CHAPTER III

Health Care Sector in Kerala:
Growth, Structure and Spatial and Sectoral Distribution

Introduction

Kerala is well known the world over for achievements in the sphere of human development at extremely low levels of per capita income. This Indian state is often compared with China, Sri Lanka and Costa Rica for the level of social development and particularly, of health and education. However, most of the social scientists and policy makers looked at the health outcomes of Kerala as resulting from the unusually large spending of government resources in the social sector in the State compared to other states of India and from public action. Such comparisons hardly took notice of the growing private sector in health care and the environment within which it grew and sustained. Therein lies a methodological problem with this class of studies. A distinction needs to be drawn between situations of large government spending in the presence of large private health care services and that in the absence of private health care services. These two situations might lead to altogether different health outcomes.

It has been recognized that Kerala has a large private health care sector that has grown during the last two decades (KSSP 1991). Owing to the methodological problem raised above it is imperative that the dimensions of the private sector and the role of the regulatory environment within which it has grown, be investigated.

In this chapter we first trace the evolution of the health care system of Kerala; then pass on to an analysis of the current features of public and private sector health care systems and their services as manifested through pluralism and multiplicity. We also try to document the density and spread of health care facilities in the different districts of Kerala. Here, we also try to look at the possible implications of laxity of government regulation of health care sector in general.

This chapter is organized in the following six sections: Section 2 presents an analysis of Kerala’s health care sector in general. The next section discusses the provision, coverage, density and spread of public health services in the state. Section 4 deals with these questions with respect to the private health sector. The fifth section is about the overall provision in the state. In the sixth
section, we carry out an analysis of the regulatory environment in which the public sector, and more importantly, the private sector health care operates.

3.1 Kerala’s Health Care Sector

Kerala’s Health Status Indicators

Kerala's achievement in the field of health care is well appreciated, as its health standards are almost comparable to those of the developed countries in the World. Kerala is considered a model to be emulated not only by the rest of the country but also by other developing countries of the world for maintaining high health standards with low levels of per capita income. Kerala's high health status is reflected through low birth, death and infant mortality rates, and the long life expectancy. With respect to these rates, Kerala stands far ahead of all India averages. In 1994, Kerala’s birth rate was 17 per 1000 population compared to 29 for all India. Similarly, Kerala’s death rate of 6 per 1000 population in the same year was ahead of all India figures of 9.2. Infant mortality rate in Kerala was at a low 13 per 1000 live births while for all India, it was 79.

The child mortality rate in Kerala for the year 1999 was 4.6 as against the all India average of 26.3. The pre-natal and neo-natal mortality rates are also considerably very low in Kerala. The maternal mortality rate for every three thousand deliveries is below one. Taking the case of life expectancy, which is one of the important indicators of health, Kerala is on a par with any western society. According to the Economic Review (1997) of the Government of Kerala, due to the wide network of health institutions in Kerala, 97 percent of the deliveries are institutionalised. Immunization coverage is 88 percent in respect of pregnant women for TT and 100 percent of infants of DTP, Polio and 90 percent for BCG. The anti-measles coverage is 88 percent.

However, such exceptionally high indicators of health development do not in any way suggest that the need for health care services has come down. In fact, Kerala’s morbidity rate is one of the highest in the world (KSSP; 1991). The high indicators are attributed by researchers to better utilization of the health care services (see the review of literature in chapter 2) rendered possible by the existence of a well-developed infrastructure of health care facilities. The health infrastructure and the network of available facilities in a region should be viewed in relation to its socio-economic, cultural and political conditions, as they could act upon the pattern of health
infrastructure existing in that region. An understanding of the growth of the health care sector thus becomes essential as a pre-condition for analysing the regulatory environment.

**Evolution**

Kerala is famous for its tradition of organized medical care in the indigenous sector, which had been in existence even before the advent of the Europeans, and is still flourishing. The Europeans brought the system of western biomedicine when they colonized this part of the globe. In the nineteenth century, the princely rulers of the erstwhile states of Travancore and Cochin (which later were integrated into the state of Kerala along with the Malabar district of the Madras presidency of British India in 1956) took the initiative in making the western system of care available to their subjects. A royal proclamation of 1879 in Travancore made vaccination compulsory for public servants, prisoners and students (Panikar and Soman; 1984). Some medical colleges were set up for training in indigenous medicines too.

It was the development of proper infrastructure that facilitated the Travancore State to carry out its public health activities. By 1920, Travancore State had established a wide network of hospitals and dispensaries, and almost every taluk was served by that time by a hospital. In that year, there were 60 state-run medical institutions, visited by 861303 patients and 12 private ones that were given state aid. (Kabir; 1997). By 1946-47 the state had 140 government medical institutions, 32 hospitals and 108 dispensaries, and 20 private medical institutions that received grants-in-aid of the state. From 1914 all the medical institutions in the state were accessible to all caste and communities. Till about 1938 when separate maternity care centres were started, hospitals and dispensaries served as the centres for maternity and child health (Kabir; 1997). Development of health services was not confined to the provision of preventive care- the general hospitals in Trivandrum and Cochin are about 150 years old (Raman Kutty; 2000).

At the time of the formation of the Kerala State in 1956, the foundation for a medical care system accessible to all citizens had already been laid. From 1961 to 1986, the state rapidly expanded health facilities in the public sector. The number of beds and institutions increased sharply. However, since the mid-1980s, public sector expansion has slowed down, as there is a widespread feeling that the public provision has reached its expected levels.
3.2. Government Health Care Services

Public Provision of Health Care Services

The overall health infrastructure provided by the government needs to be analysed separately for each system of medicine. The government of Kerala has recognized and institutionalised the three major systems of Medicine that are popular in the state—Allopathic, Ayurveda and Homeopathy. The three systems are under three parallel organizational structures in terms of training, research or functioning.

The allopathic system of medicine under the government encompasses both the rural and the urban areas. The rural public health care sector provides preventive and curative care. Hospitals at the urban areas comprise Medical College Hospitals, district/general hospitals and taluk hospitals which provide outpatient and in-patient treatment. Rural health services are provided through Primary Health Care Centres, Sub-Health Centres, Maternal and Child Welfare Centres, Maternity Homes, Community Welfare Centres and Family Planning Centres. The Ayurveda and Homeo systems of medicines under the government consist of dispensaries at the primary level and hospitals at the secondary level.

The medical institutions in the government sector are organized in a hierarchical order. The structure of government provision of health facilities in the modern (allopathic) system of medicine is as follows: At the top of the hierarchy are the Medical College hospitals; at the district level are the district hospitals/general hospitals and at the sub-district level are Taluk hospitals. The medical colleges in the state provide not only medical education facilities through the hospitals attached to them, they also provide the most modern medical care. Next in the hierarchy come the district hospitals that provide curative services. In almost all the district hospitals specialist care such as Paediatrics, ENT, Ophthalmology, Obstetrics and Gynaecology, General Surgery and General Medicine is available. However, specific details of the facilities available in district hospital are not published. Overall, there are 14 district/general hospitals, of which two are in the rural areas. There are 36 Taluk hospitals in the state spread in all the districts except in Kasargode and Wynad. Of the 36 taluk hospitals, 21 are located in urban centres and 15 are in rural areas. Apart from these district hospitals and taluk hospitals, there exist a few other government hospitals as well. Except in the Idukki District, all districts have such hospitals. And most importantly, a majority of these hospitals are located in rural areas. In the urban areas the number of such hospitals is around 30 and in rural areas, more than 60.
Slightly less than one-fifth (19 percent) of the villages in Kerala have government hospital facilities while 45 percent of the villages in Kollam and 30 percent of the villages in Ernakulam had such facilities, only about 10 percent of the villages of Kasargode, Kannur and Kozhikode have them. The lowest proportion, less than 6 percent, is in Kasargode.

Rural areas are mainly served by health centres- the community health centres and primary health centres and their sub-centres, which constitute the lowest stratum of the hierarchy. In addition, there are supporting facilities like TB centres, Leprosy control clinics and other hospitals.

Primary Health Care Centre is the core institution of the rural health services infrastructure in Kerala as in the case in other states. Primary Health Centres (PHCs) are multipurpose units established at the peripheral level to render preventive and curative medical facilities to the rural population. The first PHCs were established in 1952 as part of the Community Development Programme. This programme represented the official strategy for integrated rural development initiated in the first five-year plan. The concept of rural health service delivery through the PHCs was in line with the recommendations of the Bhore committee in 1946 and of the National Planning Committee's sub-committee on national health.

The primary health centres (PHCs) are designed in such a way that each centre gives coverage to a minimum of 30,000 rural populations or 20,000 populations in hilly and tribal area. An average health team at the PHC consists of two to three physicians known as medical officers including one in overall charge of the PHC, one male health assistant, one female health assistant, both of whom are multipurpose personnel providing the link between the health workers at the sub-centre/ village level and the physicians, a block extension educator, a few of female health workers giving nursing care to outpatients and inpatients, a laboratory technician, a computer or statistician, a driver for the PHC transport, a store keeper and other ancillary staff and attendants (Kannan et. al.;1991). In Kerala, according to the census report of 1991, 40.46 percent of its

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1The Health Survey and Planning Committee, known as the Bhore Committee, after three years of detailed study of the socio-economic and health scene of India, provided in 1946 a comprehensive plan for the development of health services in a vast and predominantly agrarian country with limited financial resources. The concept of Primary Health centre evolved at Alma Ata Conference in 1978 to achieve the goal of the "Health for All by 2000 AD"; primary health care centre is defined as essential health care based on scientifically sound and socially acceptable methods and technologically made universally accessible to individuals and families in the community through their full participation and at a low cost that the community and country can afford to maintain at every stage of their development, in a spirit of self reliance and self determination.
villages had primary health centres and 30.2 percent of the villages had primary health sub-centres.

The PHCs have a network of sub-centres, each serving a population of 5000 (2500 in hilly areas) according to revised norms. It is manned by one two multi-purpose health workers – one a male and the other a female. The female health worker provides maternal and child health and family planning services to women; deliveries, advice on diet, immunization of infants and children with BCG, DPT, Measles, Polio vaccine etc, distribution of vitamin A and treatment of minor ailments. Family planning services include motivation, contraception advice and follow up. The male health worker is expected to prepare and maintain a register of vital events and of eligible couples, to render family planning advice and to undertake house-to-house malaria surveillance and immunization.

Community Health Centres, larger version of the PHCs function in some districts. As regarding the Maternity and Child Welfare Centre, Maternity Home, Child Welfare Centre and Family Planning Centre, little more than one-fifth of the villages in Kerala have them. Apart from Maternity and Child Welfare Centres, Maternity Homes exist in 7 percent of the villages and Child Welfare Centres in an almost a similar proportion of villages (see Table 3.1). The Family Planning Centres were found in a little more than one-fourth of the villages in Kerala. Apart from these primary facilities, there are dispensaries also; 45 percent villages in the state have dispensaries in them.

The institutions differ among themselves in respect of the facilities available- medical and paramedical personnel and techniques and skills. They also differ in terms of the number of beds and other facilities like laboratories. Government expenditure on the higher-level hospitals is much higher than that on lower-level institutions at the village and taluk levels.

Table 3.1. Medical Institutions and Beds Under Allopathic System in Kerala; 1981 to 1996

<table>
<thead>
<tr>
<th>Year</th>
<th>No. MI*</th>
<th>Beds</th>
<th>Beds per Lakh Population</th>
<th>No of PHCs</th>
<th>No of PHC beds</th>
<th>CHCs</th>
<th>CHC beds</th>
<th>Sub-centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>968</td>
<td>32447</td>
<td>127</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1982</td>
<td>991</td>
<td>32532</td>
<td>126</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1985</td>
<td>1014</td>
<td>33329</td>
<td>124</td>
<td>299</td>
<td>2880</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1990</td>
<td>1199</td>
<td>38223</td>
<td>128</td>
<td>883</td>
<td>4480</td>
<td>54</td>
<td>3127</td>
<td>5094</td>
</tr>
<tr>
<td>1995</td>
<td>1263</td>
<td>42126</td>
<td>137</td>
<td>940</td>
<td>5371</td>
<td>52</td>
<td>2797</td>
<td>5094</td>
</tr>
<tr>
<td>1996</td>
<td>1295</td>
<td>42569</td>
<td>137</td>
<td>961</td>
<td>5338</td>
<td>60</td>
<td>3007</td>
<td>5094</td>
</tr>
</tbody>
</table>

*No. MI refers to the Number of Medical Institutions
Graph 3.1 and 3.2 show the percentage distribution of government medical institutions and beds across districts. The disparities are wider in terms of the distribution of government beds than of medical institutions. While Thiruvananthapuram had 18 percent of the total number of beds in the government sector hospitals, Kasargode had only two percent. These figures are slightly misleading since they are not standardized for the area and population.

**Area Covered by Government Medical Institutions**

In order to understand the extent of coverage of rural health services, see graph 3.3. It is observed that there are villages, which do not have medical facilities.
A few villages have only private health facilities. This suggests that the claims about the government having predominant role in bringing about “good health” in Kerala for the people might not be uniformly true. See table 3.2.

Table 3.2 Percentage of Inhabited Villages Having Different Types of Health Centres – 1991

<table>
<thead>
<tr>
<th>District</th>
<th>PHC</th>
<th>PHSC</th>
<th>HC</th>
<th>Dispensary</th>
<th>M&amp;CWC</th>
<th>Mat. Home</th>
<th>CWC</th>
<th>FPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiruvananthapuram</td>
<td>54.84</td>
<td>24.73</td>
<td>9.68</td>
<td>53.76</td>
<td>18.28</td>
<td>17.2</td>
<td>18.28</td>
<td>24.73</td>
</tr>
<tr>
<td>Kollam</td>
<td>50</td>
<td>34.78</td>
<td>4.35</td>
<td>47.83</td>
<td>31.52</td>
<td>8.7</td>
<td>5.43</td>
<td>15.22</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>48.44</td>
<td>34.38</td>
<td>6.25</td>
<td>37.5</td>
<td>31.25</td>
<td>7.81</td>
<td>7.81</td>
<td>18.75</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>41.33</td>
<td>33.33</td>
<td>12</td>
<td>52</td>
<td>21.33</td>
<td>16</td>
<td>6.67</td>
<td>25.33</td>
</tr>
<tr>
<td>Kottayam</td>
<td>40</td>
<td>13.33</td>
<td>10</td>
<td>50</td>
<td>28.89</td>
<td>6.67</td>
<td>2.22</td>
<td>36.67</td>
</tr>
<tr>
<td>Idukki</td>
<td>44.62</td>
<td>32.31</td>
<td>10.77</td>
<td>40</td>
<td>6.15</td>
<td>3.08</td>
<td>6.15</td>
<td>24.62</td>
</tr>
<tr>
<td>Ernakulam</td>
<td>58.43</td>
<td>26.97</td>
<td>8.99</td>
<td>52.81</td>
<td>26.97</td>
<td>8.99</td>
<td>7.87</td>
<td>37.08</td>
</tr>
<tr>
<td>Thrissur</td>
<td>26.79</td>
<td>18.18</td>
<td>2.87</td>
<td>32.54</td>
<td>21.05</td>
<td>8.61</td>
<td>11</td>
<td>15.31</td>
</tr>
<tr>
<td>Palakkad</td>
<td>30.32</td>
<td>30.32</td>
<td>6.45</td>
<td>43.87</td>
<td>24.52</td>
<td>6.45</td>
<td>7.1</td>
<td>32.26</td>
</tr>
<tr>
<td>Malappuram</td>
<td>44.72</td>
<td>59.35</td>
<td>6.5</td>
<td>60.98</td>
<td>21.95</td>
<td>6.5</td>
<td>8.13</td>
<td>24.39</td>
</tr>
<tr>
<td>Kozhikode</td>
<td>36.78</td>
<td>40.23</td>
<td>4.6</td>
<td>62.07</td>
<td>20.69</td>
<td>5.75</td>
<td>5.75</td>
<td>19.54</td>
</tr>
<tr>
<td>Wayanad</td>
<td>33.33</td>
<td>54.17</td>
<td>8.33</td>
<td>47.92</td>
<td>12.5</td>
<td>4.17</td>
<td>2.08</td>
<td>41.67</td>
</tr>
<tr>
<td>Kannur</td>
<td>48.72</td>
<td>19.23</td>
<td>6.41</td>
<td>41.03</td>
<td>28.21</td>
<td>3.85</td>
<td>6.41</td>
<td>37.18</td>
</tr>
<tr>
<td>Kasargode</td>
<td>34.48</td>
<td>21.55</td>
<td>6.03</td>
<td>25.86</td>
<td>7.76</td>
<td>0</td>
<td>6.9</td>
<td>25</td>
</tr>
<tr>
<td>KERALA</td>
<td>40.46</td>
<td>30.2</td>
<td>6.79</td>
<td>45.16</td>
<td>21.68</td>
<td>7.44</td>
<td>7.8</td>
<td>25.79</td>
</tr>
</tbody>
</table>

Source of Data: Census 1991
Table 3.2 shows that 40 percent of the inhabited villages have PHCs, another 30 percent - sub centres, 6 percent - health centres and 45 percent - a dispensary each. Across districts, the percentage differs. However, it is interesting to note that it is not the backward rural areas that have more rural facilities, but the more developed districts of Trivandrum and Ernakulam.

The data used for the analysis of the government sector provision is for the year 1996; this year is taken because the data on private sector is available for this year. Data for the private sector are not available for later years.

Here, “institution density-by area” is taken as the total area of the district (in square kilometres) divided by the number of medical institutions in the district. “Institution density-by area” shows not only disparities across districts, but also across systems of medicines. For the state as a whole, there is one allopathic medical institution in the government sector for every 31 square kilometres, one government ayurvedic medical institutions for every 56 square kilometres, and one government homeo medical institution for every 91.44 square kilometre. However, all these medical institutions under the different systems taken together, there is one medical institution in the government sector for every 16 square kilometres. The figures of institutional density by area of government medical institutions are given in Graph 3.4.

Institution density by area under the public sector varies widely across districts: Alappuzha district had the highest density with one medical institution for every 9 square kilometres. At
the other extreme is Idukki district, where a government medical institution is available per 41 square kilometres.

Population Coverage of Government Medical Institutions

Kerala is a state with high density of population, second only to West Bengal in India. Institution density by population refers to the number of Medical institutions available per 100 thousand populations. The population coverage of the government medical institutions is shown in graph 3.5.

Graph 3.5. Availability of Govt. MI per ’00000 Population

In Kerala, for every 100 thousand population, there are 4 allopathic, 2 ayurvedic and one homeopathic medical institutions in the government sector. Districts of Idukki and Wayanad, which did not have adequate number of institutions when reckoned in terms of area, fare better when population is taken as the criterion. The possible implications of such a situation are that for the providers, there is less target population per institution while for the local population more distance is to be covered for availing the medical resources provided.

Hospital Beds and Population Size

The preceding discussion does not give any idea of the bed-population. Graph 3.6 gives this information.
In the government sector, a total of 143 beds for every 100 thousand persons are available for the state as a whole. More than 90 percent of them are in the allopathic hospitals. Inter-district variations in the ratio are large: it varies from a maximum of 250 in Trivandrum to 77 in Malappuram. The regions with high bed-population ratios are areas in which medical colleges, and tertiary sector hospitals (meant for serving the entire state), are situated.

3.3. Private Provision of Health Care

Evolution

Historically, it was the activities of the voluntary and charitable organizations that paved the way for the development of the private health care services in Kerala. In the pre-colonial times, this region was endowed with a well-developed system of medicine of the indigenous type, the Ayurvedic system practiced by the traditional healers called vaidyans. They were basically private providers who learned the art of medicines from their familial sources rather than from institutions. The native rulers were patrons for some of them, while others survived on the returns from their practice. However, these private practitioners were bound by the corresponding "social and behavioural environment governing relationships within and among different communities as determined by distribution of land and other economic assets, the caste structure and the gender attitudes" (Kabir and Krishnan; 1998; p.241). It was these affiliations which determined who would receive treatment and from whom. While it was the colonial rulers who later introduced western medicine in the state, primarily for their own health care purposes, it was the private social groups and Missionaries that spearheaded its expansion among the common people. However, the governments of the native rulers, who were subsidiaries to the...
British rule assisted the movements through grants-in-aid schemes and other social intermediation programmes.

During the period since independence, the role of the private sector in providing health care under the allopathic system took the form of charity, most of the hospitals being run by Missionaries, charging patients, if at all, only moderate rates. As time progressed, the private sector flourished as people's demand for health care increased. The structure of the private sector health care underwent a tremendous change. The entry of profit-seeking players in the field has changed its "charity" character. Starting around the seventies, other agencies such as cooperatives, groups of professionals and other entrepreneurs have entered the field. And in consequence, the private health care has had a phenomenal rise in recent years.

**Private Provision of Health Care Services**

Though the number of private medical care institutions in the state is large, information about them is scanty. However, some limited data are available for a few time points in the recent past about private medical institutions. The physicians who provide health care services in their individual capacity, outside the medical institutions are not covered by such data; however information is available about the number of medical practitioners registered with the medical councils. An estimate of the number of practitioners in the government and private medical sectors (estimated by subtracting the number of government sector medical practitioners from the total) is given in Table 3.3.

Table 3.3 (a) Medical practitioners in the Government and Non-government Sectors by Systems of Medicine

<table>
<thead>
<tr>
<th>Year</th>
<th><strong>Total no. of physicians</strong></th>
<th><strong>Govt.</strong></th>
<th><strong>Non-Govt.</strong></th>
<th><strong>Percentage in</strong></th>
<th><strong>Govt.</strong></th>
<th><strong>Non-Govt.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-71</td>
<td>5516</td>
<td>2051</td>
<td>3465</td>
<td>37.18</td>
<td>62.82</td>
<td></td>
</tr>
<tr>
<td>1975-76</td>
<td>8321</td>
<td>2761</td>
<td>5560</td>
<td>33.18</td>
<td>66.82</td>
<td></td>
</tr>
<tr>
<td>1983-84</td>
<td>14087</td>
<td>4341</td>
<td>9746</td>
<td>30.82</td>
<td>69.18</td>
<td></td>
</tr>
<tr>
<td>1990-91</td>
<td>19525</td>
<td>4615</td>
<td>14910</td>
<td>23.64</td>
<td>76.36</td>
<td></td>
</tr>
<tr>
<td>1995-96</td>
<td>24883</td>
<td>5171</td>
<td>19712</td>
<td>20.78</td>
<td>79.22</td>
<td></td>
</tr>
</tbody>
</table>
Table 3.3 (b)

<table>
<thead>
<tr>
<th>Year</th>
<th>Ayurveda</th>
<th></th>
<th>Homeo</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total No</td>
<td>Govt.</td>
<td>Non-govt.</td>
<td>% in Govt.</td>
</tr>
<tr>
<td></td>
<td>of physicians</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1971-72</td>
<td>9716</td>
<td>556</td>
<td>9160</td>
<td>5.72%</td>
</tr>
<tr>
<td>1974-75</td>
<td>10150</td>
<td>512</td>
<td>9638</td>
<td>5.04%</td>
</tr>
<tr>
<td>1979-80</td>
<td>11028</td>
<td>613</td>
<td>10415</td>
<td>5.56%</td>
</tr>
<tr>
<td>1983-84</td>
<td>11550</td>
<td>673</td>
<td>10877</td>
<td>5.83%</td>
</tr>
<tr>
<td>1986-87</td>
<td>11902</td>
<td>707</td>
<td>11195</td>
<td>5.94%</td>
</tr>
<tr>
<td>1991-92</td>
<td>12748</td>
<td>839</td>
<td>11909</td>
<td>6.58%</td>
</tr>
<tr>
<td>1994-95</td>
<td>13185</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1996</td>
<td>13329</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1997</td>
<td>13430</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Govt. of Kerala Economic Review, State Planning Board; Statistics for Planning, Department of Economics and Statistics; Administration Report (various years, Directorate of Health Services, Trivandrum.

It is observed that even as early as 1970s, (possibly even before that period also) the government sector employed only less than two-fifths of the total allopathic medical practitioners in the state. The proportion of physicians in this sector has been steadily on the decline, accounting for less than one-fourth in 1990-91 and only about one-fifth in 1995-96. In the ayurvedic and homeopathic systems, the proportion of physicians employed in the government sector has remained at around 5 to seven percent. But it should be borne in mind that the ayurvedic system consists of practitioners such as the traditional 'vaidyans', who are not formally registered with any medical councils, formed a major chunk of physicians in the system, during earlier periods. If these unregistered practitioners are included, the magnitude of the private sector provision in the ayurvedic system becomes even larger. The other indigenous systems of medicines, such as Siddha and Unani are virtually absent in the public sector. Thus, the preliminary estimate of physicians in the private sector taken as the total number of registered practitioners less physicians employed in the public sector shows that a larger proportion of health care in the state was provided by the private sector even in early 1970s.

In order to fill the gap and to update the data already available, the Dept of Economics and Statistics conducted a census of medical institutions in March 1995². The department had

² The survey defined a Medical Institution as one where patients are examined for diagnosis of diseases and medical treatment prescribed and provided. A private medical institution is one run by individual(s) or organizations (E.g.: trust, co-operative society, company etc.) other than government. Institutions receiving government grants were also considered private medical institutions. Places/ institutions where only consultation facility is available
carried out a similar attempt in 1986. The main objective of the census was to find out the number of private medical institutions in the state under various systems of medicine, the strength of medical and paramedical staff and the ministerial staff employed in them and the types of facilities available in them. The two government surveys give a more detailed picture of private health care sector. Our analysis of the private medical market is done on the basis of these surveys.

**Growth of Private Sector**

The proliferation of private sector in the health care market in the past few decades is evident from the fact that the number of private medical institutions (hereafter referred to as PMIs) in Kerala had increased by around 3000 within the span of one single decade from 1986 to 1995. In 1995, the number of PMIs was almost six times the number of government medical institutions. Private medical institutions are spread across the different systems of medicine. However, only 34 percent of these 12618 PMIs (in 1995) were of the allopathic system, while 39 percent of the medical institutions were of the Ayurvedic system and 24.7 percent of the homeopathy system. The share of the other systems of medicine (mostly Unani, Siddha etc) was marginal. (Table 3.4)

**Table 3.4. System-Wise Distribution of Private Medical Institutions; - 1986 & 1995.**

<table>
<thead>
<tr>
<th>System</th>
<th>MI With Beds</th>
<th>MI Without Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1986</td>
<td>1995</td>
</tr>
<tr>
<td>Allopathic</td>
<td>1864</td>
<td>1958</td>
</tr>
<tr>
<td>Ayurveda</td>
<td>134</td>
<td>233</td>
</tr>
<tr>
<td>Homeo</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>2040</td>
<td>2274</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System</th>
<th>MI With Beds</th>
<th>MI Without Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1986</td>
<td>1995</td>
</tr>
<tr>
<td>Allopathic</td>
<td>3565</td>
<td>4288</td>
</tr>
<tr>
<td>Ayurveda</td>
<td>3925</td>
<td>4922</td>
</tr>
<tr>
<td>Homeo</td>
<td>2078</td>
<td>3118</td>
</tr>
<tr>
<td>Other</td>
<td>95</td>
<td>290</td>
</tr>
<tr>
<td>Total</td>
<td>9663</td>
<td>12618</td>
</tr>
</tbody>
</table>


such as consulting rooms and institutions engaged in only selling medicines were not covered in the census. (Thus, there exist no sources of data about places/ institutions where only consultation facility is available).
The organizations of private health care services comprise of institutions of varying size groups ranging from institutions without bed facilities to those with bed facilities. In 1986, of the 2040 MIs with in-patient facilities, 91.37 percent were in the allopathic system, while MIs in non-allopathic systems had only very few institutions with such facilities. However by 1995, the share of allopathic MIs had come down slightly indicating that a larger growth rate of MIs with beds has been taking place in non-allopathic systems in recent years.

However, the non-allopathic systems of medicines are dominated by the clinical or consulting type of institutions without bed facilities; while Allopathy had only less than 25% of such institutions, Ayurveda had one-half of all the institutions in this category. However, from the data, it cannot be taken as to how many of these MIs with bed facilities are big hospitals, small hospitals or just clinics.

*Change in the Orientation of the Private Health Care Sector*

While all systems of medicines flourish simultaneously, profit-seeking MIs are more rapidly growing than MIs with a predominantly service orientation. Investors such as professionals including doctors and other players, enter the sector with purely commercial interests. The most common characteristic of the private medical institutions entering the profession is that most of them are run by the owners themselves- the so-called 'physician-cum-owner' clinic -and are on a proprietorship basis like any other commercial firm. This is true with all the systems (see table 3.5).

Table 3.5 System-wise Distribution of Medical Institutions in the Private sector according to Ownership (% to the total within systems).

<table>
<thead>
<tr>
<th>Ownership Type</th>
<th>Allopathic</th>
<th>Ayurvedic</th>
<th>Homeopathic</th>
<th>Others</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietorship</td>
<td>79.47</td>
<td>93.39</td>
<td>96.8</td>
<td>94</td>
<td>89.5</td>
</tr>
<tr>
<td>Partnership</td>
<td>7.85</td>
<td>3.84</td>
<td>1.19</td>
<td></td>
<td>4.51</td>
</tr>
<tr>
<td>Cooperatives</td>
<td>1.61</td>
<td>0.55</td>
<td>0.54</td>
<td>6</td>
<td>0.91</td>
</tr>
<tr>
<td>Trusteeship</td>
<td>7.61</td>
<td>1.04</td>
<td>0.54</td>
<td></td>
<td>3.17</td>
</tr>
<tr>
<td>Others</td>
<td>3.46</td>
<td>1.18</td>
<td>0.87</td>
<td></td>
<td>1.86</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>(4282)</td>
<td>(4922)</td>
<td>(3118)</td>
<td>(290)</td>
<td>(12612)</td>
</tr>
</tbody>
</table>

Size Distribution of Hospitals and Clinics Across Systems

Though there are super-specialty hospitals, a large proportion of Medical Institutions, especially in systems other than allopathic, work either as small clinics or nursing homes. A functional difference (in terms of the staff strength) may be drawn among medical institutions of different systems of medicine in the private sector. The smaller the medical institution, the lower the staff employed and *vice versa*. While the hospital system is needed more in the modern medicine (Allopathy) sector, the indigenous and the other systems, which do not handle much of inpatient care, do not require hospital facilities to a large extent. Most of them need to operate only on a small scale. Our data show that the majority of the non-allopathic medical institutions (Ayurveda (96 percent), Homeo (98 percent) and other systems of medicine (93 percent)) are functioning with only less than five members including the physician. On the other hand, most of the medical institutions with large staffing are in the allopathic system. Institutions under the modern system employ much larger medical and paramedical staff on the average – particularly since most of them have facilities for inpatient treatment. This situation creates the popular impression that the allopathy is the dominant system in the health care sector in Kerala. The importance of other systems with their clinics/pharmacy type of operations thus gets underestimated; see graph 3.7.

![Graph 3.7. Private MIs According to Staff Strength Across Systems](image-url)
Increase in Medical Personnel in the Private Sector

With increase in the size and nature of medical institutions demand for medical and paramedical staff, the supply of practitioners in the health care market has also increased. The number of doctors in the modern system accounted for more than 52 per cent of the doctors working in the private sector. Among the paramedical staff, almost 90 per cent also work in the allopathic sector.

Table 3.6. System-wise Distribution of Doctors and Other Staff in the Private Sector

<table>
<thead>
<tr>
<th>System</th>
<th>No of Doctors 1986</th>
<th>No of Doctors 1995</th>
<th>Growth Rate</th>
<th>No of Paramedical Staff 1986</th>
<th>No of Paramedical Staff 1995</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allopathic</td>
<td>6345</td>
<td>10388</td>
<td>5.63</td>
<td>13921</td>
<td>25256</td>
<td>6.85</td>
</tr>
<tr>
<td>Ayurveda</td>
<td>4130</td>
<td>5771</td>
<td>3.79</td>
<td>998</td>
<td>2544</td>
<td>10.96</td>
</tr>
<tr>
<td>Homeo</td>
<td>2168</td>
<td>3476</td>
<td>5.39</td>
<td>259</td>
<td>639</td>
<td>10.55</td>
</tr>
<tr>
<td>Others</td>
<td>100</td>
<td>328</td>
<td>14.11</td>
<td>43</td>
<td>202</td>
<td>18.76</td>
</tr>
<tr>
<td>Total</td>
<td>12743</td>
<td>19963</td>
<td>5.11</td>
<td>15221</td>
<td>28641</td>
<td>7.28</td>
</tr>
</tbody>
</table>


Increase in the Number of Medical Institutions Offering Treatment in Specialized Areas

In the allopathic system, the proportion of specialists has been increasing quite rapidly. The Specialty treatment ranges from gynaecology to psychiatry to AIDS treatment. Providers of other systems of medicines also are now increasingly opting for specialized treatments; for example, in Ayurveda, massage using medicinal oil preparations to rejuvenate the body is increasingly advertised as a specialty and there are medical institutions aimed at providing exclusively this type of treatment; see Graph 3.8.
Growth and Diffusion of Medical Technology

It is to be noted that though supply of and demand for private care is large and rising in Kerala; more sophisticated patient care involving support services and demanding team-work from a number of professionals, such as coronary artery bypass surgery, infertility care, liver transplantation, intensive neo-natal care and joint-replacement surgery have made a rather delayed appearance in Kerala (Raman Kutty; 1998). But in recent years, most of the items of sophisticated and high technology medical care have made their appearances in the private sector. In terms of specialty and super-specialty treatment and the required laboratory and technical facilities the rate of diffusion has been more rapid in the private sector. In the public sector, such facilities are available only at the tertiary level hospitals. Graph 3.9 shows the diversification of specialty treatment and diffusion of technology achieved in the private medical institutions in Kerala. Table 3.7 shows the system-wise details of private medical institutions and facilities in Kerala.
Graph 3.9 PMIs Having Laboratory and Diagnostic Facilities (%)

Table 3.7 System-wise Details of Private Medical Institutions in Kerala -1995.

<table>
<thead>
<tr>
<th></th>
<th>Allopathic</th>
<th>Ayurveda</th>
<th>Homeo</th>
<th>Others</th>
<th>Total No</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Medical institutions</td>
<td>33.98</td>
<td>39.00</td>
<td>24.7</td>
<td>2.3</td>
<td>12618</td>
</tr>
<tr>
<td>% of institutions with IP facility</td>
<td>86.00</td>
<td>10.25</td>
<td>1.98</td>
<td>1.67</td>
<td>2274</td>
</tr>
<tr>
<td>% of beds</td>
<td>95.2</td>
<td>3.66</td>
<td>0.56</td>
<td>0.6</td>
<td>70924</td>
</tr>
<tr>
<td>% of IP '000</td>
<td>97.00</td>
<td>2.2</td>
<td>0.28</td>
<td>0</td>
<td>3566</td>
</tr>
<tr>
<td>% of OP '000</td>
<td>63.00</td>
<td>21.00</td>
<td>15</td>
<td>0.75</td>
<td>56009</td>
</tr>
<tr>
<td>% of Total patients</td>
<td>65.00</td>
<td>20.00</td>
<td>14</td>
<td>1</td>
<td>59575</td>
</tr>
<tr>
<td>Employment: % of Doctors</td>
<td>52.00</td>
<td>29.00</td>
<td>17</td>
<td>0.16</td>
<td>19963</td>
</tr>
<tr>
<td>Doctors per 100000 population</td>
<td>36</td>
<td>20</td>
<td>12</td>
<td>1</td>
<td>69</td>
</tr>
<tr>
<td>Average population per Doctor</td>
<td>2801</td>
<td>5042</td>
<td>8371</td>
<td>88713</td>
<td>1458</td>
</tr>
<tr>
<td>% of paramedical staff</td>
<td>87</td>
<td>10</td>
<td>2</td>
<td>1</td>
<td>23918</td>
</tr>
<tr>
<td>No. of technical staff</td>
<td>94.16</td>
<td>4.17</td>
<td>1.12</td>
<td>0.55</td>
<td>4723</td>
</tr>
<tr>
<td>No. of ministerial staff</td>
<td>66.80</td>
<td>20.70</td>
<td>11.80</td>
<td>0.70</td>
<td>9474</td>
</tr>
<tr>
<td>Total Employees</td>
<td>72.27</td>
<td>17.69</td>
<td>9.01</td>
<td>1.03</td>
<td>58078</td>
</tr>
</tbody>
</table>

Source: Govt. of Kerala: Report on the survey of private medical institutions in Kerala 1986 & 1996. (* Figures in brackets are share in the total, calculated as percentages of the total).

Though the number of Ayurvedic medical institutes is much more than that of the allopathic institutions, it is the allopathic system that dominates with respect to the facilities. Ninety five per cent of the beds and 97 per cent of the inpatients in the private sector are under the allopathic system. More than half of the number of doctors in the private sector is also under this system.
The number and role of paramedical staff are increasing fast because of the growing importance of various kinds of medical tests and advances in inpatient care.

**District-wise Distribution of Private Medical Facilities**

Private medical facilities tend to be concentrated in well-developed areas in the hope of bright prospects in terms of demand and utilization. This fact comes out clearly in the analysis of the geographical spread of PMI's in the districts of Kerala. The economically well-developed districts have larger proportions of private medical facilities, especially for the allopathic system; see graph 3.10 and 3.11.

**Graph 3.10 Private MI Distribution Across Districts**

![Graph 3.10](image)

**Graph 3.11. Distribution of Private Private Hospital Beds Across Districts**

![Graph 3.11](image)

The private health facilities in the allopathic sector are more concentrated in districts of Thiruvananthapuram, Kottayam and Ernakulam, whereas in the case of the ayurvedic system,
the share of districts that have a tradition of Ayurveda is relatively large. However, as we have done in the case of the government medical institutions, we shall discuss institution density by area and by population of private medical institutions in the different districts.

**District-wise Distribution of Private Medical Institutions by Catchments Area**

The number of private sector medical institutions is larger than the number of government sector institutions; therefore the average area to be covered per private medical institution is smaller (see Graph 3.12).

![Graph 3.12. Area Coverage of Private MIs Across Districts](image)

For every 9 square kilometres, there is a private allopathic institution: for every 7 square kilometres, there is a private ayurvedic institution, and for every 12 square kilometres, there is a private homeopathic institution. All together, at least one private medical institution is available for every 3 square kilometres. This is five times the availability in the government sector. District-wise disparities, however, prevail. Some districts have a private medical facility per each square kilometre, while in some others, it is available only for every square 10 kilometres. Here again, the districts with lower availability are the same as those with lower availability of government facilities. It is also the case with the better-endowed districts in terms of institution density by area. However, compared to the government sector, the systems of medicines other than the allopathic under the private sector have better coverage. In fact, in some districts, the availability of the Ayurveda institutions is more than that of the allopathic institutions (e.g. Thrissur, Palakkad, Malappuram and the other northern districts).
Population Coverage of Private Medical Institutions

The private sector provision is almost 5 times that of the government sector. In the government sector, there were only 8 medical institutions for 100 thousand populations, whereas in the private sector it is more than 40. While in the government sector, there are only 4 MIs in the allopathic system, the corresponding number is 15 in the private sector. In the ayurvedic system, the availability of medical institutions per 100 thousand population in the private sector is almost eight times that in the government sector. Further, there are more ayurvedic MIs than allopathic institutions in the private sector. However, this does not mean that the ayurvedic sector is the dominant sector because the average facilities available per institutions are much larger in the allopathic system; see graphs 3.13 and 3.14.

Graph 3.13. Availability of Private Medical Institutions per Lakh Population
A few districts (e.g. Ernakulam and Kottayam) have more than 400 private hospital beds per 100 thousand persons. This is in contrast to the situation prevailing in other districts (such as Palakkad, Malappuram and Wayanad), which have only, less than 150 beds for 100 thousand persons.

3.4. The Overall Health Care Provision

Having analysed the provision and distribution of health care facilities in the government and the private sectors across districts, we may now take a view of the overall provision and distribution of health care facilities across districts.

**District-wise Distribution of Overall Health Facilities**

We have already seen that both in the public and the private sectors, the shares of districts with better socio-economic development are much higher than those of the not-so developed districts. However, we also found considerable differences in the shares of districts in the facilities provided by the different systems. The overall pattern of distribution of medical facilities is shown in Table 3.8. As expected, the economically higher off and more developed districts have better shares of medical institutions.
Table 3.8 Distribution of MI and Bed Facilities Across Districts

<table>
<thead>
<tr>
<th>District</th>
<th>MI Distribution— in % shares</th>
<th>Total beds available— in % shares</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allopathic</td>
<td>Ayurveda</td>
</tr>
<tr>
<td>Thiruvananthapuram</td>
<td>9.83</td>
<td>5.29</td>
</tr>
<tr>
<td>Kollam</td>
<td>8.20</td>
<td>7.90</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>5.73</td>
<td>4.27</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>8.24</td>
<td>6.84</td>
</tr>
<tr>
<td>Kollam</td>
<td>10.06</td>
<td>9.65</td>
</tr>
<tr>
<td>Idukki</td>
<td>5.46</td>
<td>3.74</td>
</tr>
<tr>
<td>Ernakulam</td>
<td>11.83</td>
<td>8.33</td>
</tr>
<tr>
<td>Thrissur</td>
<td>7.39</td>
<td>9.58</td>
</tr>
<tr>
<td>Palakkad</td>
<td>5.21</td>
<td>9.12</td>
</tr>
<tr>
<td>Malappuram</td>
<td>6.47</td>
<td>11.02</td>
</tr>
<tr>
<td>Kozhikode</td>
<td>8.38</td>
<td>10.58</td>
</tr>
<tr>
<td>Wayanad</td>
<td>2.70</td>
<td>1.50</td>
</tr>
<tr>
<td>Kannur</td>
<td>6.58</td>
<td>7.85</td>
</tr>
<tr>
<td>Kasargode</td>
<td>3.91</td>
<td>4.34</td>
</tr>
<tr>
<td>KERALA</td>
<td>5547</td>
<td>5617</td>
</tr>
</tbody>
</table>

Source: Government of Kerala (1997)

Overall Coverage of Medical Institutions by Area

From the previous analysis we observed that private provision is higher and that the area served per institution is smaller than that of the government sector. When we take the two sectors together we find the inter-district disparities observed earlier persist. The coverage of medical institutions of the different systems also shows inter-district disparities. There is one medical institution in the allopathic system for every seven square kilometres while one ayurvedic system needs to cover only 6 square kilometres. The northern districts have more ayurvedic medical facilities coverage while the southern districts have more allopathic medical facilities. The district of Idukki is the most deprived in terms of area covered for all the systems and both the sectors, while Alappuzha seems to enjoy better coverage in all these aspects. The picture that emerges when calculated in terms of population size is examined next.
### Table 3.9 Availability of (All) Medical Institutions in Terms of Area Coverage

<table>
<thead>
<tr>
<th>District</th>
<th>Area to be covered by each medical institution (Total area/total MI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allopathic</td>
</tr>
<tr>
<td>Thiruvananthapuram</td>
<td>4.02</td>
</tr>
<tr>
<td>Kollam</td>
<td>5.47</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>8.31</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>3.09</td>
</tr>
<tr>
<td>Kottayam</td>
<td>3.95</td>
</tr>
<tr>
<td>Idukki</td>
<td>16.56</td>
</tr>
<tr>
<td>Ernakulam</td>
<td>3.67</td>
</tr>
<tr>
<td>Thrissur</td>
<td>7.40</td>
</tr>
<tr>
<td>Palakkad</td>
<td>15.50</td>
</tr>
<tr>
<td>Malappuram</td>
<td>9.89</td>
</tr>
<tr>
<td>Kozhikode</td>
<td>5.04</td>
</tr>
<tr>
<td>Wayanad</td>
<td>14.21</td>
</tr>
<tr>
<td>Kannur</td>
<td>8.13</td>
</tr>
<tr>
<td>Kasargode</td>
<td>9.18</td>
</tr>
<tr>
<td>KERALA</td>
<td>7.01</td>
</tr>
</tbody>
</table>

Source: Govt. of Kerala (1996)

### Population Coverage of All Medical Institutions Across Districts

In Kerala, there are around 50 medical institutions for every 100 thousand persons. This means that on an average, for every 1940 people, there is one medical institution of Allopathy, Ayurveda, Homeopathy or any other systems whatever be its size or the sector to which it belongs. However, this fact alone does not ensure universal availability and accessibility; see table 3.10.

For the state as a whole, there are 387 medical beds for every 100 thousand persons, all the systems and sectors taken together. The maximum number is found in Ernakulam while the lowest is in Palakkad. The development status of the district, understood in terms of income, commercialisation and urbanization, is seen to be positively associated with the availability of hospital beds.
Table 3.10. Overall Availability of Medical Facilities per 100 Thousand Population

<table>
<thead>
<tr>
<th>District</th>
<th>Availability of MI</th>
<th>Beds</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allopathic</td>
<td>Ayurveda</td>
<td>Homeo</td>
<td>Others</td>
<td>Total</td>
<td>Allopathic</td>
<td>Ayurveda</td>
<td>Homeo</td>
</tr>
<tr>
<td>Thiruvananthapuram</td>
<td>18.49</td>
<td>10.08</td>
<td>8.92</td>
<td>1.56</td>
<td>39.06</td>
<td>398</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Kollam</td>
<td>18.90</td>
<td>18.44</td>
<td>10.88</td>
<td>0.46</td>
<td>48.67</td>
<td>384</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>26.77</td>
<td>20.20</td>
<td>15.82</td>
<td>1.43</td>
<td>64.23</td>
<td>449</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>22.84</td>
<td>19.19</td>
<td>18.04</td>
<td>0.45</td>
<td>60.52</td>
<td>382</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Kottayam</td>
<td>30.53</td>
<td>29.65</td>
<td>26.04</td>
<td>0.93</td>
<td>87.14</td>
<td>602</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Idukki</td>
<td>28.11</td>
<td>19.48</td>
<td>14.01</td>
<td>1.21</td>
<td>62.80</td>
<td>444</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Ernakulam</td>
<td>23.29</td>
<td>16.61</td>
<td>17.36</td>
<td>0.89</td>
<td>58.15</td>
<td>544</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Thrissur</td>
<td>14.98</td>
<td>19.66</td>
<td>7.27</td>
<td>1.10</td>
<td>43.00</td>
<td>454</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>Palakkad</td>
<td>12.13</td>
<td>21.49</td>
<td>5.58</td>
<td>0.97</td>
<td>40.18</td>
<td>176</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Malappuram</td>
<td>11.60</td>
<td>19.99</td>
<td>6.46</td>
<td>0.74</td>
<td>38.79</td>
<td>176</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>Kozhikode</td>
<td>17.75</td>
<td>22.67</td>
<td>15.34</td>
<td>1.60</td>
<td>57.37</td>
<td>309</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Wayanad</td>
<td>22.32</td>
<td>12.50</td>
<td>10.12</td>
<td>0.74</td>
<td>45.68</td>
<td>384</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Kannur</td>
<td>16.21</td>
<td>19.58</td>
<td>12.74</td>
<td>0.71</td>
<td>49.25</td>
<td>269</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Kasargode</td>
<td>20.24</td>
<td>22.76</td>
<td>5.97</td>
<td>1.21</td>
<td>50.19</td>
<td>183</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>KERALA</td>
<td>19.06</td>
<td>19.30</td>
<td>12.18</td>
<td>1.00</td>
<td>51.54</td>
<td>364</td>
<td>17</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Government of Kerala (1997)

Relative Shares of Government and Private Medical Institutions

To obtain a better understanding of the health scenario in Kerala we have also examined the KSSP study of 1991 (based on the 1987 survey), which tried to capture the private and public provision of health care. This survey furnished data for the private sector health care—the number of institutions, beds, doctors, nurses, lab technicians, X-ray technicians and other personnel, for the year 1987. From the survey data of the private sector and the government sector, we find that 78 percent of the medical institutions, 64 per cent of the hospital beds, 66 percent of the doctors, 67 percent of the nurses and more than 80 percent of the paramedical staff such as lab technicians were employed in the private sector; see Table 3.11.
Table 3.11. Public-Private Mix of Institutions, Beds and Medical Personnel, 1987

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Allopathic</th>
<th>Ayurveda</th>
<th>Homeo</th>
<th>All Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Govt.</td>
<td>Private</td>
<td>Govt.</td>
<td>Private</td>
</tr>
<tr>
<td></td>
<td>27.87</td>
<td>72.13</td>
<td>20.29</td>
<td>79.71</td>
</tr>
<tr>
<td>Beds</td>
<td>34.98</td>
<td>65.02</td>
<td>63.87</td>
<td>36.13</td>
</tr>
<tr>
<td>Doctors</td>
<td>33.61</td>
<td>61.39</td>
<td>25.83</td>
<td>74.17</td>
</tr>
<tr>
<td>Nurses</td>
<td>31.73</td>
<td>68.27</td>
<td>61.13</td>
<td>38.87</td>
</tr>
<tr>
<td>Lab technicians</td>
<td>17.97</td>
<td>82.03</td>
<td>29.66</td>
<td>70.34</td>
</tr>
<tr>
<td>X-ray technicians</td>
<td>17.12</td>
<td>82.88</td>
<td>76.92</td>
<td>23.08</td>
</tr>
<tr>
<td>Others</td>
<td>58.02</td>
<td>41.98</td>
<td>43.65</td>
<td>56.35</td>
</tr>
</tbody>
</table>


As mentioned earlier, it is the private sector that is the dominant provider among all the different systems of medicines in all the districts. However, proportions vary across districts. The share of the private sector is relatively large in the commercially and economically developed districts compared to that in the backward districts. Overall, the government sector caters only around 15 percent of the total provision. However, in the case of hospital beds, the scene is a little different. The private sector accounts for a larger proportion of hospital beds, for the state as a whole, the situation differs from district to district. In the districts where medical colleges exist, such as Thiruvananthapuram, Alappuzha, Kottayam, Thrissur and Kozhikode, it is the government sector that has a relatively larger share of hospital beds when compared to other districts. See table 3.12 and 3.13.

Table 3.12. Relative Shares of Govt. and Non-Govt. in Total Provision of MI

<table>
<thead>
<tr>
<th>District</th>
<th>Allopathic</th>
<th>Ayurveda</th>
<th>Homeo</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiruvananthapuram</td>
<td>20.92</td>
<td>79.08</td>
<td>21.89</td>
<td>78.11</td>
<td>15.97</td>
</tr>
<tr>
<td>Kollam</td>
<td>18.90</td>
<td>81.10</td>
<td>10.59</td>
<td>89.41</td>
<td>12.21</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>19.18</td>
<td>80.82</td>
<td>22.08</td>
<td>77.92</td>
<td>11.17</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>19.69</td>
<td>80.31</td>
<td>9.90</td>
<td>90.10</td>
<td>9.14</td>
</tr>
<tr>
<td>Kottayam</td>
<td>15.05</td>
<td>84.95</td>
<td>7.56</td>
<td>92.44</td>
<td>7.56</td>
</tr>
<tr>
<td>Idukki</td>
<td>21.12</td>
<td>78.88</td>
<td>14.29</td>
<td>85.71</td>
<td>18.54</td>
</tr>
<tr>
<td>Ernakulam</td>
<td>17.38</td>
<td>82.62</td>
<td>13.25</td>
<td>86.75</td>
<td>9.20</td>
</tr>
<tr>
<td>Thrissur</td>
<td>29.76</td>
<td>70.24</td>
<td>15.43</td>
<td>84.57</td>
<td>14.07</td>
</tr>
<tr>
<td>Palakkad</td>
<td>37.72</td>
<td>62.28</td>
<td>11.72</td>
<td>88.28</td>
<td>21.05</td>
</tr>
<tr>
<td>Malappuram</td>
<td>33.98</td>
<td>66.02</td>
<td>10.50</td>
<td>89.50</td>
<td>17.50</td>
</tr>
<tr>
<td>Kozhikode</td>
<td>20.00</td>
<td>80.00</td>
<td>7.58</td>
<td>92.42</td>
<td>8.96</td>
</tr>
<tr>
<td>Wayanad</td>
<td>26.00</td>
<td>74.00</td>
<td>25.00</td>
<td>75.00</td>
<td>20.59</td>
</tr>
<tr>
<td>Kannur</td>
<td>27.67</td>
<td>72.33</td>
<td>11.34</td>
<td>88.66</td>
<td>9.41</td>
</tr>
<tr>
<td>Kasargode</td>
<td>27.65</td>
<td>72.35</td>
<td>14.34</td>
<td>85.66</td>
<td>31.25</td>
</tr>
<tr>
<td>KERALA</td>
<td>22.70</td>
<td>77.30</td>
<td>12.37</td>
<td>87.63</td>
<td>12.00</td>
</tr>
</tbody>
</table>

Table 3.13 Share of Govt. and Pvt. Sector in the Provision of Total Hospital Beds

<table>
<thead>
<tr>
<th>District</th>
<th>Allopathic</th>
<th>Ayurveda</th>
<th>Homeo</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiruvananthapuram</td>
<td>59.05</td>
<td>40.95</td>
<td>45.78</td>
<td>54.22</td>
<td>84.95</td>
</tr>
<tr>
<td>Kollam</td>
<td>22.28</td>
<td>77.72</td>
<td>45.13</td>
<td>54.87</td>
<td>50.34</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>17.65</td>
<td>82.35</td>
<td>81.82</td>
<td>18.18</td>
<td>49.02</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>52.44</td>
<td>47.56</td>
<td>32.26</td>
<td>67.74</td>
<td>77.32</td>
</tr>
<tr>
<td>Kottayam</td>
<td>30.58</td>
<td>69.42</td>
<td>42.13</td>
<td>57.87</td>
<td>100.00</td>
</tr>
<tr>
<td>Idukki</td>
<td>17.56</td>
<td>82.44</td>
<td>67.07</td>
<td>32.93</td>
<td>89.29</td>
</tr>
<tr>
<td>Ernakulam</td>
<td>25.51</td>
<td>74.49</td>
<td>74.68</td>
<td>25.32</td>
<td>50.00</td>
</tr>
<tr>
<td>Thrissur</td>
<td>32.91</td>
<td>67.09</td>
<td>35.79</td>
<td>64.21</td>
<td>36.76</td>
</tr>
<tr>
<td>Palakkad</td>
<td>49.68</td>
<td>50.32</td>
<td>53.94</td>
<td>46.06</td>
<td>62.50</td>
</tr>
<tr>
<td>Malappuram</td>
<td>39.28</td>
<td>60.72</td>
<td>26.28</td>
<td>73.72</td>
<td>54.95</td>
</tr>
<tr>
<td>Kozhikode</td>
<td>54.13</td>
<td>45.87</td>
<td>40.87</td>
<td>59.13</td>
<td>67.57</td>
</tr>
<tr>
<td>Wayanad</td>
<td>31.43</td>
<td>68.57</td>
<td>72.99</td>
<td>27.01</td>
<td>100.00</td>
</tr>
<tr>
<td>Kannur</td>
<td>34.86</td>
<td>65.14</td>
<td>63.36</td>
<td>36.64</td>
<td>50.00</td>
</tr>
<tr>
<td>Kasargode</td>
<td>34.08</td>
<td>65.92</td>
<td>97.09</td>
<td>2.91</td>
<td>100.00</td>
</tr>
<tr>
<td>KERALA</td>
<td>36.22</td>
<td>63.78</td>
<td>47.51</td>
<td>52.49</td>
<td>70.68</td>
</tr>
</tbody>
</table>

Source: Government of Kerala (1996)

3.5 Share of Public and Private in Treatment

The earlier analysis provides a picture of the relative levels of public and private provision of health care services in the various sector and this is from the input perspective alone. However, there is also a need to have an understanding of the relative roles of public and private sectors in the utilization of health care services (as revealed by earlier studies). Viewed from this end, one would perceive the pattern of utilization of the provision in place. The only variable available from the previous studies to show the extent of utilization of the private and the public sector facilities is the details on inpatients and outpatients treated in these sectors (from the IP and OP records available with the institutions). For this, we use the data on the number of inpatients and outpatients treated in the government and the private sector institutions, given in the Economic Reviews and the government survey report on the private sector for the year 1995.

Table 3.14 shows that both in the inpatient as well as in the outpatient categories, the utilization of the private sector was higher than of the government sector. On an average, 3151 IPs and 1200 thousand OPs were treated in government hospitals per day while in the private medical institutions the corresponding figures were around 10 thousand and 1500 thousand respectively.
Thus, despite the widespread public infrastructure, a higher proportion of the patients was treated in the private sector during 1995. An analysis of the categories of people who use private health care facilities may now be attempted.

Table: 3.14. Utilisation of Health Services by Sector According to Inpatients and Outpatients

<table>
<thead>
<tr>
<th>System</th>
<th>Total Patients/ Year</th>
<th>Share of Govt. MI</th>
<th>Share of Private MI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allopathic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>62912603</td>
<td>38.40</td>
<td>61.6</td>
</tr>
<tr>
<td>Inpatient</td>
<td>4578250</td>
<td>24.19</td>
<td>75.81</td>
</tr>
<tr>
<td>Outpatient</td>
<td>58334353</td>
<td>39.51</td>
<td>60.49</td>
</tr>
<tr>
<td>Ayurveda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26639932</td>
<td>55.32</td>
<td>44.68</td>
</tr>
<tr>
<td>Inpatient</td>
<td>106724</td>
<td>26.08</td>
<td>73.92</td>
</tr>
<tr>
<td>Outpatient</td>
<td>26533208</td>
<td>55.44</td>
<td>44.56</td>
</tr>
<tr>
<td>Homeo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14736768</td>
<td>42.37</td>
<td>57.63</td>
</tr>
<tr>
<td>Inpatient</td>
<td>24856</td>
<td>59.37</td>
<td>40.63</td>
</tr>
<tr>
<td>Outpatient</td>
<td>14711916</td>
<td>42.34</td>
<td>57.66</td>
</tr>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>104289303</td>
<td>43.28</td>
<td>56.72</td>
</tr>
<tr>
<td>Inpatient</td>
<td>4709826</td>
<td>24.42</td>
<td>75.58</td>
</tr>
<tr>
<td>Outpatient</td>
<td>99579477</td>
<td>44.17</td>
<td>55.83</td>
</tr>
</tbody>
</table>


The results of the NSS (1986-87) showed that in the case of Kerala, the share of the users of the private health care facilities for IP care increased across income groups, with increase in monthly per capita expenditure (MPCE). It is likely that the better off sections of the society with their higher purchasing power and greater awareness and concern about the 'quality' of services opted for private facilities. However, though availability of free health services (in the government sector) varied inversely with the MPCE for IP care, for OP care also the pattern was the same. Taking free health services as proxy for the public health care provision, we find that even a large proportion of the lower level income groups (representing the poorer sections of the society) used not-free services, thus indicating a higher utilization rate of private sector health
care facilities. Even large proportions of the poor belonging to the scheduled caste and tribe population relied on private providers for their day-to-day health care needs.

Table 3.15. Percentage of patients who received free health services by MPCE Quintiles, 1986-87.

<table>
<thead>
<tr>
<th>MPCE QUINTILE</th>
<th>TYPE OF CARE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inpatient Care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td></td>
<td>33.8</td>
<td>39.7</td>
<td>34.3</td>
<td>27.4</td>
<td>27.4</td>
<td>33.8</td>
</tr>
<tr>
<td>Urban</td>
<td></td>
<td>45.5</td>
<td>50.6</td>
<td>34.8</td>
<td>41.6</td>
<td>11.5</td>
<td>37.2</td>
</tr>
<tr>
<td></td>
<td>Outpatient Care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td></td>
<td>42.3</td>
<td>42.0</td>
<td>38.8</td>
<td>30.9</td>
<td>40.1</td>
<td>39.1</td>
</tr>
<tr>
<td>Urban</td>
<td></td>
<td>43.3</td>
<td>44.5</td>
<td>47.7</td>
<td>28.7</td>
<td>22.1</td>
<td>37.9</td>
</tr>
</tbody>
</table>

Source: Gumber (1997)

The findings also point to the fact that substantial financial burden for health care had to be borne by households by opting for private health services. In fact, private household expenditure on medical care was nearly four to five times of public health expenditure. In the case of Kerala, the NSSO study (1987) puts the average amount of payment made to hospitals in the rural government sector at Rs. 114.48, and in the rural private sector at Rs. 406.08, and the average for rural health care Rs. 378.27. For urban areas, the expenditure averaged at 223.40 in the government provision, Rs. 552.22 for the private sector the average being Rs. 478.88.

The KSSP study also showed that as people move up in the socio-economic scale, the proportion of people going to government institutions declined sharply (Kannan et. al; 1991). Even the majority of the poor depend more on private sector facilities than on the government sector. All these studies show that the increase in the utilization of the growing private sector would aggravate the burden on people. The implications of the growth of private sector health care and the laxity of regulations need attention in such a situation.

3.6 Regulatory Environment in Health Sector

It was only recently that the state government took some initiative to even formally register the private sector health care institutions in the state. But even as recently as in 1995, half of the state's private medical institutions were functioning without any formal registrations. This is
evident from the recent survey conducted by the government on the private medical institutions. The table below shows the number of registered and unregistered PMIs in Kerala in 1995. What this means is that there exists a registration requirement that has not been enforced properly. However, these registrations are not the registrations for the medical institutions as such, these are acts which give general guidelines for legally running an institution in other fields also (for example, educational institutions). Generally most of the religious missionaries' medical institutions, with service motive than profit motive get them registered under the Charitable Societies Act or Trust. The medical institutions operating under the provisions of the Cooperative Societies Act register themselves as co-operative medical institutions, while those hospitals which needs to be registered for legal conveniences for other purposes (for example; for validating the needs to purchase or import certain equipment, it is better to have a registration), register under the general category of institutions.

Table 3.16. Private Medical Institutions According to Registration/Approval.

<table>
<thead>
<tr>
<th>Registration</th>
<th>Allopathic</th>
<th>Ayurvedic</th>
<th>Homeo</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total MI</td>
<td>4288</td>
<td>4922</td>
<td>3118</td>
<td>290</td>
<td>2618</td>
</tr>
<tr>
<td>Total Unregistered</td>
<td>45.45</td>
<td>54.27</td>
<td>60.3</td>
<td>60</td>
<td>52.89</td>
</tr>
<tr>
<td>Total Registered</td>
<td>54.55</td>
<td>45.73</td>
<td>39.7</td>
<td>40</td>
<td>47.11</td>
</tr>
<tr>
<td>Registered General</td>
<td>82.68</td>
<td>96.49</td>
<td>95.64</td>
<td>93.97</td>
<td>90.83</td>
</tr>
<tr>
<td>Charitable Society Act</td>
<td>16.25</td>
<td>3.2</td>
<td>3.8</td>
<td>6.03</td>
<td>8.51</td>
</tr>
<tr>
<td>Co-operative</td>
<td>1.07</td>
<td>0.31</td>
<td>0.57</td>
<td>0</td>
<td>0.66</td>
</tr>
</tbody>
</table>

Source: Government of Kerala (1996)

The state has an obligation to ensure that safe and appropriate health care services are provided to the population. It should have an idea as to who is eligible for practicing the health care profession, what type of health care is to be practiced and how the practice should be carried out in terms of quantity, quality and price of services, and for specific categories of illness. However, the state governments often do not interfere with the rules and regulations of medical education or of registration. All that the government requires the private sector in health care to do is registration of the private medical institutions. No act has been implemented by the government in Kerala to regulate medical practice and ensure quality of health care provided by the private sector.

It is disturbing to note that of the total number of private medical institutions in the state, (as per data available on government records) more than half did not register with the concerned
authorities. It is institutions under systems of medicine other than allopathy that such unregistered institutions abounded. In the case of allopathy also, institutions without registration are not few; they are as large in number as the registered institutions. The seriousness of the problem is, in fact, still largest since the number of privately practicing physicians could be much larger than what the data brought out by the government and other organizations through surveys have reported. It is likely that private institutions and practitioners who work without registration would come to almost 3/4th of the total.

A perusal of the rules and regulations in the health care sector in Kerala shows that the private health sector has outgrown the public health sector and that the growth has been unregulated, unplanned and unaccountable. The situation is not confined to Kerala alone. There do not exist any prescribed minimum standards for the functioning of the private health care institutions in the country as a whole. Even where regulations exist on paper, they are seldom implemented.

Our foregoing discussion raises the question why no systematic attempts were made by government of Kerala to regulate the health care sector, especially in the private sector. Is it because of the often-feted 'success' of the public provision of health care that the Government failed to sense the rising role that the emerging private sector was appropriating to itself? Perhaps, there has been some sense of complacency within the Government. Alternatively, the Government could have thought it inappropriate, in the absence of a system of health insurance, to put restrictions on the for-profit activities that would affect the accessibility and availability but also the quality of health care provided.

Conclusions

The public health care sector in Kerala is no longer the dominant player in Kerala. The private health care sector has outgrown the public health care sector and private expenditure on health care has increased, particularly in the past few decades. The implications of this situation for disease control and improvement of the health status of the population are not yet clear. While it is obvious that the private sector has to be controlled and regulated more effectively, regulations should not choke and discourage private sector growth. The permissive regulatory environment, non-registration of medical institutions and lack of guidelines on treatment and case reporting do not have much scope for improving the efficiency of the private health care sector. This is the paradox and challenge that Kerala faces now.