Research Article

Website: www.ijhsr.org ISSN: 2249-9571

Patterns and Determinants of Availing Inpatient Medical Care in Kerala Across Public and Private Hospitals

Nandana Prakash¹, Dr. Manju S. Nair²

¹Research Assistant, Centre for Agroecology and Public Health, Department of Economics, University of Kerala ²Hon. Director, Centre for Agroecology and Public Health and Professor, Department of Economics, University of Kerala

Corresponding Author: Nandana Prakash

DOI: https://doi.org/10.52403/ijhsr.20230334

ABSTRACT

The healthcare institutions in India providing inpatient medical care are broadly classified into public/government hospitals, private hospitals, and NGO/Charitable run hospitals. The state of Kerala predominantly had public hospitals for providing health care facilities right from its formation till the late 1980s. Since the 1990s private hospitals have outpaced public hospitals in terms of the number and availability of beds. Using the latest unit-level data from NSSO 75th round on Social Consumption: Health, the study examines the pattern and determinants of availing of inpatient medical care in Kerala across public and private hospitals and the expenditure differences involved. The study finds out that the proportion of people who are hospitalized in Kerala is much higher compared to the all-India average and 66 percent of those hospitalized are in the private sector. Socioeconomic factors determine the choice of a public or private hospital for inpatient care, with people belonging to the highest socioeconomic category depending more on the private sector. However, an increasing share of people belonging to lower socio-economic categories also depend on private hospitals for inpatient medical care. The mean difference in medical expenditure between the private and public sectors is five times – all these points out the need for the furtherance of public policy in the state of Kerala to provide affordable and accessible health care.

Keywords: inpatient medical care, public and private hospitals, medical expenses

INTRODUCTION

Since the 1960s, the South Indian state of Kerala has attracted a considerable amount of because interest of its remarkable achievements in enhancing the quality of conventional life indicators. Kerala's figures on life expectancy, male and female literacy, child mortality, crude death rate, etc. are close to those of developed countries and have been attained at much lower costs. Kerala's achievements in health, despite its economic backwardness, have prompted many analysts to talk about a unique 'Kerala Model of Health' providing good health at a low-cost worth emulating other developing parts of the world [1]. This 'health development' has been variously heralded as being the result of a great stress on sound development [2], greater social justice [3], a combination of a great emphasis on female education, and an improved health care system [4-6] or the existence of a political elite dedicated to radical reform and redistribution of wealth [7].

However, by 1984, doubts were expressed regarding the desirability of the Kerala Model of Health. Surveys found that even though mortality is low in Kerala, the prevalence of morbidity is very high [8]. Since the new century, Kerala had to

encounter a rising prevalence of noncommunicable chronic diseases including cardiovascular diabetes. cancer. and problems communicable diseases hepatitis and typhoid fever have re-emerged and some new epidemics like dengue fever, chikungunya, H1N1 flue, Nipah have emerged in the state. This has resulted in a high rate of hospitalization of Keralites for inpatient medical care. Additionally. Kerala's health care system has shifted from the dominance of public health services to the private sector with ramifications on affordability and accessibility. importantly, private hospitals have outpaced government facilities in the provision of beds, personnel, and sophisticated modalities of diagnosis and therapy [9]. The growth of this sector is attributed to many factors including rising disposable incomes and lack of barriers to opening a private hospital. The aging of the population with its concomitant increase in chronic diseases with demand for more hospital care was also exploited by the private sector. As per the latest data, out of the total 3342 hospitals in Kerala, only 38.3 percent (1280) are in the public sector whereas 61.7 percent (2062) are in the private sector, and out of the total 99227 beds available in hospitals 38004 (38.3 percent) are in the public sector and 61223 (61.7 percent) are in the private sector [10]. Against this background, understanding the patterns and determinants of availing of inpatient medical care in Kerala becomes imperative since it can provide inputs to furthering public policy towards affordable and inclusive health care in the state of Kerala. Hence, the present paper is an inquiry into understanding the type of hospital (public vs private) where people seek inpatient medical care in Kerala, the determinants of the same, and the cost differences involved in availing of inpatient treatment.

OBJECTIVES

1. To understand the proportion of the population who are availing inpatient medical care and the morbidity pattern of

- inpatients across public and private hospitals in Kerala.
- 2. To analyze the socio-economic determinants of the population availing inpatient medical care in Kerala across public and private hospitals.
- 3. To examine the expenditure incurred in availing inpatient medical care in Kerala across public and private hospitals

MATERIALS AND METHODS

The study is based on unit-level data extracted from the 75th NSSO round on Household Social Consumption: Health conducted from July 2017 to June 2018, which is the latest available comprehensive data in this regard. In the 75th round of the NSSO health survey, data for Kerala is collected from 4467 households, covering 2075 urban and 2392 rural households with a total population of 19801 (9119 from urban and 10682 from rural). Data on socio-economic status, morbidity, profile of ailments, type of medical institution where inpatient medical care is availed, health expenditure incurred, etc are curled out for analyzing the objectives.

The proportion of persons treated as an inpatient (receiving medical treatment as an inpatient out of every 1000 person during 365 days), nature of the ailment, type of whether public or private, household expenditure incurred for inpatient medical care, etc. are the indicators selected for analyzing the first objective. Education, income status, social category, and gender of the person availing of inpatient facility are examined to understand the socio-economic correlates of inpatients of public and private hospitals, and the Chi-square test is used to understand the statistical significance of the differences.

Logistic Regression

To examine the determinants of hospitalization patten logistic regression model is used with type of medical institution as the dependent variable (private hospital = 1 and public hospital = 0) with sector, gender, education level, income level (monthly per

capita consumption expenditure (MPCE) group used as a proxy for income) and social class as the independent variables. The level of education is categorized into four categories: illiterate, primary, higher secondary, and graduation. MPCE group and social class is classified into three - poor, average, and rich income group and, SC/ST, OBC, and General respectively.

Suppose,

$$Y = \beta_0 + \beta_i X_i + u_i$$
 (Eq.1)

Y = 1, if the respondent goes to private hospital

Y = 0, to public hospital and

Now consider the following representation of going to private hospital,

$$Pi = \frac{1}{1 + e^{-(\beta 0 + \beta iXi)}}$$
 (Eq.2)

going to private hospital,

$$Pi = \frac{1}{1+e^{-(\beta 0 + \beta iXi)}}$$
(Eq.2)
$$Pi = \frac{1}{1+e^{-z}} = \frac{e^{z}}{1+e^{z}}$$
(Eq.3)

Where $z = \beta_0 + \beta_i Xi$

Probability of not going to private hospital is

$$1 - Pi = \frac{1}{1 + e^z}$$

Thus, the odds ratio in favor of going to a private hospital = probability of going to a private hospital to the probability of not going to the private hospital.

$$\Box \frac{Pi}{1-Pi} = \frac{1+e^z}{1+e^{-z}} = e^z$$
Obtaining the natural log,
(Eq.4)

$$L_{i} = ln\left(\frac{Pi}{1-Pi}\right) = Z_{i} = \beta_{0} + \beta_{i}X_{i}$$
 (Eq.5)

Li is called the logit.

Estimation of logit model

$$\begin{split} L_{i} &= ln\left(\frac{Pi}{1 - Pi}\right) = \beta_{0} + \beta_{i}X_{i} + u_{i} \\ L_{i} &= ln\left(\frac{Pi}{1 - Pi}\right) = \beta_{0} + \beta_{1}X_{1+}\beta_{2}X_{2+}\beta_{3}X_{3+}\beta_{4}X_{4} \\ &+ \beta_{5}X_{5} + u_{i} \quad \text{(Eq.7)} \end{split}$$

Where X_1, X_2, X_3, X_4 , and X_5 represent sector, gender, economic status, education category, and social class.

RESULTS

Ailment details of those hospitalized during the last 365 days

Table 1 provides the results of hospitalization details of Keralites during the last 365 days before the survev. The ailment-wise distribution shows that out of the total hospitalization cases, 21.8 percent had an infection as the ailment, 7.1 percent had injuries, 10 percent had cardiovascular problems, 5.5 percent, 4.9 percent and 4.8 percent had respiratory, musculo-skeletal and genito urinary problems. The proportion of population treated as an inpatient (receiving medical treatment as an inpatient out of every 1000 person during 365 days) in Kerala is also presented in table 1. It shows that 53.43 cases per 1000 population is treated as inpatient for infections, followed by cardiovascular (23.69/1000), injuries (17.37/1000) etc. On an average, the proportion of total hospitalization cases per 1000 population for the last 365 days is 245 and once childbirth is removed, the proportion of population who is hospitalized becomes 196, which is much higher than all India's figure of 29 per 1000.

Table 1. Ailments reported of those hospitalized, 365 days

Ailments	Number	Percent	Proportion of population receiving inpatient treatment
Infections	1058	21.8	53.43
Cancers	116	2.4	5.86
Blood diseases	67	1.4	3.38
Endocrine/metabolic/	172	3.5	8.69
Psychiatric/neurological	187	3.9	9.44
Eye	88	1.8	4.44
Ear	20	0.4	1.01
Cardiovascular	469	9.7	23.69
Respiratory	267	5.5	13.48
Gastro intestinal	217	4.5	10.96
Skin diseases	35	0.7	1.77
Musculo skeletal	237	4.9	11.97
Genito urinary	235	4.8	11.87
Obstetric	175	3.6	8.84
Injuries	344	7.1	17.37
Others (mainly childbirth)	1160	23.9	58.58
Total	4847	100	244.79

Source: [11]

Ailments and type of medical institutionwise distribution of inpatients

The ailment-wise distribution of the type of medical institution utilized for inpatient medical care is presented in table 2. On an average 66 percent of those who received inpatient medical care were admitted to private hospitals and 33 per to public hospitals. The majority of the population has

selected private hospitals for inpatient care treatment for all ailments except cancers and blood diseases. For cancer treatment, nearly 50 percent and for blood diseases above 65 percent of inpatient care was through government or public services. For ear diseases, obstetric, injuries, skin diseases, gastro intestinal and cardiovascular diseases the percentage of

population availing inpatient care from a private hospital is greater than 60 percent.

Table 2: Ailments and type of medical institution-wise distribution of inpatient treatment

Ailments		Govt/public	Private	Total
Infections	Number	402	654	1056
	%	38.07	61.93	100.00
Cancers	Number	56	60	116
	%	48.28	51.73	100.00
Blood diseases	Number	44	23	67
	%	65.67	34.33	100.00
Endocryne	Number	60	112	172
-	%	34.88	65.12	100.00
Psychiatric	Number	52	135	187
	%	27.81	72.2	100.00
Eye	Number	30	58	88
	%	34.09	65.91	100.00
Ear	Number	5	15	20
	%	25.00	75	100.00
Cardiovascular	Number	163	306	469
	%	34.75	65.25	100.00
Respiratory	Number	106	161	267
	%	39.70	60.3	100.00
Gastro-Intestinal	Number	68	149	217
	%	31.34	68.67	100.00
Skin diseases	Number	10	25	35
	%	28.57	71.43	100.00
Musculo skeletal	Number	77	160	237
	%	32.49	67.51	100.00
Genito urinary	Number	56	179	235
	%	23.83	76.17	100.00
obstetric	Number	51	124	175
	%	29.14	70.85	100.00
Injuries	Number	110	234	344
	%	31.98	68.02	100.00
Others (including child birth)	Number	338	822	1160
	%	29.14	70.86	100.00
Total	Number	1628	3217	4845
	%	33.60	66.4	100.00

Source: [11]

Socioeconomic background of inpatients in public and private hospitals

Table 3 shows the socio-economic status-wise distribution of inpatients in public and private medical institutions in Kerala. The sector-wise data reveals that compared to rural areas people in urban areas have more preference to opt for private hospitals for inpatient medical care. Out of the total who have been admitted to hospitals in rural area 35 percent is in public hospitals and 64 percent in private hospitals – the concerned

figures in urban areas is 31.28 percent and 68.72 percent respectively. Regarding gender, females have a greater preference for public hospitals (67.64) compared to males (64.44). It is also evident from the table that educational qualification and social class is significantly associated with the selection of a medical institution. Around 70 to 85 percent of the highly educated population have selected private hospitals for inpatient medical treatment. There is a preference for private hospitals as one move from

Scheduled Tribes to Scheduled Caste to Other Backward Caste to the General Category. More than 70 percent of other categories (general and forward classes) have selected private hospitals as inpatient medical institutions while 68 percent of the ST population have selected public hospitals. income-wise Monthly distribution inpatient treatment based on the type of hospital shows that as income level increases there is a movement towards private hospitals. Within the lowest income quintile, 43:53 is the ratio of public and private hospitals. This changed to 23:72 for the highest income quintile. Hence there is a fall of 20 percent for the public sector level of care from quintile one to quintile five. Thus, it can be inferred that public hospitals are preferred by people belonging to rural areas and who are backward in their socioeconomic status. The chi-square test worked out shows statistically significant differences existing between the subgroups in each socio-economic category. It is equally noticeable that a predominant share of people from rural areas, people belonging to lower socio-economic strata are depending on the private sector – 66 percent of those who are illiterate, 60 percent of those below primary education, and 58 percent of those who are below upper primary depend on private hospital. Similarly, 32 percent of Scheduled Tribes and 43 percent of Scheduled Castes depend on private hospitals and within income class, 57 percent and 64 percent of the poorest and poor are availing services from private hospitals for inpatient medical care. Thus, dependence on private hospitals is seen across people belonging to all categories of the population.

Table 3 Socio-economic status wise distribution of inpatients in public and private hospitals

Sector		Govt/public	Private	Total	χ ²
Rural	Number	954	1736	2690	89.833
	%	35.46	64.22	100	Sig 0.00
Urban	number	674	1481	2155	
	%	31.28	68.72	100	
Gender		•			•
Male	Number	672	1218	1890	77.930
	%	35.56	64.44	100	Sig =0.00
Female	Number	956	1999	2955	
	%	32.35	67.64	100	
Total	Number	1628	3217	4845	
	%	33.6	66.4	100	
Education					
Illiterate	Number	214	426	640	90.130
	%	33.44	66.56	100	Sig=0.00
Below primary	Number	278	421	699	
	%	39.77	60.23	100	
Upper primary	Number	510	724	1234	
	%	41.33	58.67	100	
Secondary	Number	258	479	737	
•	%	35.01	64.99	100	
Degree	Number	341	1027	1368	
<u>-</u> :	%	24.93	75.07	100	
Post Graduate	Number	27	140	167	
	%	16.17	83.84	100	
Social group					•
Scheduled Tribes	Number	44	21	65	196.194
	%	67.69	32.31	100	Sig=0.00
Scheduled Castes	Number	202	151	353	
	%	57.22	42.78	100	
Other Backward Classes	Number	1059	1962	3021	
	%	35.05	64.94	100	
Others	Number	323	1083	1406	
	%	22.97	77.03	100	
Income group					
Q1	Number	430	570	1000	94.64
	%	43.00%	0.57	100.00%	Sig=0.00
Q2	Number	341	607	948	
	%	36.00%	64.1	100.00%	
Q3	Number	454	879	1333	
	%	34.10%	65.9	100.00%	
Q4	Number	173	391	564	
	%	30.70%	69.3	100.00%	
Q5	Number	230	770	1000	
	%	23.00%	77	100.00%	

Source: [11]

Determinants of choice of type of hospital for inpatient medical care

As mentioned in methodology section, logistic regression is done to understand the determinants of choice of type of hospital for inpatient medical care. Socio demographic and economic variables are selected as the independent variables. Odds ratio and marginal effects are reported.

Table 4 Results of logistic regression

	Logistic Regression output			Marginal Effects				
	Odds ratio	Std. Err.	Z	P>z	Dy/dx	Std. Err.	Z	P>z
Sector (ref =rural)	1.072502	0.103019	0.73	0.466	0.01535	0.021012	0.73	0.465
Gender (ref=male)	1.062654	0.105923	0.61	0.542	0.013327	0.021909	0.61	0.543
Monthly Per capita	Consumption Exp	enditure (ref =	low)					
Average	0.998381	0.150624	-0.01	0.991	-0.00037	0.034101	-0.01	0.991
Rich	1.229033	0.147088	1.72	0.085	0.045661	0.026808	1.7	0.089
Education (ref= belo	ow primary)							
Primary	0.747895	0.111682	-1.95	0.052	-0.06678	0.033854	-1.97	0.049
Secondary	0.873676	0.12688	-0.93	0.352	-0.03059	0.032649	-0.94	0.349
Higher secondary	1.466857	0.301814	1.86	0.063	0.080697	0.042182	1.91	0.056
Graduate	2.039937	0.402927	3.61	0	0.141091	0.037961	3.72	0
Caste (ref=ST)								
SC	1.201863	0.562625	0.39	0.694	0.043305	0.108916	0.4	0.691
OBC	2.409279	1.060865	2	0.046	0.210402	0.10212	2.06	0.039
General	4.639606	2.075807	3.43	0.001	0.349543	0.102832	3.4	0.001
_constant	0.473154	0.227135	-1.56	0.119				
Logistic regression number of obs = $4,847$, wald chi2(11) = 112.27								
prob > chi2 =	0.0000							
pseudo r2 =	pseudo r2 = 0.0492							

Source: [11]

Monthly capita consumption per expenditure, education status, and social class turn out to be important determinants of choosing between public and private hospitals for inpatient medical care, as evidenced by statistical significance. odds can be interpreted as follows; in the case of MPCE, a movement from poor to rich increases the odds in favour of going to a private hospital by 22 percent. Regarding educational status, a movement from illiterate to higher secondary level and graduation level increases the odds in favor of going to a private hospital by 46 percent and 103 percent respectively. As the odds ratio does not provide a sense of magnitude, marginal effects, which measures the effect of independent variables on the dependent variable, keeping all other covariates at mean is considered. As per the marginal effects, gender and sector are not significant factors in determining the type of hospital; income group, social class, and education status of a person determine the choice. Marginal effects show that on an average, the probability of an individual going to private hospital increases by 4 percent, as one moves from the poor to the rich category.

movement from illiterate to higher secondary level increases the probability of an individual seeking inpatient medical care from a private hospital by 8 percent and a movement from ST to OBC and to general category, on average increases the probability of going to a private hospital by 21 percent and 35 percent respectively.

Medical expenses for inpatient medical care in Kerala

Table 5 reports the component-wise mean expenditure for public and private hospitals and points out the huge difference in medical expenses incurred for inpatient care between the two. The mean medical expenditure govt/public hospitals reported Rs.5098.71/-, and in a private hospital is Rs. 28171/-, implying that the mean expenditure in private hospitals is 5.53 times greater than in public hospitals. The mean expenditure for doctor's fees and bed charges of a private hospital is 5 times, medicine is 3 times, and diagnostic tests is 2 times greater than public hospitals. The highest difference is visible in the case of package components between public and private hospitals- a difference of 14.29 times.

Table 5: Medical institution-wise expenditure incurred during the last 365 days

	Kerala		
Type of medical institution	Govt./Public	Private	Total
Package component (Rs.)	2359.76	33711.38	22970.82
Doctor's/ surgeon's fee (Rs.)	1007.92	5953.06	5209.98
Medicines (Rs.)	2542.73	7110.07	5567.65
Diagnostic tests (Rs.)	1485.48	3680.34	2944.1
Bed charges (Rs.)	870.4	4421.24	3793.69
Other medical expenses (Rs.)	1326.96	5098.26	3934.33
Medical expenditure (Rs.)	5098.71	28171.51	20047.93

Source: [11]

Ailment wise expenditure incurred during the last 365 days

Ailment-wise expenditure details during the last 365 days of inpatient care is also worked out in table 6. Data shows that the medical expenses incurred for eye diseases is 10 times higher in private hospitals compared to public hospitals followed by infections - 6 times. The corresponding figure for cancers, blood diseases, and ear diseases are 2 to 3

times more in private hospitals than public hospitals. The medical expenditure for all other diseases such as Endocrine/metabolic/nutritional, Psychiatric/Neurological, Cardiovascular, Respiratory, Gastro Intestinal, Skin diseases, Musculo skeletal, genitourinary, obstetric, and injuries are 4 to 5 times more in private hospitals than the public hospitals.

Table 6: Ailment wise expenditure incurred during the last 365 days

	Public hospitals	Private hospitals	All
Infections	1945.03	12359.79	37153.94
Cardio-vascular ailments	7762.04	45855.66	32913.03
Gastro-intestinal ailment	4639.5	26849.94	19899.58
Respiratory ailments	2209.92	13385.45	9581.85
Genito-urinary ailments	8413.08	35138.34	28992.2
Musculo-skeletal ailments	7219.36	28758.8	21873.95
Psychiatric and neurological ailments	6733.49	39478.47	28061.08
Eye ailments	2348.82	24244.29	17949.08
Cancers	21454.5	79448.17	52305.89
Any ailment	5098.71	28171.51	20047.93

Source: [11]

Reason for not availing inpatient medical facility from public hospitals

Analysis of the medical expenses for inpatient medical care in the public sector and private sector hospitals in Kerala shows a whooping high expense in the private sector as compared to the public sector. Despite the high cost incurred in private hospitals, 66 percent of those who need inpatient medical care utilize the service of private hospitals. It is interesting to understand the reason why those who depend on the private sector are not availing of

subsided facilities from the public sector, the reasons are given below. Forty two percent opine that they prefer private hospitals because they trust the hospital or the doctor available there, for 17 percent lack of specific services in a public hospital is the reason why they go for private hospitals. Quality aspects has been pointed out by 13.7 percent as the reason for not availing facilities from the public sector. Long waiting hours and facility too far are reported as reasons by 12.4 percent and 5.8 percent.

Table 7: Reason for not availing inpatient medical facilities from public hospitals

Reason	Number	Percent
Required specific services not available	538	16.72
Available but quality not satisfactory/doctor	441	13.71
Quality satisfactory but facility too far	186	5.78
Quality is satisfactory but involves long waiting	400	12.43
Financial constraint	3	0.09
Preference for a trusted doctor/hospital	1355	42.12
Others	294	9.14
Total	3217	100

Source: [11]

DISCUSSION

Rising health expenditure is documented in literature as a major reason for falling into poverty. With absence of prepayment insurance. mechanism and increasing proportion of people have to depend on outof-pocket health expenditure. When out of pocket expenditure becomes a major part of total expenditure it becomes catastrophic and catastrophic health care expenditure becomes the major reason impoverishment of families. It is in this context that provision of subsidized health facilities by the public sector becomes important.

The state of Kerala had a historically socialist lineage and has invested much in public health facilities since her independence. Data shows that ever since the state's formation, the budget allocation towards health was commendable. This led to the growth and expansion of government health institutionsthe annual compound growth rate of government expenditure for the period up to the 1980s was 13.04 percent outstripping the compound growth rate of total government expenditure at 12.45 percent and the annual compound growth rate of State Domestic Product at 9.81 percent [12]. However, since the 1990's there has been a fall in the allocation by the government towards the health sector, the primary reason being the fiscal crisis in which the Kerala government had fallen into. During this time growth and revenue resources of the state government fell drastically and hence the reduced developmental expenditure or capital expenditure affected the fund flow to the health sector. Health expenditure as a percent of total revenue fell from 8.8 percent of total revenue expenditure in 1985-85 to 7.2 percent in 1995-96. Alongside there has been a parallel growth of private health facilities - 40 percent growth in private sector beds in the private sector compared to 5.5 percent in public [13]. The pattern of growth of private hospitals continues and as of 2020, out of the total 3342 hospitals in Kerala, only 38.3 percent (1280) are in the public sector whereas 61.7 percent (2062) are in the private sector, and out of the total 99227 beds available in hospitals 38004 (38.3 percent) are in the public sector and 61223 (61.7 percent) are in the private sector [10]. Thus, private hospitals have become the predominant facility for the provision of health care in Kerala.

The cost difference incurred for inpatient medical care between the public and private hospitals as documented by the study provides insights for furthering policies in Kerala's health sector. Kerala is one of the states with the highest catastrophic health care expenditure. The increasing share of the population depending on private hospitals is a major reason for the increasing catastrophic healthcare expenditure. Although it is the people belonging to the highest socioeconomic category who prominently depend on private health facilities, data reveals that a considerable percentage of people belonging to the lower socioeconomic status also depend on the private sector - within the lowest income groups, i.e. quintile one and two who are the poorest and poor, 57 percent and 64 percent have depended on private health care facilities. Equally concerning factor is that 32 percent of the Scheduled Tribes, and 43 percent of the Scheduled Castes have depended on the private sector. The poor and the socially downtrodden depending on the private sector result in a greater probability of these people falling into poverty.

The available healthcare facilities in the public sector need to be able to target the health needs of the population. The quality issues, trust issue, etc. which are reported as the major problems in public hospital needs to be addressed and public health services need to regain the lost credibility. The cost of health care in the public sector is also a serious concern. Healthcare services even from the public sector were witnessing cost escalation because the public sector itself is being subjected to internal privatization. Patients seeking medical treatment from the public sector were forced to depend on outside sources for medicines and other materials [9]. Realizing these issues, the Government of Kerala has proactively taken steps during the last years to regain the credibility of the system through the Aadram Mission whereby human and physical infrastructure has been provided to the public healthcare facilities and steps taken to ensure service quality healthcare **[14]** capitalizing on the decentralized health care system in Kerala [15]. The scope of health insurance also becomes important in this scenario. NSSO data point out that out of those who are hospitalized for inpatient medical care eighty percent depend on their sources for inpatient medical care. This calls for more proactive steps for a much more inclusive health insurance scheme.

CONCLUSION

The paper examines the patterns and determinants of the choice of medical institution for inpatient medical care in Kerala using unit-level data extracted from NSSO Comprehensive Health Survey. Kerala has a whopping proportion of her population as inpatients during the last year of the survey, i.e. 196/1000 as against 26/1000 for all India. The study shows that Kerala's medical care is dominated by the private sector, with 66 percent of the population depending on the private sector for inpatient care. Categorization of ailments shows that except for cancer and infections, the percentage of the population seeking inpatient medical care in private hospitals is higher. The socioeconomic correlates of choice between public and private hospital shows that people in the lowest strata of society avail services from the public sector, whereas it is the rich, highly educated, and socially upper class who are concentrating on private hospitals. However, a significant proportion of the poor, the illiterate and less educated, and people belonging to lower social classes depend on the private sector for inpatient medical care, with implications on catastrophic health care expenditure. The medical expenditure differences between the public and private hospitals for one inpatient episode is around five times – with the eye, respiratory ailments, etc. showing the highest cost. Within the medical expenditure, it is the doctor's fee and bed charges which form the major items of cost differences between public and private hospitals. Despite the huge medical expenditure that one has to incur for inpatient medical care in private hospitals, people prefer private hospitals because the majority feel that trust and quality issues prevent them from going to private hospitals. This calls forth public policies to improve the credibility of public hospitals, enhance the quality of services, avoidance of long delays in getting treatment, etc. The Government of Kerala realizing these issues has come up with several programs, including the Aadram Mission, during the last five years for the provision of health care services to the population. The study calls for furthering public policy in this regard to provide affordable, accessible, and quality healthcare services to the population.

Declaration by Authors Acknowledgement: None **Source of Funding:** None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

- Halstead, S., J.Walsh, and K.Warren. Good Health at Low Cost. NewYork: Rockefeller Foundation; 1985.
- 2. Nag, Moni. 'Impact of social and economic development on mortality: Comparative study of Kerala and West Bengal'. Economic and Political Weekly, Vol. 18; 1983.
- 3. Ratcliff, JW. Social justice and the demographic transition: lessons from India's Kerala State. International Journal of Health Service, Vol. 8; 1978.
- 4. Panikar, PGK. 'Resources Not the Constraint on Health Improvement'. Economic and Political Weekly, Vol 14, No.4; 1979.
- 5. Cald Well, J.C. 'Route to Low Mortality in Poor Countries'. Population and Development Review, Vol: 12. P-171-220; 1986.
- 6. Soman, CR. 'Nutrition and health development- Lessons from Kerala'. Proceedings of the Nutrition Society, Vol.51: 81-92; 1992.

- 7. Franke, R, Chasin B. 'Kerala state, India, radical reforms as development'. International Journal of Health Services 22:139-156; 1992.
- 8. Paniker, PGK and Soman, CR. 'Health Status of Kerala: Paradox of Economic Backwardness and Health Development. Centre for Development Studies; 1984.
- 9. Ekbal, B. 'Kerala's Health sector: Crying for Cure'. Kerala Calling. May 2006, 37-39p.
- 10. Nair, Manju R and Varma, R. Availability distribution and utilisation of health care services in Kerala. 2021. [Internet]. Available from https://spb.kerala.gov.in/sites/default/files/in line
 - files/AvailDistribUtilisationHSKerala.pdf.
- 11. Government of India. NSS 75th Round-Key Indicators of Social Consumption in India: Health. New Delhi. 2019. [Internet]. Available from http://www.mospi.gov.in/unit-level-data-report-nss-75th-round-july-2017-june-2018-schedule-250social-consumption-health.
- 12. Panikar, PGK and Soman CR. Health Status of Kerala, the Paradox of Economic

- Backwardness and Health Development. Centre for Development Studies, Trivandrum, Kerala, India. p39.1984.
- 13. Kutty, V. R. Historical analysis of the development of health care facilities in Kerala State, India. Health policy and planning, 15(1), 103–109.2010.
- 14. Nair, Manju S. Kerala Model of Health: Features, Challenges and the New Initiatives in Revisiting the Kerala Model of Health Manju S Nair (Ed.) 2021 Kaplaz Publications, New Delhi pp.49-68.
- Nair, Manju S. and Naidu, N. Public Health Interventions by Local Governments in Kerala: An Effectiveness Analysis. BMJ Global Health.2016.1:A19.

How to cite this article: Nandana Prakash, Manju S. Nair. Patterns and determinants of availing inpatient medical care in Kerala across public and private hospitals. *Int J Health Sci Res.* 2023; 13(3):306-315.

DOI: https://doi.org/10.52403/ijhsr.20230334
