

Challenges of the Development of Healthcare Management Services in Public Health

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KEYWORDS

Management, Health Care, Public Health

ABSTRACT

Public health professionals, including doctors, nurses, and paramedics, chemists, researchers, academics, policy makers, representatives from the Ministry of Health and Family Welfare, public and private educational and training institutions, non-governmental organisations, and others, are among the many diverse parties involved in the field. The country has greatly increased its usage of cutting-edge ICT (information and communication technology). Over time, the majority of public and private health service providers have upgraded their delivery systems and incorporated ICTs. ICT has the potential to significantly contribute to the growth of the healthcare sector by collaborating with social entrepreneurs to help create chances for wealth creation. The purpose of this study is to evaluate how much ICT is being used in India's various health fields. Additionally, it is seen to be essential to identify and evaluate ICT in the healthcare industry in order to provide appropriate preventive, defensive, and promotional measures that would improve the credibility and effectiveness of Indian healthcare institutions.

1. Introduction

The Indian government launched the National Rural Health Mission (NRHM) in 2005 with the intention of providing all rural populations with access to reasonably priced healthcare services [4]. Building the infrastructure and hiring medical personnel, including a female certified social health activist (ASHA) in each community, was part of the program's aim [1]. By expanding the number of medical facilities, including hospitals and basic health centres, NRHM has considerably decreased the incidences of a number of diseases. ASHAs, physicians, nurses, paramedics, and community educators are the care providers. There is still a severe lack of access to prescription drugs and qualified medical personnel, and the anticipated benefits of NRHM have not materialised [2]. Providing effective healthcare to rural Americans across the country is the aim of this health mission, with a focus on 18 states that have poor public health indicators and/or inadequate infrastructure.

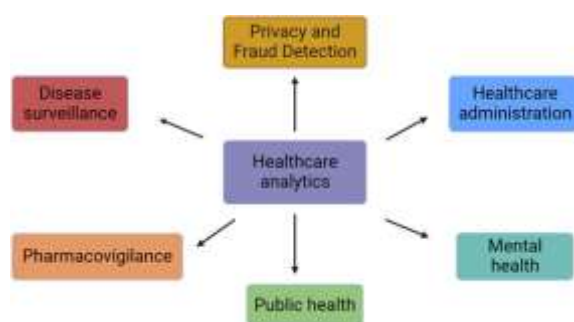


Figure 1. Challenges and opportunities of ICT

The main goal of the healthcare delivery system is to create a decentralised, community-based, fully operational system. This has been put in place to guarantee concurrent action on a variety of health determinants, including social and gender equality, water, sanitation, education, and nutrition. The Ministry of Health and Family Welfare (MoHFW) has long implemented a number of control initiatives. Even though the majority of globally recognised performance indicators appear to indicate that India has not done well on health indicators and has not yet reached its declared objectives of providing universal access to healthcare for all, these programs have been regularly updated to include enhancements based on lessons learnt from the past and current knowledge [3]. In order to improve public health management and service delivery across the country and enable it to handle the growing resource allocation, several architectural changes to the current health system are planned [9]. The

research region suggests that the BPL's alleged migratory status is the reason for the non-BPL category's prevalent usage. Many of whose labours carried them into the interior, where they remained until the rainy season. The public health system's most likely reason is the misclassification of BPL and non-BPL individuals based on official counting standards, along with the high proportion of people living just above the poverty line. formally classified as "non-poor," yet reliant on the public health system.

2. Literature Review

The provision of public services is essential to social well-being and fosters rural communities' economic growth. The proper combination of vital services must be included in the strategy developed for modern rural service delivery, together with specialised analytical tools. For rural service delivery to be effective, a flexible governance structure that embraces stakeholder participation is necessary. This will support local government empowerment, participation, and the sharing of knowledge and resources. According to [12], new ideas from social businesses have been used to establish innovative health service delivery models that will improve the availability, cost, and quality of healthcare services [7]. Globally, "social entrepreneurs" and change-oriented concepts about public concerns were introduced by the Innovators for the Public [5-6]. The potential of corporate and community leaders to fulfil their social aims and demonstrate their commitment to society was examined in [13]. It was highlighted in the OECD Rural Policy Conference materials [8] that there are no practical "one size fits all" solutions. Lessons acquired about what functions well and poorly in service delivery systems are disseminated globally. The public sector has received a lot of attention when it comes to providing health care to the underprivileged. It is assumed that access to health care is a fundamental right and that fighting poverty requires it. When medical expenses from disease or death in the family are significant, the poor are most at risk of experiencing further deprivation [14]. Therefore, innovative integrated approaches to rural service delivery modalities should take a more comprehensive approach in order to promote social well-being, the development of human capital, and the encouragement of rural economic growth. Social entrepreneurship can be used to streamline and improve health services and economic growth. In order to innovate in public health, information is always in continual need [15]. To better information generation and interpretation of obtained data, technological intervention is needed. The information that has been synthesised is gathered for maximum advantages. In public health, the emphasis is shifting from illness prevention to health promotion. Public health is usually more challenging because of the numerous political interventions and diverse stakeholder situations.

Main Difficulties For Public Health In India

The Government of India faces numerous challenges, as indicated by the various documents of NRHM and NUHM. These include providing equitable and reasonably priced primary health care to the vast rural population of over 700 million medically underserved individuals, as well as to the growing number of urban poor people. Additionally, the government must improve health indicators like infant and maternal mortality rates and reduce the burden of diseases. Sadly, having access to high-quality data is crucial for both delivering new treatments and enhancing the current health care system. Although the government conducts periodic health surveys (NFHS-I, II, III), the time lag between data collecting and final findings dissemination can result in hypotheses that are out of date. The absence of reliable data is a common complaint among independent researchers. This is a significant obstacle since allocating funds for service delivery is a divisive procedure involving powerful political parties. Data collecting procedures must be more responsible, transparent, and verifiable.

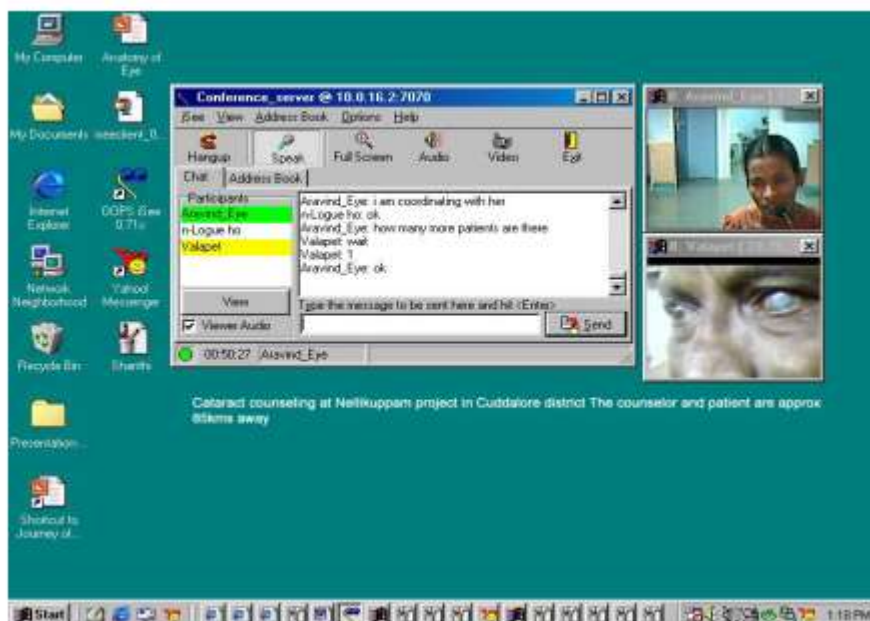


Figure 2. Remote eye care consultation

Furthermore, it is a challenging undertaking to survey migrant groups and the most remote rural locations. This is where field data collection can benefit greatly from the use of mobile technologies. Pen and paper-based studying arrangements can't offer the compass and adaptability that versatile advances, the universal cell phone, and the cell correspondence foundation can propose for field information gathering. The lack of any individual's health record in the system presents another significant obstacle. As a result, there is a significant mismatch between the different appointments a patient can have to a healthcare practitioner for treatment [10]. Lack of a treatment history may lead to expensive, time-consuming, and insufficient care, as well as repetitive studies. If a universal electronic health record (EHR) could be created and kept up to date for each person's lifetime, technology could once again save the day. The unique identity system's impending release will make electronic health records a tool for lowering medical expenses.

For the smooth exchange of wellbeing related information between different frameworks for managerial and medical services conveyance, the insurance of subject protection all through the whole chain of cycles, and the security of data at all levels on a restricted information diet, data stream inside the medical services framework should stick to explicit guidelines and administrative conventions. The remote eye care consultation is depicted in Figure 2. Regular health care was swiftly included to this approach [11]. Physicians in cities utilise videoconferencing to give remote patients in villages medical advice. A popular technology is multi-party videoconferencing, which allows several villages to connect to a town doctor at the same time. The physician establishes simultaneous connections with multiple communities and performs open examinations on them. Such a method has given rise to concerns about privacy. Nonetheless, the majority of the villagers favour this method of testing, and when questioned, one said that this system holds the doctors more responsible.

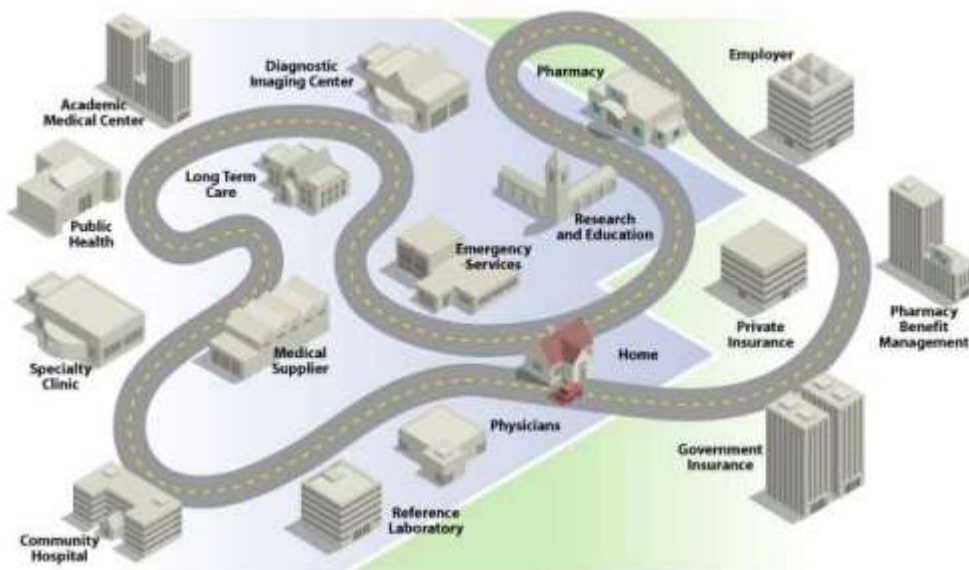


Figure 3. Healthcare Service Delivery

A solution to healthcare service delivery management which involves integrating all healthcare functions was suggested by some of the study's findings. Every department has an IT solution these days, depending on their needs. For instance, there is no shared platform between the surgical and pharmacological divisions. Thus, from the moment a patient enters the hospital until they leave, everything should be equipped with IT infrastructure to manage and process these kinds of requests. Without having to wait for separate billing from each department, the patient can receive the charge and leave.

3. Statistical Analysis

This part presents a comprehensive analysis of public health service delivery, drawing on the perspectives of healthcare professionals. This article, however, focusses on the findings of several studies carried out to look into the impact of IT professionals, namely Various statistical test models were used to present the efficiency, dependability, and acceptability of IT professionals.

Table 1. Statistics on the dependability of certain factors relevant to IT workers

Characteristics	Statistics on the dependability	
	Cronbach's Alpha	Number of Items
Understanding	.699	7
Necessity	.621	7

A reliability coefficient is Cronbach's alpha. It is frequently employed as a gauge for a psychometric test score's internal consistency or reliability. Table 1 provides an examination of the dependability test of need, awareness, acceptability, efficiency, and effectiveness.

Table 2. Effect of correlation analysis for need and awareness

		Health care product review	Service review	BI
ICT helps speed up the business process	PC	0.871**	0.863**	0.816**
	sig	0	0	0
	N	455	455	455
ICT enhances customer satisfaction	PC	0.852**	0.839**	0.849**
	sig	0	0	0
	N	455	455	455
ICT enhances the efficiency	PC	0.851**	0.838**	0.848**

of your service	sig	0	0	0
	N	455	455	455
ICT enhances the efficiency of your service	PC	0.836**	0.848**	0.845**
	sig	0	0	0
	N	355	355	355
Performance expectancy (PE)	PC	0.867**	0.860**	0.866**
	sig	0	0	0
	N	455	455	455
PC: person correlation BI: Behavioral Intention				

The association analysis between need and awareness based on multiple factors is shown in Table 2. In order to provide a comprehensive analysis, the study's findings have been complemented by a discussion and interpretation of the data that covers theoretical interpretation, technical acceptability, and the efficiency and efficacy of ICT. Overall, the results of the data analysis performed on the complete sample show that: ICT features including acceptability, efficacy, and efficiency were used to analyse healthcare service delivery. One strategy to achieve this is to promote the use of ICTs to improve and extend health care and health information systems to vulnerable populations, underserved areas, and rural areas. Analysis Has Been Done on The Technology Acceptance Model (Tam).

4. Conclusions

This study focusses on the acceptance, efficacy, and efficiency of ICT in service delivery, as well as the connections it has with delivery management. The expectations and views of IT and healthcare professionals are assessed in terms of ICT variables such as service delivery efficacy, efficiency, and acceptance. It is clear from the data gathered from interviews as well as the data gathered and examined from the records that are now available that the impact of IT solutions on healthcare is really significant. Security and trustworthy data are essential components that are crucial. According to analysis, features like data backup, error-free diagnostic testing, unique user IDs, and data centre setup are crucial. Among the other categories of components in the deployment of an IT solution in healthcare, the use of technology and the upkeep of digital medical records receive high marks

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