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Public Perception Of Service Quality On Public Healthcare Sector In Kerala

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Abstract
The public health sector in Kerala stands out as a peculiar and exemplary model within India, setting high standards for the healthcare system. Kerala's commitment to healthcare is reflected in its exceptional performance in various health indicators, surpassing the national average. The focus on primary healthcare and preventive measures has resulted in remarkable outcomes, ensuring that healthcare services reach even the most remote areas. The comprehensive network of primary healthcare centers, coupled with the presence of well-equipped secondary and tertiary care centers, ensures people have access to quality healthcare at all levels. The government of Kerala has been initiating various health supporting schemes from time to time in order to improve infrastructure, enhance quality, and provide financial protection for critical illnesses. Furthermore, the state's emphasis on education and high literacy rates has contributed to a skilled healthcare workforce that upholds the highest standards of patient care. Exhibiting a commitment to accessibility, quality, and the overall well-being of its population, Kerala's public health sector serves as a shining example for the rest of the country. The public healthcare system in Kerala has been widely acclaimed for its achievements and serves as a model for other states and countries. The paper investigates how the policy of the state government and the involvement of public service quality influences the performance of Government Hospitals in Kerala.

Keywords: Kerala, Health Sector, Health Policy, Public Involvement, Performance service quality in government Hospitals.

1. Introduction

At the outset of the study, it is imperative to list out certain scientific studies to read the pulse of the public health sector of the state. It is true that such an achievement has been obtained by the public health care sector through its focus on accessibility, quality, and comprehensive healthcare services. Kerala has made significant strides in ensuring access to affordable healthcare for all its citizens through its committed efforts to strengthen and improve the public health care infrastructure. The state health policy statement has invariably asserted a clear vision of public health. It is also clear from the approach of the government that the health of the people is an invariable asset, and it is the duty of the government to protect the health of the people through the establishment of intensive and extensive public health initiatives. This can be reflected in the health care sector with the presence of a blend of primary, secondary, and tertiary healthcare centers. The state vision of health is also extended to provide a strong commitment to preventive healthcare and health awareness campaigns. All these showcase Kerala's public healthcare system as a shining model for other regions.
The healthcare system of the state has been designed in such a manner to cater to the health and medical needs of the people on a three-tire arrangement. The expediency of the model has been tested, and it has proven its credentials to stand as a health protection shield of the state. The functioning of the model in primary, secondary and tertiary health centers is explained as follows:

The core of Kerala's public healthcare system is its primary healthcare centers (PHCs) and sub-centers, strategically placed throughout the state to provide primary healthcare services to its residents. These PHCs serve as the initial point of contact for individuals seeking healthcare, offering various services such as general consultations, preventive care, maternal and child health services, family planning, immunizations, and basic diagnostic tests. The state government has continuously worked to enhance these primary healthcare facilities by investing in infrastructure, ensuring the availability of essential medications and equipment, and improving the skills and knowledge of healthcare professionals. Kerala has also established a robust secondary and tertiary healthcare facility network to cater to more complex medical needs. Community health centers (CHCs) and taluk hospitals offer specialized services; emergency care, specialist consultations, diagnostic tests, and minor surgical procedures. Additionally, the state boasts several medical colleges and specialty hospitals that provide advanced tertiary care, including specialized treatments, major surgeries, and comprehensive care for complex diseases and conditions. This integration of secondary and tertiary facilities ensures that individuals have access to a continuum of care, from basic healthcare needs to specialized treatments.

Recognising the importance of health insurance coverage, the Kerala government has implemented the Karunya Health Scheme, which provides financial protection against medical expenses for economically disadvantaged individuals and families. The scheme covers critical illnesses and surgical treatments, ensuring that even those with limited financial means can access quality healthcare without facing the burden of high healthcare costs. This initiative has played a vital

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role in expanding healthcare access and reducing financial barriers to care. Kerala's public healthcare system also places a strong emphasis on preventive healthcare and public health campaigns. The state government has launched various initiatives to promote health awareness, focusing on sanitation, hygiene, nutrition, immunizations, and the prevention and control of communicable diseases. These campaigns aim to educate and empower individuals to adopt healthy lifestyles and engage in preventive practices, thereby reducing the incidence of diseases and promoting overall well-being. To support the public healthcare system, Kerala has invested in developing a skilled healthcare workforce. The state boasts a high literacy rate and a significant number of doctors, nurses, and paramedical staff. Medical colleges and institutes provide comprehensive training and education to healthcare professionals, ensuring their competence and readiness to deliver quality care.

Kerala's public healthcare system continues to evolve and adapt to emerging challenges and changing healthcare needs. The state government's commitment to accessible and quality healthcare, along with its focus on preventive healthcare, health insurance, and human resources development, has earned Kerala a reputation as a leader in public healthcare. The successes achieved in Kerala's healthcare system serve as a model for other regions to emulate, demonstrating the potential for effective and comprehensive public healthcare delivery.

2. The characteristics of the Kerala Public Health Sector can be described as follows:

1. The notable characteristics of the state public healthcare sector are to ensure accessibility, provide quality medical services, and project a preventive healthcare culture through well-established government initiatives.

2. The state has made a committed effort to establish an extensive network of primary healthcare centers and sub-centres which serve as the first point of contact for basic healthcare needs. These centers are strategically located across rural and urban areas to provide access to essential healthcare services. These services include general consultations, preventive care, maternal and child health services, family planning and immunisations.

3. The next level of healthcare services, viz. secondary and tertiary healthcare services, are provided through a robust system of well-established public hospitals. The secondary tier consists of taluk and district hospitals that provide advanced medical services, emergency care, specialist consultation, diagnostic tests, and minor surgical procedures. The tertiary healthcare centers are in the form of medical colleges and specialty hospitals that offer specialised treatment, major surgeries and comprehensive care for complex diseases and conditions.

4. The state has given the significant emphasis on preventive healthcare, which is implemented through various initiatives and awareness programmes to promote healthy lifestyles, disease prevention and control. These programmes also address sanitation, hygiene, nutrition, immunisation, and prevention and control of communicable diseases.

5. The government initiatives to strengthen the public healthcare sector are commendable. The very notable present schemes in this respect are the “Ardram mission” and the Karunya health scheme. The Ardram mission aims to improve the healthcare facility, enhance service quality, and increase accessibility in public hospitals through investment in infrastructure, and equipment, and ensuring the availability of drugs and supplies. The Karunya health scheme provides health insurance coverage for critical illness and surgical treatment, ensuring financial protection for economically disadvantaged sections.

6. Another remarkable achievement is the skilled healthcare workforce in the state, comprising doctors, nurses, and paramedical personnel. The continuous professional development programme ensures that healthcare workers are updated with the latest advancement in medical science and technology.

Margo Stevenson Rowan (2007) provided an insightful exposition on the attributes of the public healthcare system, recognizing the interconnections within these healthcare sectors. The study's objective was to offer a forward-thinking policy perspective on the integration of public health functions into primary care. Additionally, in 2017, Nobuyuki K. Atsuda delved into the distinctive features of public health centers (PHCs) and health centers (HCs) managed by city/ town/village governments in Japan.

3. Objectives of the study

1. To identify the factors influencing the service quality performance of government hospitals.
2. To analyse the direct and indirect effects of State Health Policy on the performance of public healthcare system.
3. To evaluate the relationship between state health policy and public involvement in the performance of the public healthcare system.

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4. Theoretical background and research hypotheses

The study focuses on exploring the public perception of service quality in the public healthcare sector in Kerala, drawing insights from a comprehensive literature review. V. Ramankutty (2000) assesses that the active role of the state government is a key factor in the expansion of healthcare facilities. The author has mentioned the state government should take the lead in setting the priorities in the health sector and formulating the necessary policies to achieve the goals. Carolina Bergerum (2022) was to explore leaders' and managers' experiences and beliefs about organising and managing quality improvement involving patients and / or patient representatives (public). Akhila Johnson (2019) conducted an assessment highlighting Kerala's remarkable accomplishment in the healthcare sector, serving as a beacon of inspiration for the entire nation. In the study, she observed that Kerala has distinguished itself by attaining superior health indicators, thanks to its enhanced primary healthcare system. G. Ajai Krishnan and Athira K. Nair (2021) affirmed that Kerala's healthcare system serves as a role model for other Indian states and has achieved outcomes comparable to those of developed countries.

The literature reviews have identified three key variables that are pivotal to understanding and evaluating the dynamics of public healthcare in the state: State Health Policy, Public Involvement in the Health Sector, and the Performance Quality of Government Hospitals.

State Health Policy (SHP)

As we know, the democratic pattern of governance in the systematic and organised community essentially consists of the legislature, executive and judiciary. A democratic government is expected to govern the people by reflecting their will and aspirations for a welfare society. Thus, government policy should have a vision and mission ingrained into the requirements and well-being of the people. Government policy is said to be a declaration of government political will and intention in the form of activities and plans relating to a particular cause. The government policy includes a cause-effect continuum to address the people's demands. Public problems usually originate in various stages and thus they require different policy measures. The most important among them is the fiscal policy which addresses taxes, subsidies, regulations, and social welfare measures. These policies are applicable at all levels of the country, such as national, state, and local levels. Also, the government has to mobilise enough revenue to spend on various projects and activities. It is learned that the present government's mistakes focus on a two-dimensional policy approach. On one hand, government policy intends to strengthen the economic edifies of the state by increasing productivity in the agriculture, manufacturing, and service sectors. On the other hand, it focuses on social welfare measures by investing long-term capital in the social sector. The government policy declares that it needs priority treatment in the education and health sectors to strengthen the potential of demographic dividend.

Subitha Lakshminarayanan (2011) defining health objectives and setting targets stands out as a prominent strategy in guiding the actions and initiatives of the health sector. Thus, there is a very transparent and effective public healthcare policy addressing the healthcare requirements of the public through public investment. That is evident from the features of the public health sector in the state, which exhibits several distinguishing characteristics. This can be seen in the accessibility, quality, preventive focus, and government initiatives in the sector. Strong emphasis is already given to the three tiers of the public healthcare system, such as primary, secondary, and tertiary healthcare facilities. Innovative programmes are linked with moulding a skilled healthcare workforce. In this way, the public healthcare sector in the state delivers its services in a quality oriented and effective manner to seal public interest.

Public Involvement in Health Sector (PIH)

Public involvement is a deliberate attempt of the people to engage in the implementation of government activities. Public involvement activities are themed as measures for ensuring good governance in challenging social fields such as education and healthcare. The concept of public involvement implies important practical functions in the guidance evaluations and translation of public involvement activities in the research realm; it is also considered a collective agency. Collective agency is one property of public involvement where the public, as a small group of participants, deliberately engages with public projects. It also addresses a prominent theoretical approach to a collective agent of one specific kind of social entity and demonstrates how this approach can be supplied in various public projects (Collective agency and the concept of 'public' in public involvement: A Practice-Oriented Analysis, Tobias Hainz and HL VMC Medical ethics Article-I, 2016, 6 January 2016). Another concept of public involvement in societal activity is the people representation theory. This theory focuses on the fact that the people in a locality are interested in being involved in public activity only if they also benefit directly or indirectly. Public involvement is thus governed by the principles of the concepts of public involvement and people representation theory. Including public perspectives in policymaking is seen as a strategy to rebuild trust, enhance accountability, and ensure cost-effective decision-making within healthcare systems (Church et al., 2002). The people's involvement in the public health system in Kerala is viewed and discussed with the support of these principles. It is a fact that the local people are actively involved in the conduct of healthcare activity in all three tires. It is learned that people's monitoring committees function in all government hospitals with the active support of the local self-government (LSG). The elected members of local self-governments work as official functionaries in the monitoring

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committee along with the government officials and representatives of the local people. The monitoring committee is termed as hospital development committee in certain localities, especially in the institution-building stage. It also supervises the functioning of hospitals in the quality and quantity dimensions. The committee will have a direct link with the higher government authorities.

Performance Quality of Government Hospitals (PGH)
Performance and its quality are the critical factors that determine the success of an organisation. It includes setting expected standards, analysing and reporting progress, performance measurement, and measures of quality improvement.

The performance quality of government hospitals greatly hinges on government policies and public interventions. Well-crafted policies can optimize resource allocation, infrastructure development, and healthcare quality. Public involvement ensures feedback, accountability, and community support, which can lead to more efficient and effective government-run healthcare institutions, ultimately benefiting the public's health.

5. Research hypotheses

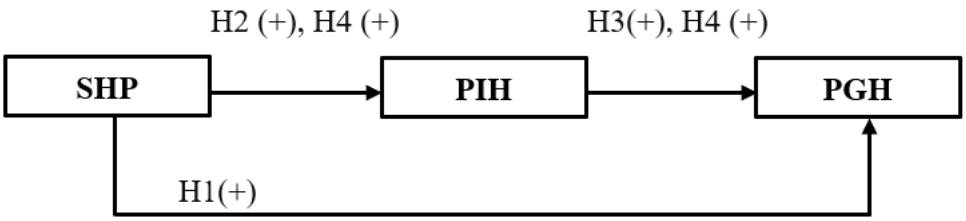
H1: The formulation and implementation of State Health Policy (SHP) has a positive and direct effect on Public Involvement in the Health Sector (PIH)

H2: State Health Policy (SHP) has a positive and direct effect on the Performance quality of Government Hospitals (PGH)

H3: Public Involvement in the Health Sector (PIH) has a positive direct effect on the Performance quality of Government Hospitals (PGH)

H4: State Health Policy (SHP) has a positive and indirect effect on the Performance quality of Government Hospitals (PGH) through Public Involvement in the Health Sector (PIH).
Figure 1 represents the structural path model that specifies the hypothesised relationship between SHP, PIH and PGH.

Figure 1. Relationship between SHP, PIH and PGH - the structural path model



Note: Plus (+) sign indicates the positive relationship among the constructs.

6. Research methodology

The research methodology has developed a conceptual model of the performance quality of government hospitals on the impact of two constructs of state health policy and public involvement. Their interrelationship is depicted in the following table:

Constructs	Factors / Measurement items	Abbreviations
State Health Policy (SHP)	Supportive Policy on Public Healthcare system	SHP1
	Funding support to the Public Healthcare system	SHP2
	Availability of medical and paramedical personnel	SHP3
	Availability of qualified staff	SHP4
	Provision of specialty services and equipment	SHP5
Public Involvement in Health Sector (PIH)	Positive Attitude of the public towards public healthcare	PIH1
	Public demand and response on public healthcare	PIH2
	Social watch on public healthcare	PIH3
Performance of Quality Service in Government Hospitals (PGH)	Level of commitment at the health Centre	PGH1
	Level of benefits received from the Centre	PGH2
	Reliable Treatment information and advice	PGH3
	Level of relief on treatments	PGH4
	Clean and calm environment	PGH5

All the items of the constructs SHP, PIH and PGH are measured using a five-point Likert scale ranging from Very Low (scale weightage value =1) to Very High (scale weightage value =5) based on the perceptions of respondents.

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6.1. Data collection and Sample

The unit of the study is the residents, around the vicinity and operational jurisdiction of government hospitals. The population of the study is the public of the state, comprising 3.3 crores. For the field survey, the geographical area of the state has been classified into three zones based on historical and social characteristics. One district from each zone has been randomly selected. Kozhikode has been selected from the northern zone, which comprises the districts of Kasargod, Kannur, Kozhikode, Wayanad and Malappuram Thrissur district has been selected from the central zone where the districts included are Thrissur, Palakkad, Ernakulam, Idukki and Kottayam. Among the districts in the southern zone, Thiruvananthapuram has been chosen from 4 districts: Thiruvananthapuram, Kollam, Alappuzha and Pathanamthitta.

One Medical college, two Districts / Taluk hospitals and three Community health centers have been selected for the study from each zone. Thus, the total government hospital covered by the survey includes 3 medical colleges, 6 district / Taluk hospitals and 9 community health centers across the state. 50 respondents from each medical college, 15 local people from each district / Taluk hospital and 10 residents from each community medical center were selected by random sampling. Thus, a total sample consisting of 330 selected by a multi-stage stratified random sampling technique and structure questionnaire were used to gather the information. Among them, 305 participants effectively responded to the survey. This sample size is reasonably adequate for statistical data analysis (Andy Field, 2009; Ranjit Kumar, 2009; Rick and Paul, 2004; Crimp and Wright, 1995) including multivariate data analysis using Structural Equation Modeling (Hair, Black, Babin and Anderson, 2017). The respondents' demographic profile, specifically, age groups, marital status, gender, education, and income are presented in Table 1.

Table 1. *Sample characteristics*

Demographic Variables		**Frequency**	**Percentage**
Age Group	<25 years	37	12.13
	25 - 35 years	49	16.07
	35 - 45 years	87	28.52
	45 - 55 years	82	26.89
	>= 55 years	50	16.39
	Total	305	100
Marital Status	Married	133	43.61
	Unmarried	172	56.39
	Total	305	100
Gender	Male	159	52.13
	Female	146	47.87
	Total	305	100
Education, Highest Level of Achievement	Degree Level and Above	48	15.74
	12^{th} Standard	69	22.62
	10^{th} Standard (Matriculate)	85	27.87
	Below 10^{th} Standard (Non-Matriculate)	103	33.77
	Total	305	100
Annual Income	Low (<= Rs 100000)	135	44.26
	Lower Middle (Rs 100000 to Rs 500000)	78	25.57
	Upper Middle (Rs 500000 to Rs 1000000)	69	22.62
	High (>= Rs 1000000)	23	7.54
	Total	305	100

Source: Primary Survey.

6.2. Reliability and validity

The reliability of the constructs, namely State Health Policy (SHP), Public Involvement in the Health Sector (PIH) and performance quality of Government Hospitals (PGH) is assessed by computing Cronbach's alpha coefficients. The computed alpha values are 0.897, 0.814 and 0.918 respectively, for SHP, PIH and PGH. All these values are greater than 0.7 and therefore indicate strong evidence for reliability as suggested by Nunnally (1978). The criterion validity of the constructs is evaluated employing item-to-total correlation coefficients which are more than 0.622. A correlation value greater than 0.622 indicates the acceptable limit of good criterion validity (Kerlinger, 1999). The discriminant validity and convergent validity of the constructs SHP, PIH and PGH proposed in the structural model were verified using Confirmatory Factor Analysis (CFA). The factor loadings obtained in CFA results for all the items are more than 0.5, which ensures an acceptable level of convergent validity (Hair et al. 2017; Liu and Li, 2010; Campbell and Fiske, 1959). The item-wise factor loadings of the constructs SHP, PIH and PGH are statistically significant at p-value <0.001. The values of the confirmatory factor analysis, specifically, Factor loading, Cronbach's Alpha Coefficient, Average Variance Extracted (AVE) and Composite Reliability are shown in Table 2.

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Table 2. *Values of confirmatory factor analysis*

Constructs	Factors	Factor loadings	Cronbach's Alpha	AVE	Composite Reliability
State Health Policy (SHP)	Supportive Policy on Public Healthcare System (SHP1)	0.84	0.897	0.640	0.898
	Funding support to the Public Healthcare System (SHP2)	0.77			
	Availability of medical and paramedical personnel (SHP3)	0.74			
	Availability of qualified staff (SHP4)	0.75			
	Provision of specialty services and equipment (SHP5)	0.89			
Public Involvement in the Health Sector (PIH)	Positive Attitude of the public towards public healthcare (PIH1)	0.81	0.814	0.598	0.816
	Public demand and response on public healthcare (PIH2)	0.71			
	Social watch on public healthcare (PIH3)	0.79			
Performance Quality of the Government Hospitals (PGH)	Level of commitment at the health Centre (PGH1)	0.81	0.918	0.696	0.919
	Level of benefits received from the Centre (PGH2)	0.88			
	Reliable Treatment information and advice (PGH3)	0.80			
	Level of relief on treatments (PGH4)	0.81			
	Clean and calm environment (PGH5)	0.87			

The square roots of AVE with inter correlation coefficients of constructs are shown in the Table 3.

Table 3. ***Square*** *roots of AVE with inter correlation of constructs*

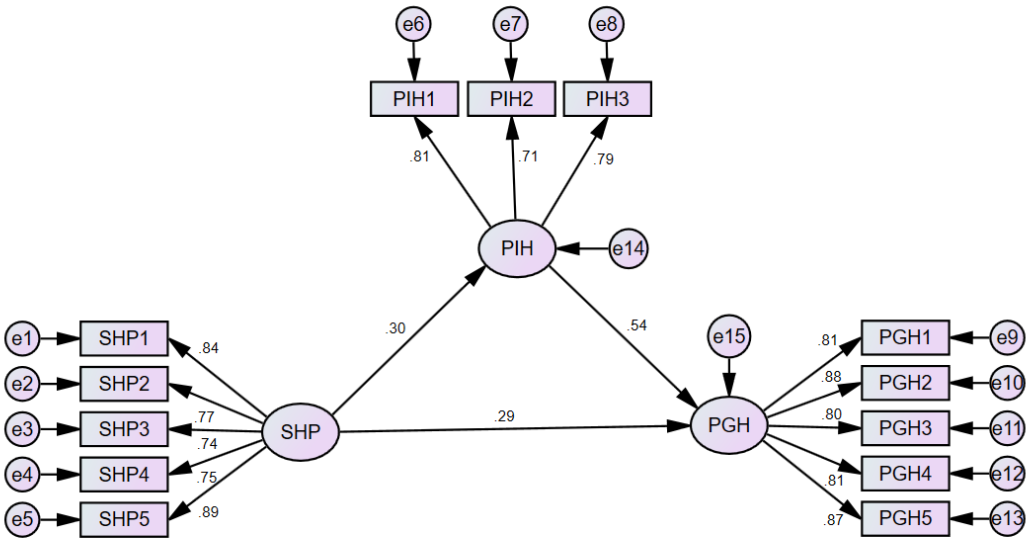
Constructs	PGH	PIH	SHP
PGH	(0.834)		
PIH	0.631	(0.773)	
SHP	0.451	0.303	(0.800)

Note: Values in brackets are square roots of AVE scores.
The values shown in brackets are the square roots of AVE scores and are greater than the inter correlation values between the constructs, agree with the criterion for discriminant validityas suggested by Fornell and Larcker (1981).

7. Results

The suggested structural path model and the hypotheses proposed in this study were tested by applying Structural Equation Modeling (SEM) with the Maximum Likelihood Method. The SEM analysis was done using the software AMOS Version 20. The results show that the exogenous constructs of State Health Policy (SHP) and Public Involvement in the Health Sector (PIH) positively influence the endogenous construct of Performance quality of the Government Hospitals (PGH). The model establishes the positive indirect effect of SHP on PGH through PIH. The effects are statistically significant. Figure 2 illustrates the analysis outcome of Structural Equation Modeling.

Figure 2. Analysis results of structural model



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Overall model fit indices
The model fit indices, specifically, Absolute fit indices, Incremental fit indices and Parsimonious fit indices are considered in this study to analyse the overall model fit.

Absolute fit indices
In the category of the absolute fit indices, the Adjusted Goodness of Fit Index (AGFI) and Root Mean Square Error of Approximation (RMSEA) as suggested by Hair, Anderson, Tatham and Black (1998) are considered in the study to evaluate the model accuracy. The values obtained for AGFI and RMSEA are 0.930 (> 0.9) and 0.042(<0.08) respectively.

Incremental fit indices
The Normed Fit Index (NFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Relative Fit Index (RFI) under the category of incremental fit measures are considered in the study for the validation of the model as suggested by Bagozzi and Yi (1988). The estimates are NFI (0.962, >0.9), CFI (0.986, >0.9), IFI (0.986, >0.9), and RFI (0.952, >0.9).

Parsimonious fit indices
In the case of the Parsimonious fit measures, the authors considered the Parsimony Normed Fit Index (PNFI) and Parsimony Goodness of Fit Index (PGFI) for the model assessment, as suggested by Mulaik, James, Altine, Bennett, Lind and Stilwell (1989). The computed values are PNFI (0.765, >0.5) and PGFI (0.649, >0.5).

The estimated values of AGFI, NFI, and CFI denote a good level of model fit. The studies of Bentler (1990), Balla and McDonald (1988), and Cole (1987) confirmed that the values of fit indices CFI, NFI, AFFI and GFI which are more than 0.9, imply a sound level of model accuracy. They suggest an acceptable criterion of fit indices such that the value of AGFI is greater than 0.9, GFI is greater than 0.85, and NFI is greater than 0.9. The structural model developed in our research shows a reasonably good fit with the data and matches the threshold values suggested in the literature.

The Table 4 portrays the comprehensive narration of various fit indices obtained in the analysis of SEM.

Table 4. *Overall model fit indices*

Measures	**Indicators**
Absolute fit measures	χ^2 with 62 degrees of freedom = 95.687(p = 0.000)
	Goodness of fit index (GFI) = 0.952
	Root mean square error of approximation (RMSEA) = 0.042
	Expected cross-validation index (ECVI) = 0.506
	ECVI for saturated model = 0.599
	ECVI for independence model = 8.359
	Adjusted goodness of fit index (AGFI) = 0.930
Incremental fit measures	Normed fit index (NFI) = 0.962
	Comparative fit index (CFI) = 0.986
	Incremental fit index (IFI) = 0.986
	Relative fit index (RFI) = 0.952
Parsimonious fit measures	Parsimony normed fit index (PNFI) = 0.765
	Parsimony goodness of fit index (PGFI) = 0.649

The value of the fraction, chi-square statistic (CMIN) to degrees of freedom (DF)less than three indicates a suitable fit of the model (Kline, 1998). The studies of Marsh and Hocevar (1985) suggest that a ratio less than five indicates a moderate fit. The ratio of CMIN to DF obtained from the structural model proposed in this research is 1.543. It confirms an adequate level of model fit with the data. The hypotheses test results and standardised structural coefficients are shown in Table 5.

Table 5. Hypotheses test results and standardized structural coefficients.

Independent variables	**Dependent variable**	**Effects**	**Standardised effect**	**SE**	**CR**	**P value**	**Hypotheses supported**
SHP	PIH	Direct	0.303	0.064	4.617	0.000	H1: (SHP- PIH)
SHP	PGH	Direct	0.286	0.050	5.236	0.000	H2: (SHP - PGH)
PIH	PGH	Direct	0.545	0.060	8.426	0.000	H3: (PIH - PGH)
SHP	PGH	Indirect (through PIH)	0.165				H4: (SHP - PIH - PGH)

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Mediation effects

The *Sobel test* as suggested by MacKinnon, Warsi, and Dwyer (1995) was used to confirm the mediation effect of the construct PIH in the relationship between SHP and PGH. It is observed from the test results that the unstandardized path coefficient for the path SHP –PIH is 0.296 with a standard error of 0.064. The unstandardized path coefficient for the path PIH –PGH is 0.506 with a standard error of 0.060. The mediation effect of PIH is statistically significant, with Sobel Test Statistic: 4.055, $p<0.05$.

8. Discussions

The results established that SHP and PIH are influential dimensions in the Performance quality of Government Hospitals in Kerala. The research further ascertains the mediation effect of PIH in the relationship between SHP and PGH. The statistically significant results of SEM analysis proved the reality of the following hypotheses.

H1: State Health Policy (SHP) has a positive direct effect on Public Involvement in the Health Sector (PIH)
H2: State Health Policy (SHP) has a positive direct effect on the Performance quality of Government Hospitals (PGH)
H3: Public Involvement in the Health Sector (PIH) has a positive direct effect on the Performance quality of Government Hospitals (PGH)
H4: State Health Policy (SHP) has a positive indirect effect on the Performance quality of Government Hospitals (PGH) through Public Involvement in the Health Sector (PIH).

Social Implications

The study highlights the exemplary public health sector in Kerala and discusses its policy implications and the positive involvement of the public in influencing the performance quality of Government Hospitals. The study emphasised the importance of government commitment, accessibility, education, and community participation in achieving better healthcare outcomes and the overall well-being of a population. It will serve as a valuable reference for policymakers worldwide and healthcare leaders seeking to improve their healthcare systems.

9. Conclusion

The findings of this study provide valuable insights into the complex interplay between State Health Policy (SHP) and Public Involvement in the Health Sector (PIH) on the Performance quality of Government Hospitals (PGH).

The results unequivocally demonstrate a positive relationship between the exogenous constructs, State Health Policy (SHP), and Public Involvement in the Health Sector (PIH), with the endogenous construct, Performance quality of Government Hospitals (PGH). These results underscore the pivotal role that state-level health policies and active public involvement play in shaping the performance quality of Government Hospitals.

Furthermore, the model illuminates a significant positive indirect effect of State Health Policy (SHP) on the performance quality of Government Hospitals (PGH) through Public Participation in Health (PIH). This finding suggests that the impact of state health policies on hospital performance is partially driven by the level of public engagement in the healthcare sector. In essence, it highlights the importance of fostering a strong partnership between the government's policy framework and the active participation of the public in healthcare decision-making and advocacy.

10. Limitations and Scope for Future Research

The study's findings are contingent on the quality and reliability of the data used. The accuracy and comprehensiveness of the data source, as well as potential biases or measurement errors, may have influenced the results. The findings are based on data available at the time of analysis (AMOS Version 20). As healthcare systems and policies evolve, the relevance and applicability of the model may change. Future research should consider the temporal dynamics of healthcare policy and public involvement. The study focuses on a specific institution selected but different healthcare institutions, cultural contexts, and governance structures could yield different results. The study establishes associations between the variables, it may not fully address issues of endogeneity or establish causality. Future research could explore more complex models or additional variables.

Future research can benefit from longitudinal data analysis to track changes in state health policy, public involvement, and hospital performance over time. This would provide a more dynamic perspective on the relationships explored in the study. A comparative study across different regions or countries can help determine the extent to which the relationships observed in this study hold in diverse cultural and healthcare system contexts. Future research could investigate potential mediating and moderating variables that may enhance or mitigate the effects observed in this study. While this study provides valuable insights into the relationships between state health policy, public involvement, and hospital performance, it is important to recognize its limitations and consider avenues for future research. Addressing these limitations and expanding the scope of inquiry can contribute to a more comprehensive understanding of how healthcare systems can be optimised for better public health outcomes.

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References

1. Akhila Johnson (2019). An evaluation of primary health care system in Kerala https://www.researchgate.net/publication/360473401.
2. G. Ajai Krishnan, Athira K. Nair (2021) Primary Health-Care Innovations with Superior Allusion to Family Health Centers: Indian Journal of Community Medicine. March 1, 2021, IP: 117.222.146.11.
3. Margo Stevenson Rowan (2007). Integrating Public Health and Primary Care: HEALTHCARE POLICY Vol.3 No.1, 2007.
4. Choi, K. S., Lee, H., Kim, C., & Lee, S. (2005). The service quality dimensions and patient satisfaction relationships in South Korea: comparisons across gender, age and types of service. Journal of Services Marketing, 19(3), 140–149.
5. Donabedian, A.(2005). Evaluating the Quality of Medical Care. The Milbank Quarterly, 83(4), 691–729.
6. Lim, P. C. & Tang, N. K. H. (2000). A study of patients' expectations and satisfaction in Singapore hospitals. International Journal of Health Care Quality Assurance, 13(7), 290 - 299.
7. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2017). Multivariate Data Analysis. India: Pearson India Education Services Pvt. Ltd.
8. Church, J., Saunders, D., Wanke, M., Pong, R., Spooner, C., and Dorgan, M. (2002), 'Citizen participation in health decision-making: past experience and future prospects', Journal of Public Health Policy, 23:12-32.
9. Tobias Hainz and HL (2016). Collective agency and the concept of 'public' in public involvement: A Practice-Oriented Analysis, VMC Medical ethics Article-I, 2016, 6 January 2016, 1-14.
10. Subitha Lakshminarayanan (2011). Role of government in public health: Current scenario in India and future scope, Journal of Family and Community Medicine, Vol 18, Issue 1, 26-30.
11. Nunnally, J. C. (1978). *Psychometric Theory, (2nd ed.).* New York: McGraw-Hill.
12. Kerlinger, F. N. (1999). Foundations of Behavioral Research (2nd ed.). New York: Holt Rinehart and Winston, Inc.
13. Liu, Y. & Li, H. (2010). Mobile internet diffusion in China: an empirical study. Industrial Management and Data Systems, 110(3), 309-24.
14. Campbell, D. T. & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychology Bulletin, 53, 81-105.
15. Claes Fornell & David F. Larcker. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, 18(1), 39-50. doi: 10.2307/3151312.
16. Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (1998). Multivariate Data Analysis. Englewood Cliffs, NJ: Prentice-Hall.
17. Mulaik, S. A., James, L. R., Van Altine, J., Bennett, N., Lind, S. & Stilwell, C. D. (1989). Evaluation of goodness-of-fit indices for structural equation models. Psychological Bulletin, 105, 430-45.
18. Bentler P. M. (1990). Comparative fit indexes in structural models. Psychological Bulletin, 107(2), 238–246. doi: 10.1037/0033-2909.107.2.238.
19. Marsh H. W., Balla J. R., & McDonald R. P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: the effect of sample size. Psychological Bulletin, 103, 391–410. doi: 10.1037/0033-2909.103.3.391.
20. Cole D. A. (1987). Utility of confirmatory factor analysis in test validation research. Journal of Consulting and Clinical Psychology, 55(4), 584–594. doi: 10.1037/0022-006X.55.4.584.
21. Kline R. B. (1998). Principles and practice of structural equation modeling. NY: Guilford Press.
22. Marsh H. W., & Hocevar D. (1985). Application of confirmatory factor analysis to the study ofMarsh and Hocevar (1985)
23. MacKinnon D. P., Warsi G., & H. Dwyer, James. (1995). A simulation study of mediated effect measures. Multivariate behavioral research, 30, 41. doi: 10.1207/s15327906mbr3001_3.
24. Andy Field. (2009). Discovering Statistics Using SPSS (3rd ed.). New Delhi: Sage Publications India Pvt. Ltd.
25. Ranjit Kumar. (2009). Research Methodology – A step by step guide for beginners (2nd ed.). New Delhi: Dorling Kindersley India Pvt. Ltd.
26. Bagozzi, R. P. & Yi, Y. (1988). On the evaluation of structural equation models. Academy of Marketing Science, 16, 76-94.
27. Rick C. Farr & Paul R. Timm. (2004). Business Research: An Informal Guide. New Delhi: Viva Books Private Limited.
28. Crimp M. & Wright L. T. (1995). The marketing research process (4th ed.). London: Prentice Hall.
29. Eurobarometer qualitative study on patient involvement in healthcare. European Commission website; 2012. https://ec.europa.eu/eip/ageing/library/eurobarometer-qualitative-study-patient-involvement-healthcare _ en
30. Fulop N, Ramsay A. How organizations contribute to improving the quality of healthcare. BMJ 2019;365: l1773. doi: 10.1136/ bmj.l1773.
31. Scholtes B, Breinbauer M, Rinnenburger M. et al. Hospital practices for the implementation of patient partnership in a multi-national European region. Eur J Public Health 2020;31(1):73–9. doi: 10.1093/eurpub/ckaa 153 .
32. Rozenblum R, Lisby M, Hockey PM, et al. The patient satisfaction chasm: the gap between hospital management and frontline clinicians. BMJ Qual af 2013;22:242–50. doi: 10.1136/bmjqs- 2012- 001045 .

33. Batalden P. Getting more health from healthcare: quality improvement must acknowledge patient coproduction . an essay by Paul Batalden. BMJ 2018;362: k3617. doi: 10.1136/bmj.k3617 .
34. Measuring what matters: The patient-reported indicator surveys. Patientreported indicators for assessing health system performance. [Status Report]. The OECD Health Committee website. http://www.oecd.org/health/health-systems/Measuring-what-matters-the-Patient-Reported
35. Indicator- Surveys.pdf. Accessed November 1, 202.Groene O, Sunol R, Klazinga NS, et al. Involvement of patients or their representatives in quality management functions in EU hospitals: implementation and impact on patient-centred care strategies. Int J Qual Health Care 2014;26(S1):81–91. doi: 10.1093/intqhc/ mzu022 .
36. Panikar PGK, Soman CR. Health Status of Kerala, the Paradox of Economic Backwardness and Health Development. Trivandrum: Centre for Development Studies, 1984: 39.
37. Azarudeen, Mohamed & Mohan Kumar, Buvnesh Kumar &Logaraj, M. & Ramraj, Balaji. (2019). A study on impact of training programme on knowledge of maternal health care among ASHA workers in a tribal population of Tamil Nadu. International Journal of Community Medicine and Public Health. 6. 1147. 10.18203 / 2394-6040.ijcmph20190601
38. Pal, Jayita& Roy, Suvendu & Nandi, Swagata & Satapathy, Sankalpa. (2019). Assessment of knowledge and practices of ASHA workers related to maternal-child health and their performance affecting factors: A mixed method study in Deganga block, North 24 parganas district, West Bengal, India. International Journal of Research in Medical Sciences. 7. 3672. 10.18203/2320-6012.ijrms20194291.
39. Pandave HT, Pandave TK. Primary health care system in India: Evolution and challenges. Int J. Health System Disaster Management 2013;1:125-8.
40. British Columbia Health Communities, Ministry of Health. Resource guide for local government. Vancouver, BC, Canada: MoH, 2013. ment in Nigeria: a case study of Ibadan South West Local Government. Int J Health Care Res. 2020;5:327–337.
41. Varatharajan D, Thankappan R, Jayapalan S. Assessing the performance of primary health centers under decentralized government in Kerala, India. Health Policy Plan 2004;19(1):41–5.
42. Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. European Journal of Operational Research, 2(6), 429–444.
43. Kannan, K. P., Thankappan, K. R., Ramankutty, V., & Aravindan, K. P. (1991). Health and Development in Rural Kerala: A study of the linkages between socioeconomic status and health status. Palakkad: Integrated Rural Technology Centre.
44. Chilingerian, J. A. (1995). Evaluating physician efficiency in hospitals: A multivariate analysis of best practices. European Journal of Operational Research, 80(3), 548–574.