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URBANIZATION AND ITS IMPLICATIONS FOR HEALTH SERVICES

*Philip Guest**

Introduction

Within 10 years it is estimated that over one-half of the world population will be living in urban areas. Within 20 years, over half the population of the now developing world will be living in urban places, and by the year 2025 it is projected that those countries that are now counted among the least developed of nations will reach urbanization levels of 50 per cent (United Nations, 1993).

As a region, Southeast Asia stands as somewhat of an anomaly, with high levels of economic growth and moderate levels of development but low levels of urbanization. Although many countries in Southeast Asia are well advanced in the fertility and mortality transition, they are only beginning to enter the urban transition. The United Nations estimates that in 1990 approximately 29 per cent of the population of Southeast Asia was living in urban areas, compared to 26 per cent for the less developed region of South Asia. However, the projected annual growth of levels of urbanization over the next two decades is much greater for countries in the Southeast Asian region than it is for developing countries as a whole (United Nations, 1992), mainly because of the high projected economic growth of countries in this region.

This urban transition is accompanied by two related processes that have implications for the supply and demand for health services. The first is increasing concentration of resources within urban areas, while the second is marked variation in

* Institute for Population and Social Research, Mahidol University, Salaya, Phutthamonthon, Nakhon Pathom 73170, Thailand. E-mail: prplg@mahidol.ac.th

the demographic structures of rural and urban areas. The main aim of this paper is to suggest potential paths through which urbanization is related to the distribution of health services. In pursuit of this aim, the major portion of the paper will be devoted to describing patterns of urbanization.

Although the paper will concentrate on the experience of one country, Thailand, the second section of the paper will provide a broad overview of developments in the Southeast Asian region as a whole. In the third section of the paper urbanization in Thailand will be examined, these processes will be linked to the distribution of health resources. The final section of the paper will speculate on priority areas of concern that must be monitored in the process of urbanization.

Implications of Urbanization for Health Services

The distribution of, and access to, health services involves a complicated set of relations (see Herrin, 1988). However, for the purpose of linking this topic with that of urbanization, it is possible to simply show these relationships focusing on the supply of health services and the demand for these services. Demand for services are a function of the composition of the population, particularly in terms of age and sex, resources available, and preferences for particular types of services. The supply of services relate to government decisions about health budget allocations, and private health suppliers decisions about where to locate their services.

Urbanization affects the distribution of health services primarily through the effects on demand for services. To some extent, governments can attempt to overcome inegalitarian distributions of health services through a higher allocation of health budgets to areas perceived to be in need, although their ability to do this must be balanced by political realities. Private suppliers of health services may also contribute to inequities because they are likely to locate services in areas, usually urban, where income is highest.

Urbanization is an outcome of economic development not economic stagnation. It is indicators of economic development such as per-capita GNP that exhibit a strong positive relationship with levels of urbanization (see Cho and Bauer, 1987). It now relatively well-established that a lack of development is associated with low levels of rural-urban migration, which in turn, is the major demographic component of urbanization.

In the initial stages of an urban transition, especially in the now developing countries, the economic forces that propel urbanization may be rural based. In these situations urbanization occurs through the growth of trading centres for rural products. Much of the early stages of the urbanization experience of Southeast Asian countries can be attributed to their linkage into the international economy through the sale of agricultural products. Further gains in levels of urbanization occur though the increasing concentration of capital and related employment opportunities in urban places (see McGee and Griffith, 1993).

In most developing countries the growth of employment occurs in both the industrial and service sectors. Agriculture contributes a declining proportion of national income. While rural incomes tend to rise in most countries undergoing development, urban incomes rise at a more rapid rate, in part a reflection of higher levels of productivity of urban-based industries and in part to attract the labour necessary for expanding industries. Hence, the disparity in consumption between urban and rural residents increases, with urban residents being able to pay more for health services, and being more likely to utilize health services.

Morbidity, and therefore aspects of health service demand, vary by demographic characteristics. This is most evident in terms of age. Higher proportions of persons at different age groups is related to variations in the demand for certain types of health services (see Guest, 1992). The rapid fertility transitions that have characterized many developing countries over the last two decades have shifted the age profile of

populations towards young adult ages, where health demands are less. However, the same fertility transitions will, in the future, increase the proportion of health services that will need to be devoted to the elderly.

In so far as urbanization is related to different demographic profiles of the urban and rural populations than we can expect the demand for health services to vary among urban and rural areas. In general, urban populations tend to have larger proportions of their populations at young adult ages compared to rural areas. This is primarily a result of high levels of migration of young adults into urban areas. Where urbanization is being driven by employment growth in the industrial sector the age selectivity of migrants may become even more pronounced because of the preference for younger workers.

Migration selectivity may also vary by other demographic characteristics, although relationships vary markedly among contexts depending on the type of economic opportunities available in urban and rural places. For example, most streams of rural-urban migrants have an unbalanced sex ratio, with some countries having more males than females migrating to urban places while other countries having more females and males (Hugo, 1991a). Where sex is related to demand for health services, migration can be related to differences in health behaviour of rural and urban populations.

The forgoing discussion is not meant to imply that urban residents do not experience specific health problems related to their status as urban residents. Satterthwaite (1993) forcefully argues that a concomitant of urbanization, especially rapid urbanization, is urban environmental degradation. This has major health implications for urban residents, especially the poorest of urban residents who feel the brunt of health risks results from environmental destruction. It should be noted that historically in the now developed world mortality levels were higher in urban areas compared to rural areas. Although improvements in public health procedures were

sufficient to reverse these disparities, rapid urban growth in now developing countries is now creating similar pressures for public health responses from urban health administrators.

Because of the importance of migration in the process of urbanization it is necessary to examine the situation of migrants versus non migrants in more detail. To start conceptualizing the relationship between migration and health, it is necessary to identify differences between migrants and non-migrants on other factors that might be related to health. In so far as migrants are selected on those characteristics related to health (either good health or bad health), and where migration contributes to changing the composition of urban and rural population, there are direct implications for health demand in urban and rural areas.

There can be other effects of migration on health that do not directly relate to the active acts of individuals, but are related to health through the status of being a migrant. The most important of these effects is access to services. Where migrant status' changes the extent to which migrants can obtain health services there can be an effect on health. The question here is whether migrants, as a category, are placed in a situation where their health is compromised.

One way in which migrant status can affect health is in terms of migrants being placed in contexts where exposure to health conditions vary from that of non-migrants. Why should migrants have lower levels of access to health services compared to non-migrants? There are a number of reasons. The first, is simply their lack of information on how to access the services. Migrants who do not have social networks are unlikely to be aware of what services are available. Secondly, even where migrants know about the services, they often are not in a position to access them because they do not have the legal right to use the services. In many contexts a person has to be a resident before they can use services and many migrants, especially temporary migrants, do not meet the criteria of being a resident and therefore can not use the services.

Thirdly, it is often difficult to identify and contact migrants to provide them services. Finally, there can be both discrimination against migrants in the provision of services, especially if the migrants come from a different nationality or ethnic group, or the migrants themselves, especially if they can not speak the language, may not be able to access services (see Satterthwaite, 1993 for a discussion of some of these issues).

Although, the issue will not be covered in-depth in this paper, there is also a link to health through the behaviour of migrants. At present this link is perhaps most frequently discussed in terms of why levels of HIV prevalence are typically higher in urban that in rural area. In part, this has been attributed to migration (see Gould, 1993), with, it is argued: (a) Migrants are at those ages where they most likely to be sexually active, or contribute to unbalanced sex ratios that promote risky sex (Laga, 1994); (b) Migrants are taken out of traditional family and other social networks (including local, perhaps monogamous sexual networks) and therefore are more likely to either engage in sex with commercial sex workers (CSWs) become a CSW, or engage in other forms of sexual behaviour that are associated with higher levels of risk of HIV infection (Orubuloye, 1994; Parker, 1994; Singhanetra-Renard, 1994) and,; (c) Migrants are more likely to have less knowledge of availability of health services, or access to the health services.

Urbanization in Southeast Asia

As noted in the introduction, levels of urbanization are relatively low in the countries of Southeast Asia. What is now occurring in Southeast Asia, is that high rates of economic development are occurring in places with relatively low levels of urbanization. This is associated with lowered rates of population growth rates, through reduced fertility, and increased rates of rural-urban migration. The result is that migration is playing a large role in both urbanization and urban growth (Guest, 1992).

Migration is not a random event. There is evidence from several countries in the region that indicate that the level of migration, particularly female migration, increased over recent decades (Hugo, 1991; Hugo, 1991a; Ariffin, 1991). While rural to rural migration still predominates in most Southeast Asian countries the share of this migration stream in the total amount of migration has been decreasing, while the share of rural to urban migration has been increasing.

The data shown in Table 1 indicate that there are substantial differences among countries in the region in their levels of population growth and urbanization. All countries have positive, although declining rates of population growth. In the period 1985-1990 the annual rate of increase of the population was highest for Laos (3.12) and lowest for Singapore (1.32). Of the ten countries, only Singapore, Thailand and Indonesia had rates below 2 per cent. An annual rate of growth of 2 per cent implies a doubling of the population in approximately 35 years, compared to only 23 year for a growth of 3 per cent and 68 years for 1 per cent.

It is projected that by 1995-2000 no country in the region will have annual population growth rates exceeding 2.5 per cent and only Laos will have a growth rate exceeding 2 per cent. However, rates of change of the urban population are much greater than that of the population as a whole. This is reflected in the increasing levels urbanization. Between 1990 and the year 2000 it is projected that all countries will experience increases in levels of urbanization (with the exception of Singapore, which was 100 per cent urban in 1990). By the year 2000, Brunei Darussalam, Singapore and Malaysia will have levels of urbanization over 50 per cent, with the Philippines close to 50 per cent.

Table 1 Population Indicators for Countries in Southeast Asia

Population (000s)	1990	Annual Rate of Population Change		Per cent Urban		Annual Rate of Change of Urban Population	
		1985-90	1995-00	1990	2000	1985-90	1995-00
Brunei Darussalam	257	2.60	1.78	57.7	59.0	2.6	2.4
Cambodia	8,336	2.58	1.99	11.6	14.5	4.1	4.7
Indonesia	184,283	1.93	1.28	28.8	36.5	4.5	3.9
Laos	4,202	3.12	2.43	18.6	25.1	6.3	5.6
Malaysia	17,891	2.64	1.88	43.0	51.2	4.7	3.6
Myanmar	41,825	2.16	1.96	24.8	28.4	2.8	3.7
Philippines	62,437	2.39	1.78	42.7	48.9	3.7	3.2
Singapore	2,710	1.15	0.67	100.0	100.0	1.2	0.7
Thailand	54,677	1.32	0.67	22.2	28.9	4.0	3.6
Viet Nam	66,688	2.15	1.89	19.9	22.3	2.5	3.4

Sources: United Nations, Department of International Economic and Social Affairs, *World Population Prospects 1992*, New York, 1993a; United Nations, Department of International Economic and Social Affairs, *World Urbanization Prospects 1992*, New York, 1993.

Notes: Estimates after 1990 are obtained by population projection. Estimates from United Nations may not agree with country estimates.

In the period 1985-1990 the annual percentage change in urban growth was under 3 per cent in 4 of the 10 countries, and in 1995-2000 is projected to be under 3 per cent in only 2 of the 10 countries. Over the decade from 1985-90 to 1995-2000 rates of growth were projected to increase for Cambodia, Myanmar and Vietnam and decrease marginally (less than 20 per cent) for the other countries. In general, projected

rates of increase of the urban population are greatest for those with the lowest initial levels of urban population. The data presented in Table 2 clearly indicate the countries of Southeast Asia are in the process of rapid shifts in the urban/rural distributions of their populations.

Just as there are marked region variation in levels of urbanization, there are substantial differences exist among countries of the region in terms of the coverage of health systems, distribution of poverty and access to sanitary living conditions. Although data is difficult to obtain on these dimensions, and the data that is available is often of questionable quality, selected indicators are shown in Table 2.

For most countries where data is available, levels of absolute poverty are estimated to be much higher in rural areas than they are in urban areas. In Thailand and Malaysia the per cent in absolute poverty is between 2.5 and 3 times higher in rural areas compared to urban areas. In only 5 of the 9 countries listed did more than half of the population have access to safe drinking water, with levels of access generally being much lower for persons living in rural areas. There were also disparities in access to health services among rural and urban populations. Similar country and urban/rural differences for other health indicators have been reported on in more detail elsewhere (ESCAP, 1991; Selvaratnam, 1992).

Rural-urban differentials in poverty stimulate migration. In most countries of the region the expanding urban economies play a major role in absorbing labour from rural areas. Changes in the technological structure of agriculture have, and will continue to result in a reduction in the demand for agricultural labour. Although the extent to which the share of the labour force engaged in the agricultural sector will decline during the 1990s is a topic of debate (see Bauer, 1990), the inevitability of a decline is not questioned.

Table 2 Health Indicators for Selected Countries in Southeast Asia (circa 1990)

	% Population below absolute poverty[a]		% Population access to safe water			% Population access to health services[b]		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Cambodia	---	---	36	65	33	53	80	50
Indonesia	20	16	51	68	43	80	---	---
Laos	---	---	36	54	33	67	---	---
Malaysia	13	38	78	96	66	88	---	---
Myanmar	40	40	32	37	---	48	---	---
Philippines	52	64	82	85	79	75	77	74
Singapore	---	---	100	100	---	100	100	---
Thailand	10	25	96	92	98	90	90	90
Viet Nam	---	---	24	39	21	91	100	80

Source: United Nations Children's Fund, 1994. The State of the World's Children, 1994. Oxford University Press.

Notes: Estimates do not always refer to the exact year indicated. In those cases the data refer to the closest year for which data is available.

--- Not available

a "The income level below which a minimum nutritionally adequate diet plus essential non-food requirements is not affordable".

b Access to health services measures the "percentage of the population that can reach appropriate local health services by the local means of transport in no more than one hour".

Rural-urban migration places increasing pressure on urban markets. In addition to the impetus to migration arising out of the development of human resources in rural areas in the absence of the development of employment opportunities the situation is exacerbated by changes in the age structure of the population. For the

Southeast Asian region between 1970 and 2000 the population in the young adult years of 15-24 is projected to grow from 18.2 to 20.8 per cent of the population (United Nations, 1993a). As it is at young ages that migration rates are highest, especially rural to urban movement, urban areas will become increasingly `young' in their demographic profiles.

In the Southeast Asian region increases in female migration have been associated with expanded employment opportunities in industrial and service sector occupations (Lim, 1991). The consequences of this migration are difficult to evaluate. On the one hand, the movement has allowed households a greater flexibility in the way in which they allocate their resources. Women are also provided with access to jobs and a certain amount of freedom which they otherwise might not have enjoyed. On the other hand, the jobs generally made available, especially in service occupations, require little skill, have restricted opportunities for mobility and often have dangerous consequences for the health of migrants (Lim, 1991).

Variations in the incidence in the pace and incidence of demographic processes also have implications for the extent to which aging occurs among different segments of the population. The majority of elderly in Asian societies live in rural areas (Ogawa, 1988). In part this is a reflection of the distribution of the total population, although the selectivity of rural-urban migrants among young adults acts to increase the concentration of the elderly in rural areas, while the high levels of out-migration of elderly from urban areas reinforces this process (Hugo, 1991a). Thus rural communities and households, compared to urban communities and households, potentially experience higher levels of demand for services for the aged.

Urbanization in Thailand

The urban population of Thailand, as measured by the per cent of the total population residing in municipal areas, was 18.7 per cent in 1990 (see Table 3). If large sanitary districts (peri-urban areas) are included in the definition, the level of urbanization is probably in the vicinity of 30 per cent. Urban growth in the last three decades has far outstripped the growth of the total population. The rate of urban population growth has exceeded 2 per cent in each of the last three decades. In the period 1980-1990, the population in municipal areas grew by 2.5 per cent per annum, compared to 3.3 per cent and 5.5 per cent in the periods 1960-1970 and 1970-1980 respectively. While fertility declines have contributed to lower rates of population growth for both urban and rural areas, much of the apparent slowdown in urban population growth during the last decade is probably a result of the urban definitions employed, and it seems that urban levels of growth began to rise again after the middle of the 1980s (see Chamratrithirong and Guest, 1992).

The urban system of Thailand exhibits an extreme level of population and economic dominance of one city -- Bangkok -- a city which in terms of population size was ranked the 24th largest in the world in the 1990 and is projected to climb to number 22 by the year 2000 (United Nations, 1993). Of the approximately 10.2 million persons residing in municipal areas in 1990, almost 6 million (58.8 per cent) were living in Bangkok (NSO, 1992). According to United Nations estimates the population of the Bangkok urban agglomeration will officially pass 8 million, and hence be designated a Mega City, sometime during the 1990s and by the year 2000 is expected to contain a population of 9.9 million (United Nations, 1993).

Overall, a large portion of the growth of Bangkok and other urban centers in Thailand can be attributed to a transfer of population from rural areas. Fertility began to fall in the 1960s, and the fertility transition in urban areas preceded the transition in rural areas by a number of years. Estimates from the recently completed Survey of

Population Change (NSO, 1993a) placed the 1991 Total Fertility Rate (TFR) in urban and rural areas at 1.37 and 2.4 respectively. For Bangkok the TFR was estimated at a very low 1.1.

Net of the effects of reclassification, the urban-rural differential in fertility indicates that migration is a major factor contributing to urbanization in Thailand. For the two intercensal periods 1960-1970 and 1970-1980 net migration contributed between 40 and 50 per cent of all urban growth that did not result from reclassification (ESCAP, 1982). Estimates for the first half of the 1980s are that about 60 per cent of urban growth in Thailand was due to migration or reclassification (Perera, 1992).

Table 3 Urban Population Size, Rate of Urban Growth, Level of Urbanization and Rate of Change in Urbanization Levels, Bangkok Metropolis and the Whole Kingdom: Selected Years

Measure	Year	(1) Bangkok Metropolis	(2) Whole Kingdom	(1)/(2)
Urban Population	1960	2,136,435	3,273,865	0.65
	1970	3,077,361	4,553,102	0.68
	1980	4,870,000	7,928,000	0.61
	1990	5,875,900	10,206,900	0.58
Per cent Urban	1960	----	12.5	----
	1970	----	13.2	----
	1980	----	17.0	----
	1990	----	18.7	----
Annual Percentage	1960-1970	3.65	3.30	1.11
Growth in Urban	1970-1980	4.59	5.55	0.83
Population	1980-1990	1.88	2.53	0.74
Annual Percentage	1960-1970	----	0.60	----
Growth in per cent	1970-1980	----	2.48	----
Urban	1980-1990	----	0.98	----

Sources: National Statistical Office (1993): Urban is defined as municipal.

Migrants are younger than the population in general, rural-urban migrants are younger than other migrants, and migrants to Bangkok are younger than migrants in other streams. For example, while 40 per cent of all persons who migrated between 1985 and 1990 were aged between 15 and 24 in 1990 the corresponding figures for rural-urban migrants and migrants to Bangkok were 51 and 53 per cent respectively. Only 36 per cent of urban-rural migrants were aged 15-24, with a further 27 per cent aged 25-34 (NSO, 1993).

The comparisons between the urban and rural populations clearly indicate the greater urban concentration of the population at young adult ages. This concentration extends from ages 15-19 to 40-44 and occurs earlier for females than it does for males. At age 20-24 the difference in the per cent of the female population in urban and rural areas is 3.39 per cent. It is noteworthy that the rural populations contain a higher concentration of their population at the economically inactive ages while urban populations contain more of their population at the economically active ages. While this reflects the spatial distribution of economic opportunities it also demonstrates that at the aggregate level it is more difficult to provide for the welfare of the rural population.

The differences in age-sex selectivity of migration creates substantial demographic imbalances in the rural and urban groups. In Table 4 the age-specific sex ratios (number of males per 100 females) are shown for a number of populations. The urban population is female dominated (a sex ratio of 94) while there is a relatively even distribution of the sexes in the rural population. However, in the rural population females are in the majority only after age 25, while in the urban population females dominate after age 15, with the lowest sex ratio of 85 males for every 100 females experienced in the age group 20-24.

Table 4 Age-Specific Sex Ratios for Urban and Rural Populations and Selected Migration Streams: Thailand 1990

Age	Urban	Rural	Migrants		
			All	Rural-Urban	Urban-Rural
0-4	105	106	98	99	82
5-9	108	102	105	97	88
10-14	106	104	109	100	109
15-19	89	102	73	69	83
20-24	85	112	174	84	218
25-29	91	95	126	103	104
30-34	93	96	135	116	127
35-39	93	96	126	137	106
40-44	96	97	122	113	142
45-49	93	95	142	110	142
50-54	99	93	120	106	91
55-59	95	91	100	79	116
60-64	86	95	112	104	75
65-69	85	90	117	131	71
70 and over	69	77	89	65	91
Total	94	99	123	90	125

Source: NSO (1993).

The age-specific sex ratios of the general population is magnified in migration streams. Overall migration is dominated by males, with 123 males migrating in the period 1985-1990 for every 100 females. However, females dominate rural-urban

migration streams while males dominate urban to rural streams. Females usually undertaken migration related life-course events such as marriage, completion of education and entry into the labor force, at earlier ages than do males and this can partly explain the dominance of female migrants at young ages.

There are also marked variation in the types of migration that operate among the different migration streams. In Table 5 data from a recent national survey is used to examine forms of migration that are normally not captured in other data sources (see Guest et al. 1994). In the table, more permanent types of moves are categorized as `single moves' while temporary movement is categorized as 'seasonal' or 'repeat'. As the survey was held during the wet season, when many temporary migrants had returned home, the majority of interviews of temporary migrants were undertaken at the migrants place of usual residence and the migration referred to is the movement where they returned home.

Single moves dominated urban to urban and rural to urban migration, while a high proportion of urban to rural and a slightly smaller proportion of rural to rural migration, consisted of seasonal migration. Seasonal migration was a more important component of migration for males than for females. It appears that much of the temporary migration involves circulation between rural and urban employment. The magnitude of these flows are great, with the population of Bangkok varying by as much as 10 per cent over the course of a year due to flows of temporary migrants in and out of the city (IPSR, 1995).

Although temporary migration patterns have not specifically been linked to the provision of health services or temporary migrants designated as a special target group for health services, more attention needs to be paid to this group. Temporary migrants are a difficult group to target for health interventions, and because of their lack of local social networks may find it difficult to access health services. They also tend to be located in industries where risks to health are great, such as the construction industry.

Finally temporary migrants provide an ideal way through which communicable diseases can spread across space. As levels of temporary migration appear to increase during the middle stages of the urban transition, the countries of Southeast Asia might expect that this group could increase in size in the short-term.

Urban and rural are not only terms used to describe areas with different population densities. In Thai society urban or rural residence entails very different styles of life and life chances. Some of the differences are substantial. For example, poverty in Thailand is overwhelmingly rural based. From Table 6 it can be seen that over the period 1975/76 to 1988/89 levels of rural poverty increased from approximately 3 times that of urban levels to 5 or more times higher than urban poverty (excluding Sanitary districts from the comparison), with the lowest levels of poverty being reported for Bangkok. The high level of concentration of resources in Bangkok and its hinterland is projected to remain stable over the remainder of the decade, with Chalamwong (1992) projecting that the Gross Domestic Product per Capita of the Bangkok Metropolitan Region would remain at levels of about 3 times the national average (and between 8 and 9 times that of the Northeast) throughout the 1990s.

Although the Ministry of Public Health does not provide data that allows for a detailed comparison of differences in rural/urban access to health services, comparisons can be made by contrasting Bangkok with the remainder of the country. As the population of Bangkok comprises over half the total urban population, comparisons involving Bangkok and the remainder of the country provide a reasonable indicator of differences in urban and rural health services.

Table 5 Percentage Distribution of Migration Type by Direction of Migration Stream and Sex

Migration Stream	Type of Migration			
	Single	Seasonal	Repeat	Total
Male				
Urban-Urban	76.6	3.3	20.1	100.0
Urban-Rural	42.1	37.5	20.4	100.0
Rural-Urban	87.6	1.9	10.5	100.0
Rural-Rural	57.9	27.0	15.1	100.0
Female				
Urban-Urban	80.7	1.7	17.6	100.0
Urban-Rural	53.0	25.6	21.4	100.0
Rural-Urban	87.9	2.7	9.4	100.0
Rural-Rural	64.0	19.0	16.9	100.0

Source: Institute for Population and Social Research, Mahidol University (1995)

Table 6 Per cent of Households Below Poverty, by Place of Residence: 1975/76 to 1988/89

Place of Residence	Year 1975/76	1985/86	1988/89
Municipal	12.53	5.90	6.74
Sanitary Districts	14.76	18.55	13.18
Villages	36.16	35.75	29.43
Bangkok Metropolitan Region[a]	7.75	3.54	3.41
Bangkok	6.90	3.11	3.26

Source: Hutaserani (1990)

Notes: [a] Refers to Bangkok and the five surrounding provinces

The spatial distribution of health services is biased towards Bangkok. Although the provision of health facilities has increased rapidly over the last 15 years, especially in rural areas where there has been a rapid increases in the number of sub-district health centers (Kiranandana et al, 1989), the situation remains that on a per capita basis residents of Bangkok have access to more hospital beds, health personnel and specialized health facilities than do rural residents.

Table 7 Number of Hospital Beds and Number of Population per Bed: Bangkok and Remainder of Country: 1977-1992

Year	Number of Hospital Beds				Population per Hospital Bed			
	(1) Bangkok	(2) Remainder	(3) Total	(2)/(1) Ratio	(4) Bangkok	(5) Remainder	(6) Total	(5)/(4) Ratio
1977	12,860	36,447	49,327	2.83	353	1,067	881	3.02
1978	13,673	38,642	52,315	2.83	346	1,028	850	2.97
1979	13,978	40,973	54,951	2.93	352	989	827	2.80
1980	15,001	43,542	58,553	2.91	343	949	793	2.76
1981	14,811	43,791	58,602	2.96	361	962	810	2.66
1982	15,152	45,960	61,112	3.03	366	1,055	793	2.88
1983	15,735	49,241	64,976	3.13	376	880	761	2.34
1984	16,725	50,564	67,289	3.02	354	879	749	2.48
1985	16,889	52,160	69,049	3.09	336	882	748	2.63
1986	16,461	54,335	70,796	3.30	354	862	744	2.44
1987	18,892	55,743	64,635	2.95	316	855	718	2.71
1988	18,801	56,158	74,959	2.99	301	868	726	2.88
1989	17,457	59,004	76,461	3.37	358	833	725	2.33
1990	17,642	58,628	76,270	3.32	362	851	738	2.35
1991	18,804	60,352	79,156	3.21	297	846	715	2.85
1992	19,805	63,211	83,016	3.19	282	819	691	2.90

Source: Ministry of Public Health, Various Years, Public Health Statistics, Ministry of Public Health, Bangkok.

In Table 7 the number of hospital beds in Bangkok and the remainder of the country, and the population per hospital bed, are shown for the period 1977 to 1992.

There have been substantial improvements in the per capita supply of hospital beds in both Bangkok and areas outside Bangkok in the 15 year period encompassed by the data in Table 7. However, there has been relatively little change over time in the relative share of hospital beds for areas outside Bangkok compared to Bangkok. In 1977, these areas had approximately 2.83 times the number of hospital beds of Bangkok and this increased marginally to 3.19 by 1992. Similarly, the areas outside Bangkok had 3 times the population per hospital bed in 1977 and 2.9 in 1992.

Table 8 Number of Population per Doctor and Number of Population per Nurse: Bangkok and Remainder of Country: 1977-1992

Year	Number of Population per Doctor				Number of Population per Nurse			
	(1)	(2)	(3)	(2)/(1)	(4)	(5)	(6)	(5)/(4)
	Bangkok	Remainder	Total	Ratio	Bangkok	Remainder	Total	Ratio
1977	1,289	17,117	7,503	13.28	565	5,405	2,852	9.57
1978	1,214	17,148	7,161	14.13	513	5,434	2,692	10.59
1979	1,210	15,897	6,868	13.13	520	5,228	2,641	10.05
1980	1,256	14,879	6,755	11.84	518	4,835	2,513	9.33
1981	1,362	14,027	6,851	10.30	494	4,803	2,423	9.72
1982	1,342	12,171	6,333	9.17	517	3,531	2,119	6.83
1983	1,404	11,453	6,259	8.16	517	2,849	1,870	5.51
1984	1,512	10,740	6,254	7.10	501	2,224	1,583	4.44
1985	1,453	9,706	5,978	6.68	523	1,663	1,336	3.20
1986	1,407	8,799	5,564	6.25	443	1,684	1,286	3.80
1987	1,418	8,871	5,595	6.26	460	1,486	1,190	3.23
1988	1,165	7,618	4,832	6.54	410	1,308	1,065	3.19
1989	1,062	7,207	4,361	6.79	384	1,190	962	3.10
1990	1,082	7,556	4,500	6.98	380	1,139	929	3.10
1991	958	7,326	4,452	7.65	363	1,050	885	2.89
1992	909	7,148	4,182	7.86	332	987	828	2.97

Source: Ministry of Public Health, Various Years, Public Health Statistics, Ministry of Public Health, Bangkok.

Unlike hospital beds, however, per capita supply of medical personnel has increased at a more rapid rate in areas outside Bangkok than for the population living

within Bangkok, and the overall increase in per capita supply has been very rapid. In the late 1970s there were approximately 7,000 Thais for every doctor and around 2,700 for every nurse. By the early 1990s these numbers had dropped to around 4,500 and 900 respectively. Meanwhile, while the per capita access to doctors for residents of Bangkok compared to those living outside Bangkok was approximately 14 times greater in the late 1970s this had dropped to about 8 in the early 1990s. Changes of even a greater magnitude occurred for relative per capita supply of nurses.

It is interesting to note that the changes in relative supply of medical personnel have not changed greatly since the mid-1980s. It is possible that this reflects improved data collection techniques, in particular greater coverage of private doctors and nurses, who are more likely to practice in urban areas, but may also be a result of the upsurge in economic growth in the late 1980s, growth that was very much concentrated on Bangkok and that was also associated with increases in the rate of urbanization.

While the Ministry of Public Health is the main provider of health services, its main role is in rural areas and in provincial urban centres. In Bangkok, the Bangkok Metropolitan Administration (BMA) supplies health services, and there is a greater concentration of private hospitals and clinics. The Health and Welfare Survey conducted in 1991 (NSO, 1993b), asked a question on source of treatment for illnesses that occurred during the two weeks before the survey. Excluding self-treatment, the use of herbal medicine, and the small proportion of those that sought help from traditional healers, 62.2, 61.0 and 25.7 per cent respectively of persons living in Bangkok, Municipal Areas (including Bangkok) and Non-Municipal areas sought treatment from private sources.

While the greater buying power of urban residents, and the greater supply of private facilities and personnel, would account for most of the higher percentage of urban residents using private sources of health care, it is also likely that differences in

the age structure of urban and rural areas, operating throughout the age structure of morbidity, would have an effect, as would sources and extent of health insurance.

Residents of Bangkok have different health utilization patterns from residents in other parts of the country. For example, Bangkok residents have higher rates of out-patient treatment and lower rates of in-patient treatment (Ogawa et al. 1993). They also have lower reported levels of illness. In terms of self-reported health status, 18.4 per cent of Bangkok residents reported feeling unwell in the two week period before a 1991 survey, compared to 19.0 per cent for all municipal (urban) areas and 24.0 per cent for non-municipal (rural) areas (see Table 9).

The age distribution of self-reported health status by place of residence shown in Table 9 indicate that as age increases the gap between reported levels of illness between rural and urban areas also increases. It should be noted that the high concentration of females in urban areas compared to rural areas, act to narrow the differences in levels, especially at young adult ages (females are more likely than males to report not feeling well). The differences between urban and rural areas are probably related in part to the selectivity of migration. As the most healthy members of the population migrate out to urban areas, rural areas become increasingly composed of persons with lower health status. Knodel et al (1992) have suggested that population aging will impose heavy burdens on the demand for in-patient care in Thailand in the future, this demand may even be higher in rural areas, although high levels of family based care may offset this trend.

Table 9 Per cent Reporting not Feeling Well in the Two Week Period Before Survey by Age Group and Place of Residence: 1991

Age Group	Place of Residence		
	Bangkok	Urban (including Bangkok)	Rural
0-6	27.0	28.0	30.7
7-10	17.2	16.5	19.5
11-14	13.1	13.1	14.2
15-19	11.8	10.9	13.4
20-24	13.5	14.2	15.3
25-29	14.8	14.9	19.5
30-34	14.7	15.4	22.5
35-39	17.1	17.4	26.4
40-49	21.4	21.6	29.4
50-59	26.3	27.1	37.3
60+	28.0	32.0	47.0
Total	18.4	19.0	24.0

Source: National Statistics Office (1993b). *Report of the Health and Welfare Survey 1991,* National Statistics Office: Bangkok.

Table10 Per cent Reporting Coverage of Health Insurance by Age Group and Place of Residence: 1991

Age Group	Place of Residence		
	Bangkok	Urban (including Bangkok)	Rural
0-6	21.5	27.2	27.2
7-10	22.5	28.5	33.0
11-14	20.6	26.3	32.2
15-19	21.1	24.7	29.4
20-24	24.1	24.3	27.1
25-29	33.7	33.7	29.9
30-34	36.1	38.4	32.8
35-39	38.3	39.7	33.1
40-49	36.7	39.0	33.5
50-59	39.2	41.7	37.0
60+	32.8	40.1	43.5
Total	29.5	32.3	31.7

Source: National Statistics Office (1993b). *Report of the Health and Welfare Survey 1991*, National Statistics Office: Bangkok.

Although patterns of utilization of health resources are directly affected by income, they may also be affected by forms of health insurance. As urbanization occurs a greater proportion of workers enter occupations that provide health coverage. This form of health insurance often allows them to access to private health facilities. The Thai government also provides health coverage to many rural residents at a nominal cost or for free. For these residents, government health services need to be used.

In Table 10 the per cent of each age group covered by health insurance is shown. Coverage is lowest overall in Bangkok, although there is little difference in overall levels between rural and urban places. However, there are interesting age differences in coverage. Rural coverage is highest at the youngest ages and at the oldest ages. In urban areas higher levels of health insurance coverage occur from ages 25 through 50. There are probably several reasons for these differences. In rural areas there are high levels of coverage of families (health card coverage and low income welfare can include family members), while the elderly are more likely to obtain coverage under the low income welfare scheme. In urban areas a greater proportion of coverage would go to people working in private companies, many of whom are young single adults.

Table 11 Percentage Distribution of Source of Health Insurance by Place of Residence: 1991

Source of Health Insurance	Place of Residence		
	Bangkok	Urban (including Bangkok)	Rural
Government Official	45.3	55.6	20.6
State Enterprise	20.4	14.9	2.2
Private Company	30.8	20.9	4.1
War Veteran	0.7	0.6	1.2
Health Card	0.0	0.6	6.6
Low Income Welfare	1.7	6.3	61.8
Other	1.0	1.1	3.6
Total	100.0	100.0	100.0

Source: National Statistics Office (1993b). *Report of the Health and Welfare Survey 1991*, National Statistics Office: Bangkok.

As urbanization proceeds it can be expected that significantly higher proportions of the population will obtain health insurance coverage because of the changes in employment structure associated with urbanization. However, the rural

population will remain dependent on public sources of health coverage and consequently, given the current situation, the use of public health services. It should be noted that a large proportion of the urban population, especially families at early stages of family building, remain without health coverage and most would therefore remain dependent on the public health system.

The distribution of type of health insurance coverage is shown in Table 11. As expected, nearly all rural coverage is through the low income welfare scheme, with health insurance for government officials (and ex-officials) being the next highest. In urban areas, and Bangkok in particular, there are high levels of coverage by private companies.

Conclusion

The present stage of the rural-urban divided in Thailand represents a general improvement in living conditions and access to health resources in both areas, but with, however, a more rapid improvements in urban areas in some aspects and relative stability in other aspects of the provision of health services. In relative terms economic opportunities are becoming increasingly concentrated in urban areas, and in particular in the larger urban areas. Many rural people have responded to this distribution of opportunities by moving to urban centers.

Those who do migrate are selected on demographic and social characteristics that are conducive to good health, although special groups of migrants, especially temporary migrants, need special targeting. Because the demographic and economic processes associated with urbanization result in urban and rural populations with very different compositions, the health service needs of the populations will vary. Special efforts will need to be directed towards rural areas and other segments of the population to ensure that traditionally disadvantaged groups share in the opportunities that urbanization has the potential to create. At the same time, services directed towards the

young, and especially young females, need to be strengthened in urban areas where there is a high concentration of this group.

The tempo of urbanization will increase over the next few decades in Southeast Asian countries. Accompanying this concentration of people in urban areas will, in all likelihood, be an increasing concentration, of economic resources and more distinctive differences in the demographic and social profiles of urban and rural areas. Provision of health services must take into account these differences.

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