.7	769	-0.1
2003	3386	26.82	2330	0.5	3968	0.3	2337	2.0	1955	-1.9	2040	-4.3	807	0.0	612	-1.1	4748	1.7	838	9.0
2004	3349	-1.09	2352	0.9	3979	10.8	2384	0.9	1955	0.0	1953	0.5	959	18.8	708	15.7	4748	0.0	804	-4.1
2005	3328	-0.63	2521	7.2	4407	-0.2	2405	7.4	1955	0.0	1962	0.3	968	0.9	760	7.3	4068	-14.3	794	-1.2
2006	3280	-1.44	2731	8.3	4399	15.6	2583	8.7	1930	-1.3	1968	-2.4	844	-12.8	756	-0.5	4499	10.6	998	25.7
2007	3255	-0.76	2523	-7.6	5084	12.2	2807	6.6	1930	0.0	1921	0.8	1044	23.7	797	5.4	4917	9.3	1007	0.9
2008	3484	7.04	2624	4.0	5702	2.0	2993	2.3	1930	0.0	1937	7.6	1044	0.0	801	0.5	4917	0.0	1059	5.2
2009	3572	2.53	2792	6.4	5815	0.0	3063	1.1	2677	38.7	2084	20.2	1072	2.7	801	0.0	4953	0.7	1070	1.0

Continue Table 6.4

Years/ States	Perak				Negeri Sembilan				Kedah				Terengganu			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	6704	-	572	-	1694	-	95	-	1773	-	126	-	1120	-	14	-
1991	6812	1.6	572	0	1462	-13.7	95	0	1799	1.5	157	24.6	1141	1.9	14	0
1992	6812	0.0	572	0	1362	-6.8	81	-14.7	1917	6.6	174	10.8	1141	0.0	14	0
1993	6794	-0.3	602	5.24	1362	0.0	77	-4.9	1917	0.0	213	22.4	1117	-2.1	16	14.3
1994	6794	0.0	592	-1.66	1336	-1.9	78	1.3	1917	0.0	208	-2.3	1093	-2.1	16	0.0
1995	6944	2.2	717	21.11	1298	-2.8	78	0.0	1959	2.2	262	26.0	1149	5.1	21	31.3
1996	6991	0.7	755	5.30	1298	0.0	120	53.8	2017	3.0	262	0.0	1182	2.9	21	0.0
1997	6991	0.0	752	-0.40	1298	0.0	123	2.5	2029	0.6	289	10.3	1182	0.0	21	0.0
1998	6414	-8.3	729	-3.06	1345	3.6	123	0.0	2050	1.0	347	20.1	1182	0.0	17	-19.0
1999	6408	-0.1	757	3.84	1327	-1.3	193	56.9	2050	0.0	379	9.2	1182	0.0	17	0.0
2000	6442	0.5	757	0.00	1327	0.0	177	-8.3	2067	0.8	379	0.0	1182	0.0	17	0.0
2001	6458	0.2	763	0.79	1327	0.0	181	2.3	2067	0.0	395	4.2	1182	0.0	17	0.0
2002	6458	0.0	763	0.00	1327	0.0	173	-4.4	2067	0.0	386	-2.3	1242	5.1	17	0.0
2003	6222	-3.7	740	-3.01	1327	0.0	122	-29.5	2067	0.0	377	-2.3	1242	0.0	17	0.0
2004	6190	-0.5	780	5.41	1327	0.0	170	39.3	2097	1.5	425	12.7	1292	4.0	17	0.0
2005	6197	0.1	779	-0.13	1559	17.5	224	31.8	2109	0.6	482	13.4	2063	59.7	22	29.4
2006	6197	0.0	768	-1.41	1523	-2.3	216	-3.6	2109	0.0	463	-3.9	1332	-35.4	30	36.4
2007	6202	0.1	818	6.51	1527	0.3	304	40.7	2214	5.0	463	0.0	1334	0.2	31	3.3
2008	6704	-	572	-	1694	-	95	-	1773	-	126	-	1120	-	14	-
2009	6812	1.6	572	0	1462	-13.7	95	0	1799	1.5	157	24.6	1141	1.9	14	0

Continue Table 6.4

Years/ States	Sabah				Sarawak				Pahang				Kelantan			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	2803	-	201	-	3093	-	165	-	1496	-	68	-	1261	-	15	-
1991	2803	0	201	0	3167	2.4	165	0	1437	-3.9	68	0	1291	2.4	15	0
1992	2812	0.3	274	36.3	3243	2.4	264	60	1439	0.1	77	13.2	1318	2.1	15	0
1993	2812	0.0	265	-3.3	3237	-0.2	243	-8.0	1397	-2.9	89	15.6	1330	0.9	10	-33.3
1994	2878	2.3	221	-16.6	3204	-1.0	312	28.4	1536	9.9	89	0.0	1344	1.1	10	0.0
1995	3009	4.6	221	0.0	3306	3.2	316	1.3	1545	0.6	97	9.0	1394	3.7	10	0.0
1996	3042	1.1	224	1.4	3295	-0.3	376	19.0	1585	2.6	116	19.6	1394	0.0	10	0.0
1997	3042	0.0	224	0.0	3365	2.1	347	-7.7	1595	0.6	116	0.0	1404	0.7	12	20.0
1998	3000	-1.4	220	-1.8	3316	-1.5	344	-0.9	1609	0.9	143	23.3	1519	8.2	71	491.7
1999	3001	0.0	218	-0.9	3500	5.5	319	-7.3	1641	2.0	143	0.0	1614	6.3	63	-11.3
2000	3200	6.6	221	1.4	3649	4.3	319	0.0	1683	2.6	143	0.0	1614	0.0	63	0.0
2001	3240	1.3	227	2.7	3700	1.4	319	0.0	1703	1.2	143	0.0	1614	0.0	63	0.0
2002	3400	4.9	219	-3.5	3780	2.2	337	5.6	1707	0.2	143	0.0	1614	0.0	93	47.6
2003	3033	-10.8	227	3.7	3499	-7.4	346	2.7	1708	0.1	216	51.0	2374	47.1	95	2.2
2004	3250	7.2	163	-28.2	3499	0.0	389	12.4	1689	-1.1	216	0.0	2405	1.3	117	23.2
2005	3494	7.5	165	1.2	3513	0.4	357	-8.2	1703	0.8	208	-3.7	1652	-31.3	117	0.0
2006	3892	11.4	312	89.1	3509	-0.1	439	23.0	1793	5.3	213	2.4	2383	44.2	117	0.0
2007	4053	4.1	291	-6.7	3613	3.0	431	-1.8	1841	2.7	209	-1.9	2402	0.8	114	-2.6
2008	4053	0.0	277	-4.8	3621	0.2	497	15.3	1841	0.0	210	0.5	2399	-0.1	114	0.0
2009	4136	2.0	278	0.4	3610	-0.3	541	8.9	1907	3.6	201	-4.3	1652	-31.1	150	31.6

Source: Ministry of Health, (various years).

•Pub: Public, Pri: Private and % : Percentage Increase Over Previous Years

The private sector's concentration and expansion in the higher level of urbanisation states led to inequitable distribution of health services. The two major factors contributing significantly to changes in the health care system are urbanisation and increase in national income. The urban population increased very rapidly after 1991, corresponding with a general increase in income and this translated into a larger clientele for private healthcare that is located in urban areas (Chee, 2008). The promotion of healthcare as a major tourist attraction at urban location expanded further markets for private health care and the increase on the number of beds.

Table 6.5: Total Number of Beds by State, Malaysia (1990-2009).

Year/States	1990		2000		2009	
	Total (Unit)	Rank	Total (Unit)	Rank	Total (Unit)	Rank
Kuala Lumpur	3639	3	4860	3	6364	3
Selangor	3177	5	4482	4	8878	1
Penang	3117	6	3655	6	4761	5
Melaka	1023	13	1512	11	1873	10
Johor	5239	2	5544	2	6023	4
Perak	7276	1	7199	1	7384	2
N. Sembilan	1789	9	1504	12	1557	12
Kedah	1899	8	2446	8	1956	9
Terengganu	1134	12	1199	13	1155	13
Sabah	3004	7	3421	7	4414	6
Sarawak	3258	4	3968	5	4151	7
Pahang	1564	10	1826	9	2108	8
Kelantan	1276	11	1677	10	1802	11

6.3 Doctors by Higher and Lower Urbanisation States

The distribution of doctors in higher and lower urbanisation states was one of the disturbing issues that was noticed in Asian Countries. This is because the tertiary care hospitals are situated in cities, which have better facilities and living conditions which, along with the mushrooming of private hospitals in urban areas, have created big

demand for health professionals in the urbanised states. Nearly all countries have skill imbalances, creating huge inequalities. Also, skill mix depends a lot on the experience of doctors. The urban concentration of workers is a problem everywhere, which is also the case with the distribution of doctors in public and private hospitals.

In Malaysia, resources in public health care are distributed to various part of the country based on the size and need of the populations in different districts and states. Because of better urban incentives, the lower level of urbanisation states housemen doctors tend to prefer practising in the higher urbanisation states which is the main reason explaining the shortage of doctors to meet rural health care needs.

The growth of private healthcare simply provided an avenue for doctors to flock to acquire this incentive. Government deployment conditions of health professionals to the lower urbanisation states are also unattractive, and discourages health professionals from helping to deliver medical services in these areas because it is financially unrewarding (Noor Sulastry, 2011).

The number of doctors in higher urbanisation states such as Selangor, Federal Territory of Kuala Lumpur and Penang were really high compared to the lower urbanisation states such as Sabah, Sarawak, Kelantan, Terengganu and Pahang in 1990, which was due to the high concentration of doctors in the private sector in the three states. In order to overcome the inequitable distribution of doctors amongst the states, the Government recruited foreign doctors on contract, increased the intake of medical students in local universities and utilised the services of retired health personnel (Malaysia 1993: 350). Yet, it failed to avert the unequal distribution of doctors.

Table 6.6: Distribution of Doctors in Public and Private Hospitals in Malaysia by States, 1990-2009

Years/ States	Kuala Lumpur				Selangor				Penang				Melaka				Johor			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	894	-	823	-	182	-	684	-	197	-	438	-	93	-	28	-	247	-	426	-
1991	938	4.9	845	2.7	209	14.8	715	4.5	203	3.0	440	0.5	117	25.8	128	357.1	258	4.5	441	3.5
1992	1052	12.2	885	4.7	250	19.6	747	4.5	218	7.4	452	2.7	111	-5.1	125	-2.3	327	26.7	433	-1.8
1993	1311	24.6	919	3.8	252	0.8	811	8.6	199	-8.7	483	6.9	113	1.8	134	7.2	307	-6.1	474	9.5
1994	1420	8.3	988	7.5	294	16.7	907	11.8	213	7.0	513	6.2	136	20.4	139	3.7	289	-5.9	519	9.5
1995	1468	3.4	1072	8.5	322	9.5	992	9.4	229	7.5	542	5.7	147	8.1	176	26.6	329	13.8	577	11.2
1996	1467	-0.1	1116	4.1	339	5.3	1101	11.0	219	-4.4	574	5.9	126	-14.3	207	17.6	348	5.8	628	8.8
1997	2675	82.3	1130	1.3	561	65.5	1273	15.6	481	119.6	612	6.6	260	106.3	225	8.7	647	85.9	671	6.8
1998	2802	4.7	1234	9.2	552	-1.6	1400	10.0	508	5.6	655	7.0	239	-8.1	234	4.0	695	7.4	705	5.1
1999	2487	-11.2	1292	4.7	759	37.5	1469	4.9	494	-2.8	679	3.7	291	21.8	243	3.8	732	5.3	745	5.7
2000	1546	-37.8	1374	6.3	677	-10.8	1606	9.3	282	-42.9	728	7.2	173	-40.5	252	3.7	352	-51.9	777	4.3
2001	1560	0.9	1434	4.4	651	-3.8	1685	4.9	294	4.3	773	6.2	186	7.5	268	6.3	367	4.3	807	3.9
2002	1691	8.4	1558	8.6	615	-5.5	1830	8.6	311	5.8	796	3.0	185	-0.5	283	5.6	407	10.9	846	4.8
2003	1867	10.4	1639	5.2	685	11.4	1891	3.3	320	2.9	781	-1.9	173	-6.5	293	3.5	456	12.0	862	1.9
2004	1794	-3.9	1801	9.9	721	5.3	2044	8.1	346	8.1	841	7.7	239	38.2	333	13.7	461	1.1	874	1.4
2005	1941	8.2	1843	2.3	1336	85.3	2097	2.6	666	92.5	853	1.4	388	62.3	344	3.3	1088	136.0	891	1.9
2006	2402	23.8	1563	-15.2	1752	31.1	2103	0.3	849	27.5	822	-3.6	444	14.4	326	-5.2	1026	-5.7	924	3.7
2007	2761	14.9	1762	12.7	2079	18.7	2337	11.1	941	10.8	874	6.3	465	4.7	378	16.0	1295	26.2	981	6.2
2008	2590	-6.2	1881	6.8	1393	-33.0	2508	7.3	559	-40.6	938	7.3	322	-30.8	363	-4.0	752	-41.9	1041	6.1
2009	1944	-24.9	1952	3.8	2877	106.5	2624	4.6	1171	109.5	960	2.3	651	102.2	406	11.8	1588	111.2	1072	3.0

Continue Table 6.6

Years/ States	Perak				Negeri Sembilan				Kedah				Terengganu			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	305	-	489	-	136	-	142	-	151	-	181	-	119	-	58	-
1991	301	-1.3	501	2.5	122	-10.3	153	7.7	158	4.6	187	3.3	113	-5.0	58	0.0
1992	316	5.0	503	0.4	131	7.4	156	2.0	169	7.0	191	2.1	127	12.4	60	3.4
1993	306	-3.2	527	4.8	158	20.6	160	2.6	178	5.3	202	5.8	124	-2.4	74	23.3
1994	343	12.1	556	5.5	136	-13.9	172	7.5	198	11.2	222	9.9	104	-16.1	81	9.5
1995	377	9.9	572	2.9	167	22.8	177	2.9	208	5.1	255	14.9	131	26.0	90	11.1
1996	391	3.7	598	4.5	185	10.8	191	7.9	224	7.7	283	11.0	134	2.3	99	10.0
1997	732	87.2	614	2.7	307	65.9	203	6.3	393	75.4	331	17.0	287	114.2	103	4.0
1998	768	4.9	638	3.9	326	6.2	221	8.9	480	22.1	346	4.5	294	2.4	113	9.7
1999	762	-0.8	666	4.4	330	1.2	245	10.9	461	-4.0	364	5.2	353	20.1	118	4.4
2000	411	-46.1	711	6.8	194	-41.2	265	8.2	255	-44.7	382	4.9	141	-60.1	123	4.2
2001	427	3.9	741	4.2	219	12.9	271	2.3	282	10.6	398	4.2	156	10.6	127	3.3
2002	418	-2.1	777	4.9	227	3.7	280	3.3	326	15.6	411	3.3	174	11.5	135	6.3
2003	507	21.3	764	-1.7	259	14.1	290	3.6	316	-3.1	410	-0.2	210	20.7	140	3.7
2004	514	1.4	892	16.8	290	12.0	320	10.3	338	7.0	447	9.0	201	-4.3	144	2.9
2005	1059	106.0	919	3.0	442	52.4	334	4.4	597	76.6	457	2.2	461	129.4	153	6.3
2006	1207	14.0	773	-15.9	720	62.9	319	-4.5	853	42.9	444	-2.8	559	21.3	141	-7.8
2007	1244	3.1	803	3.9	710	-1.4	341	6.9	822	-3.6	458	3.2	497	-11.1	166	17.7
2008	759	-39.0	835	4.0	401	-43.5	401	17.6	484	-41.1	483	5.5	266	-46.5	182	9.6
2009	1807	138.1	854	2.3	942	134.9	372	-7.2	1124	132.2	482	-0.2	658	147.4	193	6.0

Continue Table 6.6

Years/ States	Sabah				Sarawak				Pahang				Kelantan			
	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%	Pub	%	Pri	%
1990	112	-	179	-	159	-	190	-	158	-	143	-	235	-	88	-
1991	116	3.6	182	1.7	151	-5.0	205	7.9	153	-3.2	152	6.3	199	-15.3	96	9.1
1992	150	29.3	181	-0.5	181	19.9	200	-2.4	176	15.0	152	0.0	266	33.7	94	-2.1
1993	156	4.0	196	8.3	207	14.4	208	4.0	146	-17.0	158	3.9	319	19.9	100	6.4
1994	153	-1.9	198	1.0	202	-2.4	218	4.8	161	10.3	164	3.8	334	4.7	107	7.0
1995	199	30.1	208	5.1	229	13.4	227	4.1	171	6.2	168	2.4	391	17.1	115	7.5
1996	271	36.2	216	3.8	230	0.4	243	7.0	198	15.8	172	2.4	435	11.3	128	11.3
1997	405	49.4	230	6.5	465	102.2	253	4.1	348	75.8	186	8.1	604	38.9	151	18.0
1998	417	3.0	245	6.5	501	7.7	269	6.3	342	-1.7	208	11.8	544	-9.9	163	7.9
1999	461	10.6	260	6.1	490	-2.2	281	4.5	391	14.3	221	6.3	610	12.1	166	1.8
2000	202	-56.2	277	6.5	205	-58.2	276	-1.8	201	-48.6	235	6.3	531	-13.0	170	2.4
2001	239	18.3	292	5.4	220	7.3	286	3.6	243	20.9	252	7.2	582	9.6	172	1.2
2002	284	18.8	309	5.8	262	19.1	311	8.7	272	11.9	274	8.7	623	7.0	176	2.3
2003	200	-29.6	288	-6.8	308	17.6	343	10.3	286	5.1	289	5.5	574	-7.9	186	5.7
2004	268	34.0	329	14.2	327	6.2	362	5.5	305	6.6	311	7.6	584	1.7	186	0.0
2005	841	213.8	337	2.4	859	162.7	377	4.1	583	91.1	319	2.6	552	-5.5	194	4.3
2006	883	5.0	312	-7.4	784	-8.7	339	-10.1	691	18.5	311	-2.5	983	78.1	192	-1.0
2007	871	-1.4	342	9.6	797	1.7	357	5.3	634	-8.2	355	14.1	1012	3.0	209	8.9
2008	592	-32.0	358	4.7	543	-31.9	378	5.9	440	-30.6	378	6.5	784	-22.5	207	-1.0
2009	1204	103.4	379	5.9	1101	102.8	382	1.1	963	118.9	385	1.9	776	-1.0	218	5.3

Source: Ministry of Health, (various years).

•Pub: Public, Pri: Private and % : Percentage Increase Over Previous Years

The growth of private health sector has triggered a steady movement of senior doctors, specialist and experienced allied health professionals from the public sector to the more lucrative private health care sector. The ensuing imbalances are seriously straining human resource in the public health sector. Table 6.6 shows the number of doctors in public and private in all the states in Malaysia.

The share of doctors started to increase tremendously in private hospitals since the 1990s, after the launching of the Privatisation Master Plan in 1991. Selangor had the highest private-public share of doctors followed by Federal Territory of Kuala Lumpur. Meanwhile the lowest share of doctors in the private healthcare sector can be observed in Kelantan and Terengganu.

The growth of doctors in Selangor from 1990 to 2009 is around 284 per cent, meanwhile for Kuala Lumpur is 137 per cent. Comparing with the previous year, Selangor recorded the highest growth of doctors in 1997; the year government introduces health tourism. Health tourism has made the demand for doctors in private hospitals increases greatly, especially in higher level of urbanisation states. In Kedah and Terengganu, the average growth of doctors per annum was around 5 to 6 per cent only. This reflected that the doctors have less interest in working at the lower urbanisation states.

However, in Sabah and Sarawak states, the balance of doctors in public and private were almost the same. The government expected that the private health sector would absorb rich patients and free some public resources for the benefit of the poor. Although the private hospitals did partially achieve that objective, they also created tremendous pseudo demand to attract doctors from the public sector, partly from the rural hospitals.

The doctors are reluctant to relocate to Sabah and Sarawak especially in the areas that offer poor communications with the rest of the country and fewer amenities for health professionals and their families. Higher levels of urbanisation states are more attractive to the doctors for their comparative social, cultural and professional advantages. Moreover, metropolitan centres like Kuala Lumpur and Selangor offer more opportunities for career and educational advancement, better employment prospects and better access to education opportunities for their children. Government doctors, like doctors in private practice, are concentrated in the higher urbanisation states. In fact, the distributions of government doctors among the states are not very different from the distribution of private doctors.

During the financial crisis in 1997, private hospitals were badly affected during which time almost all the public hospitals enjoyed a marked rise in doctors. A number of the private hospitals were closed down forcing a number of the doctors from private hospitals to return to the public hospitals. However, it was during this time some of the private hospitals were encouraged by the government to attract patients from foreign countries.

Health tourism had been targeted by the Malaysian government as a strategy for increasing revenue from tourism, as well as, an industry that should be developed in its own right. The government had chosen 34 private hospitals from the more urban states and federal territory such as Penang, Kuala Lumpur and Selangor. The aggressive promotion of medical tourism had added to the exodus of experienced doctors from the lower level of urbanisation states to higher level of urbanisation states.

Table 6.7: Total Number of Doctors by State, Malaysia (1990-2009).

Year/States	1990		2000		2009	
	Total Doctors	Rank	Total Doctors	Rank	Total Doctors	Rank
Kuala Lumpur	1717	1	2920	1	3896	2
Selangor	866	2	2283	2	5501	1
Penang	635	5	1010	5	2131	5
Melaka	121	13	425	12	1057	11
Johor	673	4	1129	3	2660	4
Perak	794	3	1122	4	2661	3
N. Sembilan	278	11	459	10	1314	10
Kedah	332	7	637	7	1606	6
Terengganu	177	12	264	13	851	13
Sabah	291	10	479	9	1583	7
Sarawak	349	6	481	8	1483	8
Pahang	301	9	436	11	1348	9
Kelantan	323	8	701	6	994	12

Generally, as can be observed from the Table 6.7, the total number of doctors is high in higher level of urbanisation states compared to the lower level of urbanisation states. In 1990, Federal Territory of Kuala Lumpur was ranked as first followed by Selangor and Perak states. The same scenario can be seen in the year 2000, except Perak fell from third rank to fourth. Perak was overtaken by the Johor state. Interestingly, in 2009 Selangor was in the first rank out of thirteen states, having highest number of doctors, followed by Federal Territory of Kuala Lumpur and Perak, meanwhile Kelantan and Terengganu were the lowest. The result indicated that most of the doctors were concentrated in the higher level of urbanisation states compared to the lower level of urbanisation states.

The MOH (1999) reported that 58.8% of specialists in 1997 were located in the private sector but manage only 27% of the in-patients in the country, while the remaining 41.2% of specialists in the public sector manage 70% of in-patients. The trained doctors especially specialists leaving public hospitals continuously to destabilise the Malaysian

health care system, which then caused the expert services offered to stall, because the requisite expertise had been lost through this exodus.

In critically short staffed services such as neurosurgery, the public sector had to occasionally buy the services of private neurosurgeons to attend to their patients, especially during emergencies. Currently, in Kota Kinabalu, Sabah, cardiology and cardiac surgical services are purchased through weekly rotation of specialists from the corporatized IJN, at hefty prices (Quek, 2011).

There are some remarkable differences in the bed to doctor ratio among the higher level of urbanisation states compared to the lower level of urbanisation states (see Table 6.8). Sabah and Sarawak showed the largest decrease in terms of of bed to doctor ratio compared to the rest of the states from 1: 10.32 and 1:9.34 in 1990 to 1:2.79 and 1:2.80 in 2009 respectively. Melaka, Johor and Perak also recorded huge decrease in terms of beds to doctor ratio from 1:8.45, 1:7.78 and 1:9.18 in 1990 to 1:1.77, 1:2.26 and 1:2.77 in 2009 respectively.

The descriptive statistics shown in Table 6.8 reflects that although there are huge decreases in terms of beds to doctors' ratio in some of the lower urbanisation states over the years, but it can be observed that there is still an inequality of bed to doctors' ratio between the higher urbanisation of states and lower urbanisation of states. However, in term of trend, unambiguously the data indicates that the states in higher level of urbanisation and lower level of urbanisations are converging.

By the year 2009, almost all public hospitals in all the states in Malaysia have been rewarded by the massive increase in the number of doctors compared to the private

hospitals which made the total number of doctors in each states increase greatly. The improved perks that the government had begun to provide to the doctors really helped to retain the doctors in the public hospitals. However, the question is whether the numbers of doctors in the public hospitals in most of the states are specialists, senior doctors or the junior doctors that had just graduated and doing their mandatory services for 3 years. In fact Rasiah et al. (2011) provided evidence to show that the bulk of increase actually came from housemen and newly appointed doctors. It is difficult to identify the increase in number of specialists as there is yet to exist a mandatory specialist registration system.

According to the Malaysian Medical Council (2011), Malaysia has 27, 709 doctors, producing about 3,500-5,000 medical graduates annually, a big figure for a country with the population of 27 million. This is largely because the number of medical schools rose from 1 in 1980 to 36 in 2012. Concerned about the oversupply of doctors and housemen in the country, the Malaysian Government imposed a five-year moratorium on medical courses in 2011. In reality, with an expanding population, the increase in number of doctors is important especially to overcome the shortage of doctors in Sabah, Sarawak and Pahang but the real issue is whether there is a lack of senior doctors to train the new junior doctors.

Generally, the ratio of doctors to population is still far short when viewed by states, especially in the lower level of urbanisation states (see Figure 6.9). Though, the ratio is decreasing over the years, it is still far short of WHO minimum standard of 1: 600 in the case of doctors to population ratio in whole Malaysia. Table 6.8 shows the ratio of doctors to population in all the states in Malaysia from 1990 to 2009.

The higher level of urbanisation states have lower doctor to population ratios compared to the lower level of urbanisation states. Sabah and Sarawak were identified as having a very high doctor to population ratio over the years, though; Sarawak shows a decreasing trend in 2008 and 2009. Sabah and Sarawak seemed to be far worse than the other states in Peninsular Malaysia. Federal Territory had the lowest ratio of doctor to population, despite having a smaller ratio to Pahang, Sabah and Sarawak.

Almost every two out of five doctors are in Kuala Lumpur and Selangor. Also, the Sabah and Sarawak general hospitals are generally under-staffed and crowded. The over-worked care givers often succumb to their stress and take it out on rural patient (Sim, 2009). In any case, they may not give the kind of attention that patients deserve. The gravity of the issue instead of improving has worsened over the years i.e. the ratio of doctors to population is increasing dramatically without a focus on quality. If this situation continues, the quality and efficiency of a doctor treating a patient will be questionable.

An example that can be highlighted here is a patient that goes to the public hospital might need to get an appointment with the doctor and the duration to diagnose might take a year. There is a possibility of increased mortality of a patient due to the delay in treatment due to the lack of doctors or specialist in a public facility.

Most of the wealthy population might not wait and they might choose to go to a private facility because they can get immediate treatment. This suggests unfairness especially for those who are less financially fortunate and even more so for those who are living in lower level of urbanisation states such as Pahang, Sabah and Sarawak. This

phenomenon, which is common in part-industrial countries such as the United Kingdom raises the question of whether Malaysia is headed in that direction.

In general, the descriptive statistic shown in Table 6.9 reflects that there is an inequality of doctor to population ratio between higher urbanisation states and lower urbanisation states. The doctor to population ratio among the states shows a converging trend since the changes of the ratio are quite significant. There is a positive relationship with urbanisation by state and the doctor to population ratio. The WHO (2008) indicated that inequities in access to care and in health outcomes are usually the greatest in cases where health is treated as a commodity and care is driven by profitability.

Table 6.8: Ratio Bed to Doctor in Malaysia by States, 1990-2009.

Years/ States	Kuala Lumpur			Selangor			Penang			Melaka			Johor		
	Beds	Doctor	Ratio	Beds	Doctor	Ratio	Beds	Doctor	Ratio	Beds	Doctor	Ratio	Beds	Doctor	Ratio
1990	3639	1717	1:2.12	3177	866	1:3.67	3117	635	1:4.91	1023	121	1:8.45	5239	673	1:7.78
1991	4029	1783	1:2.26	3187	924	1:3.45	3293	643	1:5.12	1023	245	1:4.18	5239	699	1:7.49
1992	4298	1937	1:2.22	3085	997	1:3.09	3284	670	1:4.90	1023	236	1:4.33	5035	760	1:6.63
1993	4599	2230	1:2.06	3119	1063	1:2.93	3233	682	1:4.74	1041	247	1:4.21	5099	781	1:6.53
1994	4448	2408	1:1.85	3252	1201	1:2.71	3455	726	1:4.76	1047	275	1:3.81	5133	808	1:6.35
1995	4513	2540	1:1.78	3430	1314	1:2.61	3385	771	1:4.39	1418	323	1:4.39	5295	906	1:5.84
1996	4579	2583	1:1.77	3461	1440	1:2.40	3346	793	1:4.22	1438	333	1:4.32	5362	976	1:5.49
1997	5178	3805	1:1.36	3970	1834	1:2.16	3555	1093	1:3.25	1449	485	1:2.99	5491	1318	1:4.17
1998	4857	4036	1:1.20	4179	1952	1:2.14	3537	1163	1:3.04	1503	473	1:3.18	5472	1400	1:3.91
1999	5013	3779	1:1.33	4088	2228	1:1.83	3587	1173	1:3.06	1520	534	1:2.85	5519	1477	1:3.74
2000	4860	2920	1:1.66	4482	2283	1:1.96	3655	1010	1:3.62	1512	425	1:3.56	5544	1129	1:4.91
2001	5169	2994	1:1.73	6059	2336	1:2.59	3791	1067	1:3.55	1480	454	1:3.26	5470	1174	1:4.66
2002	4989	3249	1:1.54	6207	2445	1:2.54	3769	1107	1:3.40	1426	468	1:3.05	5437	1253	1:4.34
2003	5716	3506	1:1.63	6305	2576	1:2.45	3995	1101	1:3.63	1419	466	1:3.05	5586	1318	1:4.24
2004	5701	3595	1:1.59	6363	2765	1:2.30	3908	1187	1:3.29	1667	572	1:2.91	5552	1335	1:4.16
2005	5849	3784	1:1.55	6812	3433	1:1.98	3917	1519	1:2.58	1728	732	1:2.36	4862	1979	1:2.46
2006	6011	3965	1:1.52	6982	3855	1:1.81	3898	1671	1:2.33	1600	770	1:2.08	5497	1950	1:2.82
2007	5778	4523	1:1.28	7891	4416	1:1.79	3851	1815	1:2.12	1841	843	1:2.18	5924	2276	1:2.60
2008	6108	4471	1:1.37	8695	3901	1:2.23	3867	1497	1:2.58	1845	685	1:2.69	5976	1793	1:3.33
2009	6364	3896	1:1.63	8878	5501	1:1.61	4761	2131	1:2.23	1873	1057	1:1.77	6023	2660	1:2.26

Continue Table 6.8

Years/ States	Perak			Negeri Sembilan			Kedah			Terengganu		
	Beds	Doctor	Ratio	Beds	Doctor	Ratio	Beds	Doctor	Ratio	Beds	Doctor	Ratio
1990	7276	794	1:9.16	1789	278	1:6.44	1899	332	1:5.72	1134	177	1:6.41
1991	7384	802	1:9.21	1557	275	1:5.66	1956	345	1:5.67	1155	171	1:6.75
1992	7384	819	1:9.02	1443	287	1:5.03	2091	360	1:5.81	1155	187	1:6.18
1993	7396	833	1:8.88	1439	318	1:4.53	2130	380	1:5.61	1133	198	1:5.72
1994	7386	899	1:8.22	1414	308	1:4.59	2125	420	1:5.06	1109	185	1:5.99
1995	7661	949	1:8.07	1376	344	1:4.00	2221	463	1:4.80	1170	221	1:5.29
1996	7746	989	1:7.83	1418	376	1:3.77	2279	507	1:4.50	1203	233	1:5.16
1997	7743	1346	1:5.75	1421	510	1:2.79	2318	724	1:3.20	1203	390	1:3.08
1998	7143	1406	1:5.08	1468	547	1:2.68	2397	826	1:2.90	1199	407	1:2.95
1999	7165	1428	1:5.02	1520	575	1:2.64	2429	825	1:2.94	1199	471	1:2.55
2000	7199	1122	1:6.42	1504	459	1:3.28	2446	637	1:3.84	1199	264	1:4.54
2001	7221	1168	1:6.18	1508	490	1:3.08	2462	680	1:3.62	1199	283	1:4.24
2002	7221	1195	1:6.04	1500	507	1:2.96	2453	737	1:3.33	1259	309	1:4.07
2003	6962	1271	1:5.48	1449	549	1:2.64	2444	726	1:3.37	1259	350	1:3.60
2004	6970	1406	1:4.96	1497	610	1:2.45	2522	785	1:3.21	1309	345	1:3.79
2005	6976	1978	1:3.53	1783	776	1:2.30	2591	1054	1:2.46	2085	614	1:3.40
2006	6965	1980	1:3.52	1739	1039	1:1.67	2572	1297	1:1.98	1362	700	1:1.95
2007	7020	2047	1:3.43	1831	1051	1:1.74	2677	1280	1:2.09	1365	663	1:2.06
2008	7276	1594	1:4.56	1789	802	1:2.23	1899	967	1:1.96	1134	448	1:2.53
2009	7384	2661	1:2.77	1557	1314	1:1.18	1956	1606	1:1.22	1155	851	1:1.36

Continue Table 6.8

Years/ States	Sabah			Sarawak			Pahang			Kelantan		
	Beds	Doctor	Ratio	Beds	Doctor	Ratio	Beds	Doctor	Ratio	Beds	Doctor	Ratio
1990	3004	291	1:10.32	3258	349	1:9.34	1564	301	1:5.20	1276	323	1:3.95
1991	3004	298	1:10.08	3332	356	1:9.36	1505	305	1:4.93	1306	295	1:4.43
1992	3086	331	1:9.32	3507	381	1:9.20	1516	328	1:4.62	1333	360	1:3.70
1993	3077	352	1:8.74	3480	415	1:8.39	1486	304	1:4.89	1340	419	1:3.20
1994	3099	351	1:8.83	3516	420	1:8.37	1625	325	1:5.00	1354	441	1:3.07
1995	3230	407	1:7.94	3622	456	1:7.94	1642	339	1:4.84	1404	506	1:2.77
1996	3266	487	1:6.71	3671	473	1:7.76	1701	370	1:4.60	1404	563	1:2.49
1997	3266	635	1:5.14	3712	718	1:5.17	1711	534	1:3.20	1416	755	1:1.88
1998	3220	662	1:4.86	3660	770	1:4.75	1752	550	1:3.19	1590	707	1:2.25
1999	3219	721	1:4.46	3819	771	1:4.95	1784	612	1:2.92	1677	776	1:2.16
2000	3421	479	1:7.14	3968	481	1:8.25	1826	436	1:4.19	1677	701	1:2.39
2001	3467	531	1:6.53	4019	506	1:7.94	1846	495	1:3.73	1677	754	1:2.22
2002	3619	593	1:6.10	4117	573	1:7.18	1850	546	1:3.39	1707	799	1:2.14
2003	3260	488	1:6.68	3845	651	1:5.91	1924	575	1:3.35	2469	760	1:3.25
2004	3413	597	1:5.72	3888	689	1:5.64	1905	616	1:3.09	2522	770	1:3.28
2005	3659	1178	1:3.11	3870	1236	1:3.13	1911	902	1:2.12	1769	746	1:2.37
2006	4204	1195	1:3.52	3948	1123	1:3.52	2006	1002	1:2.00	2500	1175	1:2.13
2007	4344	1213	1:3.58	4044	1154	1:3.50	2050	989	1:2.07	2516	1221	1:2.06
2008	4330	950	1:4.56	4118	921	1:4.47	2051	818	1:2.51	2513	991	1:2.54
2009	4414	1583	1:2.79	4151	1483	1:2.80	2108	1348	1:1.56	1802	994	1:1.81

Source: Ministry of Health, (various years).

6.4 Summary

The share of doctors in the higher urbanisation states and lower urbanisation states is a major challenge for health policy makers since doctors are the most important input of any health system. The share of doctors in hospitals and beds is skewed towards the higher level of urbanisation such as Kuala Lumpur, Selangor, Penang and Johor. The lower level of urbanisation states faces low share of hospitals and beds at doctors especially in Sabah, Sarawak and Pahang. The population to doctors' ratio are also skewed towards the higher level of urbanisation states. These results clearly indicate that there is still an inequality of bed to doctors' ratio and population to doctors' ratio between higher urbanisation states and lower urbanisation states. However, the trend of bed to doctors' ratio and population to doctors' ratio are converging.

Although government efforts to expand the supply of doctors through approving the number of medical colleges has resulted in falling population-doctor ratios, it has yet to generate improvements in the quality of the services rendered at public hospitals. Also, by concentrating more in urban, the expansion of private hospitals has continued to aggravate the skew of hospitals and beds to the higher level of urbanisation states.

While the numbers of doctors have increased sharply since 2000, most of the doctors are concentrated in the higher level of urbanisation states. The evidence shows that healthcare privatisation has driven the unequal distribution of hospitals, beds and doctors to be concentrated in higher level of urbanisation states than in the lower level of urbanisation states.

Table 6.9: Total Doctors and Ratio of Doctors to Population in Malaysia by States, 1990-2009.

Years/ States	Kuala Lumpur		Selangor		Penang		Melaka		Johor	
	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.
1990	1717	1:717	866	1:2288	635	1:1798	121	1:2640	673	1:3130
1991	1783	1:642	924	1:2478	643	1:1656	245	1:2051	699	1:2968
1992	1937	1:663	997	1:2097	670	1:1758	236	1:2568	760	1:2896
1993	2230	1:586	1063	1:1993	682	1:1765	247	1:2512	781	1:2876
1994	2408	1:555	1201	1:1827	726	1:1677	275	1:2291	808	1:2845
1995	2540	1:529	1314	1:2148	771	1:1554	323	1:1768	906	1:2697
1996	2583	1:526	1440	1:2021	793	1:1526	333	1:1731	976	1:2560
1997	3805	1:361	1834	1:1636	1093	1:1118	485	1:1200	1318	1:1938
1998	4036	1:345	1952	1:1584	1163	1:1061	473	1:1242	1400	1:1865
1999	3779	1:372	2228	1:1431	1173	1:1063	534	1:1111	1477	1:1808
2000	2920	1:395	2283	1:1839	1010	1:1077	425	1:1174	1129	1:1843
2001	2994	1:423	2336	1:1613	1067	1:1142	454	1:1183	1174	1:1724
2002	3249	1:454	2445	1:1795	1107	1:1255	468	1:1440	1253	1:2307
2003	3506	1:445	2576	1:1807	1101	1:904	466	1:1138	1318	1:1622
2004	3595	1:401	2765	1:1511	1187	1:975	572	1:1066	1335	1:1810
2005	3784	1:411	3433	1:1380	1519	1:967	732	1:974	1979	1:1567
2006	3965	1:398	3855	1:1258	1671	1:893	770	1:942	1950	1:1626
2007	4523	1:353	4416	1:1123	1815	1:836	843	1:876	2276	1:1423
2008	4471	1:488	3901	1:1085	1497	1:817	685	1:879	1793	1:1571
2009	3896	1:425	5501	1:929	2131	1:740	1057	1:728	2660	1:1273

Continue Table 6.9

Years/ States	Perak		Negeri Sembilan		Kedah		Terengganu	
	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.
1990	794	1:2799	278	1:2604	332	1:4253	177	1:4249
1991	802	1:2344	275	1:2513	345	1:3782	171	1:4508
1992	819	1:2804	287	1:2625	360	1:4084	187	1:4268
1993	833	1:2824	318	1:2421	380	1:3973	198	1:4123
1994	899	1:2645	308	1:2542	420	1:3653	185	1:4548
1995	949	1:2183	344	1:2284	463	1:3201	221	1:4172
1996	989	1:2106	376	1:2122	507	1:2970	233	1:4070
1997	1346	1:1556	510	1:1589	724	1:2114	390	1:2502
1998	1406	1:1498	547	1:1505	826	1:1882	407	1:2467
1999	1428	1:1483	575	1:1455	825	1:1915	471	1:2194
2000	1122	1:1406	459	1:1284	637	1:1967	264	1:1835
2001	1168	1:1354	490	1:1319	680	1:1965	283	1:2231
2002	1195	1:1809	507	1:1770	737	1:2365	309	1:3052
2003	1271	1:1454	549	1:923	726	1:1931	350	1:2397
2004	1406	1:1534	610	1:1214	785	1:1901	345	1:2177
2005	1978	1:1141	776	1:1219	1054	1:1753	614	1:1656
2006	1980	1:1153	1039	1:926	1297	1:1451	700	1:1489
2007	2047	1:1130	1051	1:930	1280	1:1495	663	1:1611
2008	1594	1:1039	802	1:859	967	1:1445	448	1:1421
2009	2661	1:899	1314	1:772	1606	1:1245	851	1:1317

Continue Table 6.9

Years/ States	Sabah		Sarawak		Pahang		Kelantan	
	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.	Total Doctors	Doc:Pop.
1990	291	1:5061	349	1:4786	301	1:3509	323	1:3782
1991	298	1:6011	356	1:4630	305	1:3399	295	1:4019
1992	331	1:4788	381	1:4592	328	1:3382	360	1:3596
1993	352	1:4692	415	1:4317	304	1:3730	419	1:3161
1994	351	1:4887	420	1:4369	325	1:3566	441	1:3092
1995	407	1:5870	456	1:4134	339	1:3509	506	1:2720
1996	487	1:5180	473	1:4058	370	1:3281	563	1:2506
1997	635	1:4195	718	1:2722	534	1:2320	755	1:1917
1998	662	1:4249	770	1:2585	550	1:2299	707	1:2099
1999	721	1:4120	771	1:2629	612	1:2110	776	1:1962
2000	479	1:3325	481	1:2719	436	1:2035	701	1:1569
2001	531	1:3439	506	1:2544	495	1:1904	754	1:1508
2002	593	1:4604	573	1:3781	546	1:2465	799	1:1783
2003	488	1:2348	651	1:1665	575	1:1699	760	1:1426
2004	597	1:2765	689	1:2115	616	1:1818	770	1:1628
2005	1178	1:2514	1236	1:1871	902	1:1582	746	1:2018
2006	1195	1:2508	1123	1:2099	1002	1:1452	1175	1:1303
2007	1213	1:2524	1154	1:2082	989	1:1497	1221	1:1278
2008	950	1:2454	921	1:2032	818	1:1639	991	1:1863
2009	1583	1:2022	1483	1:1688	1348	1:1145	994	1:1644

Source: Ministry of Health, (various years).

