

Managing Change in Healthcare Systems Policy and Healthcare Service Delivery System in India

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KEYWORDS ABSTRACT

Health, policy, In vitro diagnostics, Primary Healthcare Centres

Health is not just the absence of disease; it is a state of total physical, mental, and social well-being." The purposeful arrangement of individuals, organizations, and resources that provides healthcare services to the target population in need is known as the healthcare system. Around the world, there are as many different types of healthcare systems as there are civilizations, cultures, societies, and histories. This implies that a country must create its own healthcare system based on its requirements and available resources. An examination of the Indian health sector reveals the labour, difficulties, supply, demand, and necessary future research. In addition to the excellent work that is readily apparent, there are other areas that require development and attention. It is imperative that research of this kind be conducted to address the uncharted territory. The goal of this study is to examine potential workable remedies for the health-related problems. Additionally, the study attempts to solve the issues and create some framework for the health care system.

1. Introduction

The United Nations Organisation (UNO) has been actively involved in promoting and defending good health throughout the world since its founding. On April 7, 1948, the World Health Organisation (WHO) was established. We commemorate this day annually as World Health Day. A key component of overall quality of life is health. Every culture and community has a common concept of health [1]. There is no neighborhood where it is not evident that health is not a top priority. Three essential components of any thriving civilization are the economy, social harmony, and health. According to the United Nations Organisation (UNO, 1979), a nation's socioeconomic progress depends heavily on its state of health. It is well-documented that development and health are positively correlated. Over the past twenty years, emerging countries have prioritized infrastructure, technology, disease management, and health outcomes measured by mortality ratios [10]. The smooth operation of the many departments, hiring, information sharing across the healthcare network, effective resource utilisation to achieve targeted results, etc. are all components of healthcare management [17]. Better inpatient care, optimal resource utilisation, and increased workflow efficiency through automation and IT-enabled technology should be the main goals of healthcare administration in the public healthcare system [2]. A sizeable amount of any country's healthcare budget is allocated to drugs and other pharmaceutical products. Having said that, a large portion of the populace in poor countries lacks access to basic and necessary medications [13]. The World Health Organisation introduced the idea of "essential medicines" in 1977. One of the eight pillars of the primary healthcare efforts is essential medicine [3]. The successful implementation of the Health for All policy by any government is contingent upon its prioritisation of providing necessary medicines to the nation's impoverished populations [4].

Medical equipment that is dependable is crucial for providing accurate diagnosis and treatment of patients. The quality and delivery of healthcare have greatly improved because to modern medical equipment (Chaudhary and Kaul, 2014) [18]. Particularly important for patient prevention, diagnosis, treatment, and rehabilitation are health technologies and medical equipment [19]. A key factor in treatment selections is the findings of the diagnostic testing. Healthcare technology contributes to the modernization of healthcare, lowers treatment costs, eliminates the need for repeat diagnostic testing, and mechanises laborious processes throughout India [8]. The strategy suggests enhancing the public healthcare delivery system in an effort to foster community support and provide high-quality healthcare to the nation's weaker populations, such as the marginalised, the socially backward or excluded, the poor, the elderly, and the disabled [21]. The following seven significant policy reforms are suggested by the policy to reshape healthcare services: In primary care: Ensured thorough and focused treatment with solid ties to referral hospitals Purchasing in secondary and tertiary care should be outcome-based rather than input-oriented. In public hospitals, the emphasis should be on providing guaranteed free

diagnostic testing and emergency services to all citizens rather than on cost- and revenue-recovery. Promote target-based therapy in infrastructure and human resource development, and reach out to underserved communities. In the field of urban health, plan and take action to provide the urban poor with primary healthcare services. For the purpose of implementing national health programmes effectively, integration with all parties involved in the health systems is necessary. Regarding AYUSH services: A concerted attempt is being made to mainstream these services at every level of the healthcare system. An examination of the Indian health sector reveals the labour, difficulties, supply, demand, and necessary future research. In addition to the excellent work that is readily apparent, there are other areas that require development and attention. It is imperative that a research of this kind be conducted to address the uncharted territory.

2. Literature Review

A study conducted in [5] examined the characteristics and economic position of 166 migrant labourers in Kerala, comprising both unskilled and semiskilled labourers. According to Saikia et al., these migratory labourers put additional strain on the public healthcare system in urban areas and live in unsanitary conditions [15]. According to Saikia, India has not made the necessary progress in providing public healthcare services, even in spite of its economic growth. Regional differences remain a significant topic of concern, even though the National Rural Health Mission (NRHM) has made significant progress in building infrastructure in the public health sector. According to a study conducted in [6], which examined a number of government health programmes, government hospitals are finding it harder to compete with private hospitals since the top medical professionals, specialists, and teaching faculty have moved to the private sector in search of better working conditions, amenities, and pay. It is obvious that India needs to embark on a huge healthcare reform initiative. Government investment in healthcare must rise, paradigm shifts in health policy are required, infrastructure must be improved, and staff skill development and utilisation must be prioritised. India needs a quick change in policy because [7] claim that the country spends the least on healthcare overall in the world and that 70% of its rural residents lack access to basic amenities. The policies designed to help the rural poor are not reaching them at all, according to Munavali et al. This indicates that the government does not fully understand poverty, that patients are dissatisfied with the care they receive from private healthcare facilities, and that government healthcare facilities need to manage a complex system[9]. Thus, technology involvement is required in the management of the public healthcare arena, according to writers [16] [12]. The authors used telemedicine as an example, although it is still relatively new in rural India. IVD devices are becoming increasingly important in the diagnosis, treatment, and prevention of many serious illnesses in India and around the world. Healthcare professionals rely heavily on the IVD Industry to provide healthcare management and services [11].

There are a number of problems and hazards associated with using IVD technology to provide healthcare services in the public healthcare service arena when comparing the global and Indian healthcare scenarios [14]. The trend of better health outcomes seen in the majority of the world's countries where people are able to live longer, be healthier, and be productive for longer periods of time seems to be connected with innovation in medical technology and gadgets [20]. The average Indian, who predominantly uses the public healthcare system for their medical requirements, is said to still lack access to facilities in semi-urban and rural areas despite the IVD industry's tremendous expansion and advancement. The current study looks at a few problems and attempts to identify remedies, including,

3. To comprehend how people in rural India can access Primary Healthcare Centres (PHC) for medical care.
4. To examine the accessibility and availability of IVD (In vitro diagnostics) equipment and critical medical technology at PHCs.
5. To comprehend how often IVD instruments are used.
6. To evaluate the current condition of PHCs in India's healthcare delivery management system.
7. The goal of this study is to examine potential workable remedies for health-related problems.

Additionally, the study attempts to tackle the obstacles and create some framework for the overall health care system at every level.

8. Results and discussion

Table 1. Descriptive Statistics for Gender, Age, Educational Qualification, Income, Years of Stay

		Gender	Age	Educational Qualification	Income (INR)	Years of Stay
N	Valid	246	246	246	246	243
	Missing	0	0	0	0	3
Mean		1.46	2.34	2.04	3.13	3.22
Median		1.00	2.00	2.00	3.00	3.00
Std. Deviation		.499	.888	.861	.879	.927
Skewness		.181	.295	.347	-.868	-1.053
Std. Error of Skewness		.155	.155	.155	.155	.156
Kurtosis		-1.984	-.599	-.727	.130	.201
Std. Error of Kurtosis		.309	.309	.309	.309	.311

The responders are asked a few questions regarding the upkeep of records in the laboratory in order to gain an understanding of the documentation process in the lab. The respondents disclosed that they don't save records such as OEM manuals, calibration cycle reports, and equipment repair and replacement reports. Additionally, it is mentioned that there is nowhere to store the documents securely. Most PHCs do not conduct routine inspections of their laboratories or laboratory equipment. In PHCs, there is also a greater requirement for qualified technicians.

Table 2. Awareness of Health Schemes

Mode of Payment for the Healthcare Expenses		Possession of Health Insurance or Policy	
	Frequency		Frequency
OOP (Out of Pocket)	60	YES	21
Health Insurance Schemes	37	NO	225
Free of Cost	149	Total	246
Total	246		

In order to explain "how much diagnosis' strategy accounts for changes in Patients' service quality," or the percentage change of the independent variable in the dependent variable, a summary model has been created for the current study. F-test has been used to demonstrate the model's utility. ANOVA is used in this study to address the many comparisons that have been conducted. By doing hypothesis tests on two parameters at a time, this test avoids some of the issues that arise when analysing the parameters of many populations at once.

Table 3. ANOVA on Variables related to IVD Equipment's, Management and Control of Diseases

ANOVA					
		Sum of Squares	df	Mean Square	F
The laboratory tests that are referred to Private laboratory	Between Groups	.209	1	.209	5.158
	Within Groups	8.485	47	.181	
	Total	8.694	48		
The laboratory tests that are referred to Private laboratory	Between Groups	.002	1	.002	6.011
	Within Groups	9.549	47	.203	
	Total	9.551	48		
The laboratory tests that are referred to Private laboratory	Between Groups	.002	1	.002	6.008
	Within Groups	9.998	47	.213	
	Total	10.000	48		
All the equipments in the laboratory are in usable condition in all 365 days of the year	Between Groups	.000	1	.000	.
	Within Groups	.000	47	.000	
	Total	.000	48		
In the last six months, experienced any of the errors in your laboratory results	Between Groups	.150	1	.150	7.145
	Within Groups	48.667	47	1.035	
	Total	48.816	48		
	Between Groups	.076	1	.076	12.491

Fully satisfied with the medical equipments in the laboratory	Within Groups	7.271	47	.155	
	Total	7.347	48		36.81(7.36 Avg)

Analysis and comprehension of the nation's medical device availability demonstrate the continued need to develop and nurture health as a national agenda item. Despite having everything needed to create a healthy nation, the numbers don't support that. Research is necessary to reexamine the system, ecology, and infrastructure. This study seeks to address this issue by looking into it and attempting to determine what needs to be done when to create a healthy nation. for the "Demographic Dividend" of the nation to produce the intended outcomes. Therefore, this is the direction that the current investigation is going.

9. Conclusion and future scope

Every healthcare organization needs to create a strategic plan for managing medical equipment and take the initiative to buy the appropriate medical equipment at the appropriate time, outfitted with the appropriate technology, at the appropriate workspace. When purchasing equipment, care must be taken to ensure that a plan for technology upgrades will be in place after a few years of operation. This will improve the PHCs' resource utilization quotient. The current analysis makes it clear that the public laboratory is experiencing a lack of laboratory tools. By using automation and self-monitored systems that guarantee little user input, this issue can be lessened. One way to combat this trend is to encourage patients to regularly use POCT devices. The decentralisation of laboratory testing is also necessary. Decentralization also contributes to fewer patient visits to the laboratory on a regular basis

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