STUDY OF SELECT ISSUES IN THE MANAGEMENT OF LOW-COST HEALTHCARE DELIVERY IN INDIA

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By

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CERTIFICATE

The thesis entitled **"Study of select issues in the management of low-cost healthcare delivery in India"** being submitted by **Ms. Sonymol K** to the Indian Institute of Technology Delhi, for the award of the degree of Doctor of Philosophy (Ph.D.) is a record of bona fide research work carried out by her. She has worked under my guidance and supervision and has fulfilled the requirements for the submission of this thesis, which has attained the standard required for a Ph.D. degree from the Indian Institute of Technology Delhi. The results presented in this thesis have not been submitted elsewhere for the award of any degree or diploma.

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Sonymol K

ABSTRACT

The idea of providing healthcare is evolving and poised for a significant advance. The biggest issue in rural India is access to healthcare facilities. The chance to revamp the hospital's infrastructure and care continuum has been provided by Covid. In parallel with medical research, insurance penetration and technological advancement have grown rapidly. Rural communities face significant challenges in getting affordable healthcare, and overall healthcare costs are rising. Delivery of low-cost healthcare is dependent on the availability of health insurance, the population's ability to pay, accessibility, the health insurance's ability to reimburse, and the early detection and knowledge of diseases.

This study uses TISM, ISM, MICMAC, EFA, and PCA to cluster the elements that contribute to the provision of healthcare at a cheap cost. These two goals have helped healthcare administrators identify the components of efficient healthcare delivery. The low-cost healthcare delivery model of an eye organization was investigated using the SAP-LAP methodology, and the organization's procedures and pandemic readiness were also examined. These goals can help healthcare administrators and investors better understand and integrate low-cost healthcare delivery models into their systems. The next goal is to examine one innovative model of the healthcare delivery system, hybrid healthcare. In order to determine whether the healthcare hybrid model was profitable and viable in the healthcare echo system, its revenue, expenses, depreciation cost and capital investment were examined, and concluded that this model is cost-effective. Even though much insurance is not patient-friendly, health insurances are essential for providing low-cost healthcare. Many factors, such as indirect charges (such as transportation and food), discharge prescriptions, and some diagnostic procedures, are not covered by insurance.

Understanding a patient-friendly insurance plan that can give reduced costs across the board is crucial. The ideal insurance plan can be found by applying the results of this research, which were used to examine another aim using the t-Test and ANOVA.

Every objective is supported by the approach and results. Each objective's recommendations are provided. The findings are important for investors and healthcare administrators because healthcare is currently in high demand. Covid offers us the chance to alter healthcare and discover new healthcare business opportunities like telemedicine and home healthcare. In reality, Covid helped us become more creative and tech-savvy. Additionally, it has provided us with a chance to appreciate the benefits of preventive healthcare and the significance of leading healthy lives. These goals' recommendations are crucial for delivering public healthcare at a reasonable cost.

सारांश

उच्च स्तरीय स्वास्थ्य सेवा प्रदान करने का विचार निरंतर विकसित हो रहा है और एक महत्वपूर्ण प्रगति की ओर अग्रसर है। इस दिशा में एक महत्वपूर्ण मुद्दा कम लागत वाली स्वास्थ्य सुविधाओं को सुनिश्चित करने का है।

अस्पतालों में सुधार, बुनियादी ढांचा विकसित करना, और देखभाल की निरंतरता महत्वपूर्ण कारक हैं। चिकित्सा अनुसंधान के समानांतर, बीमा पैठ और तकनीकी प्रगति भी तेजी से बढ़ी है। सस्ती स्वास्थ्य सेवा प्राप्त करने में विभिन्न चुनौतियों का सामना करना पड़ रहा है, और इससे समग्र स्वास्थ्य देखभाल की लागत बढ़ रही है। कम लागत वाली स्वास्थ्य सेवा की डिलीवरी स्वास्थ्य बीमा की उपलब्धता पर भी निर्भर करती है। अधिसंख्य जनसंख्या की भुगतान करने की क्षमता, पहुंच, स्वास्थ्य बीमा की प्रतिपूर्ति करने की क्षमता, और शीघ्र रोगों का पता लगाना और उनका ज्ञान अत्यंत महत्वपूर्ण है।

यह अध्ययन टी.आई.एस.एम., आई.एस.एम., मिकमैक, ई.एफ.ए. और पी.सी.ए. आदि पद्धतियों का उपयोग उन तत्वों को क्लस्टर करने के लिए करता है जो इस उद्देश्य में योगदान करते हैं तथा सस्ती कीमत पर स्वास्थ्य सेवा प्रदान करना सुनिश्चित करते हैं। इन अनुसन्धान में कम लागत वाली स्वास्थ्य सेवा के लिए सैप-लैप पद्धति का उपयोग करके एक स्वास्थ्य संगठन के वितरण मॉडल की जांच की गई है और संगठन की प्रक्रियाओं और महामारी की तैयारी को भी परखा गया है। यह अनुसन्धान कम लागत वाली स्वास्थ्य सेवा को बेहतर ढंग से समझने और लागू करने में मददगार है।

इसमें एक ऐसे मॉडल को विकसित किया गया है जो स्वास्थ्य सेवाओं को कम लगत पर प्रदान करना सुनिश्चित करता है। इसके विभिन्न कारकों जैसे अप्रत्यक्ष शुल्क (जैसे परिवहन और भोजन), स्वास्थ्य बीमा आदि का अल्प लागत की स्वास्थ्य सेवाओं पर प्रभाव का भी अध्ययन इस अनुसंधान में किया गया है। इस शोध के परिणामों को लागू करके आदर्श बीमा योजना के अवयवों का पता लगाया गया है तथा उन्हें टी-टेस्ट और एनोवा जैसी पूर्व स्थापित पद्धतियों द्वारा प्रामाणिक रूप से जांचा गया है। टेलीमेडिसिन और होम हेल्थकेयर जैसे नए स्वास्थ्य सेवा घटकों का भी अध्ययन इसमें सम्मिलित है। इस अध्ययन में उचित कीमत पर सार्वजनिक स्वास्थ्य सेवा प्रदान करने के लिए महत्वपूर्ण सिफारिशें प्रस्तावित हैं।

KEYWORDS AND LIST OF ABBREVIATIONS USED

Keywords:

ACH	Air Changes Per Hour
ACNO	Assistant Chief Nursing Officer
AHRQ	Agency For Healthcare Research and Quality's
ANOVA	Analysis Of Variance
ASHA	Accredited Social Health Activist
BOP	Bottom of Pyramid
BPI	Buying Power Index
BPL	Below Poverty Line
CAHPS	Consumer Assessment Of Healthcare Providers & Systems
CBHI	Community-Based Health Insurance
CDC	Centers for Disease Control and Prevention
CFA	Confirmatory Factor Analysis
CHC	Community Health Centre
COO	Chief Operating Officer
CRS	Corporate Social Responsibility
CSF	Critical Success Factors
CSR	Corporate social responsibility
CT	Computed tomography
DH	District Hospital
ECHS	Ex-Servicemen Contributory Health Scheme
EFA	Exploratory Factor Analysis
eIRP	Efficient Interpretive Ranking Process
ENT	Ear, Nose, and Throat.
ESI	Employee State Insurance
GDP	Gross domestic product
GE	GE Healthcare-General Electric American company
HOD	Head Of Department
HRM	Human Resources Management

ICN	Infection Control Nurse
ICT	Information, Communication, Technology
ICTV	International Committee on Taxonomy of Viruses
ICU	Intensive Care Unit
IMR	Infant mortality rate
IOL	Intraocular Lens
IPD	Inpatient Department.
ISM	Interpretive structural modeling
JCI	Joint Commission International
KMO	Kaiser-Meyer-Olkin
LMICs	Low- And Middle-Income Countries
MBBS	Bachelor of Medicine and Bachelor of Surgery
MC	Medical college
MHFW	Ministry Of Health and Family Welfare
MIC MAC	Impact Matrix Cross-Reference Multiplication Applied to a Classification
MMR	Measles, Mumps, Rubella
MRI	Magnetic resonance imaging
NABH	National Accreditation Board for Hospitals & Healthcare Providers
NABL	National Accreditation Board for Testing and Calibration Laboratories
NO	Nursing Officers
NRHM	National Rural Health Mission
NSDC	National Skill Development Corporation
NSSO	National Sample Survey Office
OPD	Out Patient Department
P&L	Profit and Loss
PAF	Principal Axis Factoring
PCA	Principal Component Analysis
PCC	Patient and Cancer Care
PCTC	Patient Centered Team Care

PH Model	Primary health Model
PHC	Primary Health Centre
PHCE	Primary Healthcare Engagement
PPP	Public–private partnership
PROI-PT	Professional Role Orientation Inventory for Physical Therapists
SAPLAP	Situation Actor Process – Learning Action Performance
SHI	Social Health Insurance
SPSS	Statistical Package of Social Sciences
T2DM	Type 2 Diabetes Mellitus
TISM	Total Interpretive Structural Modeling
UK	United Kingdom
USA	United States of America
USD	US Dollar
WHO	World Health Organization.

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