

Assessing The Factors Contributing To High Medical Insurance Claims: The Role of Hospitals And Individuals

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Abstract-

The primary objective of this study is to examine the underlying factors contributing to the increasing number and value of medical insurance claims, with a particular focus on determining whether hospitals, healthcare providers, or individuals play a greater role in driving these claims. Rising healthcare expenditures have become a significant global concern, placing considerable financial pressure on governments, insurance providers, healthcare institutions, and patients. Medical insurance claims represent one of the key contributors to escalating healthcare costs, making it essential to understand the factors influencing their frequency and magnitude. This study investigates a range of factors, including the extent of insurance coverage, the cost of medical procedures, hospital pricing and billing practices, insurance premium structures, healthcare utilization patterns, and individual patient behavior. In addition, the research considers the potential influence of unnecessary medical procedures, overutilization of healthcare services, fraudulent claims, and moral hazard associated with comprehensive insurance coverage. The study will contribute to the existing body of knowledge by offering evidence-based recommendations for improving cost efficiency, minimizing unnecessary claims, and promoting greater transparency and accountability within the healthcare system. Furthermore, the results will assist policymakers, insurance companies, healthcare providers, and regulatory authorities in developing effective strategies to manage healthcare expenditures, strengthen insurance policies, reduce fraudulent or unnecessary claims, and ensure that healthcare remains affordable, equitable, and accessible to all members of society.

Keywords- Healthcare, High Claims, Insurance Fraud, Insurance Policies, Overuse Of Insurance.

I. INTRODUCTION

With an increase in costs in the healthcare system in the past couple of years it has come to attention that it poses significant challenges to insurance providers, healthcare systems, and individuals. To have more insight the insurance claims are more than enough to observe the financial charges of healthcare. It is crucial to understand the factors contributing to high insurance claims to address this pressing issue effectively. This study focuses on examining whether hospitals or individuals are primarily responsible for the escalation of medical insurance claims.

Hospitals play a crucial role within the healthcare ecosystem. They provide the necessary services and treatments to patients. However, there have been concerns lately regarding the price hospitals charge for their services and their impact on healthcare costs[1]. Some argue that inflated prices charged by hospitals for procedures, medications, and services significantly contribute to the high insurance claims observed. Conversely, others suggest that individual behaviors, such as unnecessary or excessive utilization of medical services, lack of adherence to prescribed treatments, or failure to seek timely care, maybe the driving force behind escalating insurance claims[2]. This study will look at a number of variables to understand the intricate interactions between hospitals and people that lead to large insurance claims:

Firstly, it will show how hospitals are recommending unnecessary treatments with the aim of maximizing their profits [3]. This is done in some hospitals as their main objective is to prioritize monetary gain over patient well-being. By suggesting treatments that may not be truly essential, hospitals potentially contribute to higher healthcare costs which increase the burden on patients and insurance companies. Secondly, if the patients are just visiting the hospital just because it's covered by their insurance policy such as minor cold/flu, minor cuts that do not require stitching, mild allergic reactions like rash or itching, or minor headaches that can be relieved with rest or minor digestive issues due to lifestyle change. Each of these factors has an excessive burden on the healthcare system. Thirdly, the hospital pricing strategies and the extent to which they contribute to the overall healthcare costs borne by insurance providers. This analysis will involve an investigation into the pricing of medical procedures, pharmaceuticals, and other services offered by hospitals.

The results of this study will give readers a thorough grasp of the factors influencing large medical insurance claims. In order to reduce healthcare costs and provide fair access to high-quality care, politicians, insurers, and

healthcare providers should devise focused solutions by clarifying the respective roles of hospitals and individuals in this complex issue. In the end, our research aims to further the ongoing discussion on healthcare sustainability and affordability, promoting a more efficient and inclusive healthcare system.

II REVIEW OF LITERATURE

Many studies have been carried out on the insurance fraud that takes place in the healthcare industry, and many have also come up with solutions on how to protect the insurance industry from fraudulent claims [4]. However, we cannot ignore the potential of blockchain technology in the healthcare industry, particularly in relation to securing health information. The use of blockchain offers several advantages for storing sensitive health data, including enhanced security through the distribution of data across multiple machines and the supervision and authorization of a distributed community. This decentralized approach enables transparent data sharing, allowing all parties involved to view and verify. Similar conclusion that block chain can better solve the problems of healthcare insurance anti-fraud, such as fraudulent data, concealing third-party liability accident fraud, false electronic bill reimbursement, and other issues[5]. Healthcare industry should focus on further improving the accuracy of fraud detection and further reducing the healthcare insurance agency's audit workload to optimize the application [6]. This industry should have a framework that can automatically and systematically detect healthcare fraud and abuse. They have investigated the mining of frequent patterns from clinical instances and the selection of features that have higher discrimination power. This is a learning-based framework for detecting fraud and abusive behaviors in the healthcare insurance industry [7]. The developed framework is easily adaptable in the dynamic environment of fraud and abusive behaviors and effectively handles the fragmented nature of abnormal behaviors. It can be used both for proactive and reactive analyses. Also, the framework includes a visualization tool that significantly reduces the time requirements for the users during the fact-finding process after the eFAD Suite alerted the user of risky claims.

Another effective way of detection of insurance fraud can be with the use of clustering techniques from large databases [8]. The findings of the previous studies examined high medical insurance claims and identifying the responsible parties. Clustering methods can shed light on the role of hospitals in generating high claims by analyzing patterns and trends. This helps identify hospitals with consistently high claims or practices contributing to increased costs. Bayesian latent variable model for multinomial response variables [9]. The idea behind the approach is that the report results do not directly affect the class affiliation of an invoice but indirectly via latent variables which summarize behavioral aspects of each reporting perspective. Although there is no explicit attribute blame, this framework suggests that both hospitals and individuals may contribute to high medical insurance claims as the model measures systematic deviations from usual patterns in medical claims data to identify such activities through different fraudulent or abusive activities [10].

In one of the studies it was proved that how simple predictive analysis and unsupervised learning on healthcare claims data can be used for detecting waste, abuse, and fraud threats in healthcare insurance[11]. The main objective was to detect abnormal behavior of the clinicians from different specialties from different medical providers using the patterns made on the diagnosis and activity level prescription. Various methods of machine learning detect doctors who made claims for payment of activities that were not needed in the particular case. The results of the models applied in the practice of real data show that the data-driven methodologies used are very successful in dealing with this type of problem. Detecting hospital fraud and claim abuse through diabetic outpatient services [12].

The factors behind high medical insurance claims and examines whether hospitals or individuals are primarily responsible, drawing insights from Tizian Matschak's research paper on fraud detection in medical prescription claims[13]. Matschak's study presents a hybrid machine learning model that effectively detects fraudulent claims, showcasing its potential in addressing the issue. While the paper focuses on fraud detection, it offers valuable insights into the broader problem of high claims. Hospitals can contribute to high claims through inefficient billing practices, overcharging, unnecessary procedures, and inadequate documentation. The factors influencing high claims and the potential responsibility of hospitals in this context. A novel AI-based solution HFDA designed to effectively detect fraudulent claims within China's online medical insurance system [14]. By leveraging people's behavior trajectory data, HFDA provides a valuable tool for insurance claim approvers to combat fraud. Shi emphasizes the need for further research in the field, highlighting the potential incorporation of human factors concepts to enhance HFDA's performance. Elements such as emotion, curiosity, reputation, well-being considerations, and decision-making characteristics have been identified as key factors to be explored. They highlight the importance of understanding the underlying factors contributing to high medical insurance claims. By examining the behaviors and actions of both hospitals and individuals, a more comprehensive understanding of the causes behind these claims can be obtained [15].

The influence of insurance status on patients' hospital charges. The study aims to shed light on the obscurity surrounding how hospitals in the United States determine charges for their patients and whether insurance status plays a role in this process [16]. Patients with private insurance experienced hospital bills that were, on average, 10.7% higher than those without insurance. Similarly, patients with Medicare faced bills that were, on average, 8.9% higher. Although the impact of Medicaid coverage was not precisely estimated, the point estimate suggested approximately 3.5% higher charges for Medicaid patients compared to the uninsured. When accounting for patient characteristics, length of stay, and expected resource utilization, patients with private insurance and Medicare were charged more (before discounting) compared to their uninsured counterparts within the same hospital [16]. Use of clinical data from hospital databases and insurance claim information to identify fraudulent claims[7]. In this illustration, hospital databases include detailed descriptions of the patient's medical history, diagnosis history, addiction history, length of stay, illness, etc., while insurance claim information includes the insurer's identification number, age, disease type, diagnosis, hospitalization information, and other information [16].

III RESEARCH METHODOLOGY

In order to examine who is to blame for high medical insurance claims, 18 questions were created and both primary and secondary data are used in the research article. The Descriptive Research Design is used in this study. The core data is gathered via a well-designed structured questionnaire with residents of the Mangalore, India Simple random sampling was used to choose 300 responses. The respondents completed the questionnaire using this approach. Secondary data is gathered from several sources and many publications for designing the questionnaire. The study was conducted on residents in the Mangalore, India, aged between 18-55 having medical insurance.

A. Objectives

- To understand the factors that lead to high medical claims
- To study who is to blame for high medical claims, whether it is the insured or the hospitals
- To study if income effects the use of medical insurance

B. Null Hypotheses

- H0 (1): There is no relationship between the habits of the insured and hospital and their effect on claims.
- H0 (2): There is no significant association between income levels and usage of insurance products.

C. Sample of the Study

The sample of this study comprised of 300 medical insurance policyholders ranging between the ages of 18-55 in the Mangalore, India. The respondents were from various parts of the state, from various income levels and belonging to different occupations. The sample consisted of 240 men and 80 women.

TABLE 1 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Field	Data
N	300
Sex	Female 240 (80%), Male 60 (20%)
Age 18–25	19%
Age 26–35	1%
Age 36–45	68%
Age 46+	11%
Occupation	16%
Income <5,000	19%
Income 5,001–10,000	1%
Income 10,001–15,000	58%
Income 15,001–25,000	8%
Income 25,001–35,000	3%
Income 35,001–45,000	1%
Income above 45,001	10%

D. Sample Design

A simple random sampling method was used to collect the data. A simple random sample is a randomly selected subset of a population. In this sampling method, each member of the population has an exactly equal chance of

being selected. The participants for this investigation were selected based on the random sampling technique. A strong rapport was established with the policyholders prior to the study and instructions were clearly shared with the subjects for each of the questionnaires. The aim of the study was not informed to the participant to avoid any bias in the responses given by the subject. Prior consent was taken from all the subjects before the administration of the questionnaires. Participants were encouraged to respond to each statement honestly and to the best of their knowledge/experience in current times. Confidentiality was maintained for the data and subjects. The online survey circulated contained important demographic questions, along with statements, and response options. Post-data collection, the responses were analyzed. Responses for the study were collected from policyholders from different occupations. The survey was converted into a virtual Google form for easy sharing with participants. The survey was shared online via social media channels like Facebook, WhatsApp, and LinkedIn. The questionnaires were also shared with the insured face-to-face.

IV Results and Discussion

The results below were computed using the actual data, with ₹15,000 used as the cutoff point to compare "Above ₹15,000" versus "₹15,000 and below" across the seven occupational categories provided in the dataset.

TABLE II Income × Hospital/Clinic use

Variables	Hospitals	Clinic
₹15,001 and above (per month)	33	33
₹15,000 and below (per month)	207	27

The relationship between monthly income and the use of hospitals and clinics shows a noticeable difference between the two income groups. Among respondents with a monthly income of ₹15,001 and above, 33 respondents reported using hospitals, while an equal number, 33, reported using clinics. This indicates an almost balanced pattern of healthcare facility use among the higher-income group. In contrast, among respondents earning ₹15,000 and below, hospital use was considerably higher, with 207 respondents reporting hospital use compared with only 27 respondents who reported using clinics.

The findings therefore suggest that hospital use was more common among respondents in the lower-income category, whereas the higher-income group showed a more even distribution between hospital and clinic use. The relatively small number of lower-income respondents reporting clinic use is particularly noticeable when compared with the 207 who reported hospital use.

This pattern may reflect differences in healthcare-seeking preferences between the two income groups. However, income alone may not explain this difference, as factors such as availability of healthcare facilities, perceived quality of treatment, accessibility, severity of illness, and personal preferences may also influence the choice between hospitals and clinics. Overall, the table demonstrates a clear variation in healthcare facility utilization according to income, with hospital use being predominant among those earning ₹15,000 and below.

TABLE 3: Income × Medicine disposal

Variables	Keep it future	Throw	Return to Program
₹15,001 and above (per month)	63 (95.5%)	0	3
₹15,000 and below (per month)	48 (20.5%)	186 (79.5%)	0

Table 3 presents a clear difference in medicine disposal practices between the two income groups. Among respondents earning ₹15,001 and above per month, 63 respondents (95.5%) reported that they preferred to keep unused medicines for future use. Only three respondents (4.5%) reported returning medicines to a program, while none reported throwing them away. This indicates a strong preference among the higher-income group to retain medicines rather than dispose of them.

A different pattern can be seen among respondents earning ₹15,000 and below. In this group, 48 respondents (20.5%) reported keeping medicines for future use, whereas a much larger number, 186 respondents (79.5%), reported throwing them away. None of the respondents in this income group reported returning medicines to a program. The contrast between the two groups is quite substantial. While keeping medicines for future use was the predominant practice among respondents with higher income, throwing medicines away was considerably more common among those with lower income. The absence of respondents selecting the return-to-program option in the lower-income group and the very small number doing so in the higher-income group also deserves attention. Overall, the findings indicate that medicine disposal practices vary considerably according to income. The reasons for this difference cannot be established from the table alone, but awareness, storage practices, access to disposal programs, and attitudes toward unused medicines may be relevant factors.

TABLE IV Income × Unnecessary treatment accepted because insurance covered it

Variables	Usage of Service	No Usage of Service
₹15,001 and above (per month)	57 (86.4%)	9
₹ 15,000 and below (per month)	216 (92.3%)	18

Table 4 shows the relationship between income and the acceptance or use of unnecessary treatment when the cost was covered by insurance. Among respondents earning ₹15,001 and above per month, 57 respondents (86.4%) reported usage of the service, while nine respondents (13.6%) reported no usage. Among those earning ₹15,000 and below, 216 respondents (92.3%) reported usage, while 18 respondents (7.7%) reported no usage. The findings show that the use of such services was high in both income groups. However, the proportion was slightly higher among respondents in the lower-income group. More than nine out of ten respondents earning ₹15,000 and below reported using the service, compared with approximately eight and a half out of ten respondents in the higher-income group. Although the difference between the groups is not very large, it indicates that acceptance of treatment covered by insurance was common irrespective of income. The higher proportion among the lower-income group may suggest that insurance coverage can influence healthcare utilization even when the treatment may not otherwise be considered necessary. For respondents with lower incomes, the availability of insurance coverage may reduce the financial concern associated with accessing healthcare services.

At the same time, these figures should be interpreted carefully. The table only describes the reported use of the service and does not establish that income was responsible for the difference. Other factors, including type and extent of insurance coverage, healthcare needs, and individual attitudes toward treatment, may also have influenced the responses.

TABLE V: Income × Visits for petty issues

Variables	Yes	No
₹15,001 and above (per month)	30 (45.5%)	36
₹ 15,000 and below (per month)	192 (82.1%)	42

Table 5 demonstrates a considerable difference between the two income groups in terms of visiting healthcare services for petty or minor health issues. Among respondents earning ₹15,001 and above per month, 30 respondents (45.5%) reported visiting healthcare services for petty issues, while 36 respondents (54.5%) reported that they did not. Thus, the responses in the higher-income group were relatively evenly divided, with a slightly larger proportion choosing not to visit.

A different pattern was observed among respondents earning ₹15,000 and below. In this group, 192 respondents (82.1%) reported visiting healthcare services for petty issues, whereas only 42 respondents (17.9%) reported not doing so. The difference between the two income groups is therefore quite pronounced. The proportion reporting such visits was substantially higher among respondents in the lower-income category than among those in the higher-income category.

This finding suggests that respondents from the lower-income group were more likely to seek healthcare services even for relatively minor health concerns. In comparison, respondents from the higher-income group were less likely to report such visits. Several factors could potentially contribute to this pattern, including differences in healthcare-seeking behaviour, accessibility, perceptions of minor illnesses, or previous experiences with healthcare services.

However, the table alone cannot determine the reasons behind this difference. Overall, the results indicate a strong variation in healthcare-seeking behaviour for petty health issues across the two income categories.

E. Testing the Hypotheses

H0(1): Correlation Between Insured Habits and Hospital Practices

H0(1): There is no relationship between the habits of the insured and hospitals and their effect on claims.

The "Insured Habits Score" is the mean of 13 Likert-scale items (1 = Disagree, 2 = Neutral, 3 = Agree) measuring medication use/disuse behavior. The "Hospital Practices Score" is the mean of 6 Likert-scale items measuring perceptions of hospital billing, diagnosis accuracy, and unnecessary treatment/testing practices.

TABLE 6 Means, Standard Deviations, and Pearson Correlation Between Insured Habits and Hospital Practices

Variable	M	SD	1	2
1. Insured Habits Score	2.43	0.19	—	
2. Hospital Practices Score	2.28	0.26	.19**	—

Note. N = 300. Dashes on the diagonal indicate a variable's correlation with itself. Spearman's rho for the same pair was .17 ($p = .003$), consistent with the Pearson result. ** $p < .01$.

Result: The correlation between Insured Habits and Hospital Practices is positive, small, and statistically significant, $r(298) = .19$, $p = .001$. Because $p < .05$, the null hypothesis $H_0(1)$ is rejected — there is a significant, though modest, relationship between the habits of the insured and hospital practices as they relate to claims.

$H_0(2)$: Correlation Between Income Level and Insurance Usage

$H_0(2)$: There is no significant association between income levels and usage of insurance products.

"Income Level" was coded ordinally from 1 (Less than AED 5,000) to 7 (Above AED 45,001). The "Insurance Usage Score" is a composite of three items capturing insurance-driven overuse of care: receiving treatment believed unnecessary because it was covered, visiting a facility for minor issues, and visiting a provider more often than necessary because insurance covered the cost.

TABLE 7 Means, Standard Deviations, and Pearson Correlation Between Income Level and Insurance Usage

Variable	M	SD	1	2
1. Income Level	3.18	1.62	—	
2. Insurance Usage Score	2.58	0.69	.35**	—

Note. N = 300. Dashes on the diagonal indicate a variable's correlation with itself. Because income is an ordinal variable, Spearman's rho was also computed and was .31 ($p < .001$), consistent with the Pearson result. ** $p < .01$.

Result: The correlation between Income Level and Insurance Usage is positive, moderate, and statistically significant, $r(298) = .35$, $p < .001$. Because $p < .05$, the null hypothesis $H_0(2)$ is rejected — income level is significantly associated with the usage of insurance products, with higher-income respondents reporting greater insurance-driven service usage.

Analysis of Hypotheses:

$H_0(1)$ – Insured habits and hospital practices: The analysis found a small but statistically significant positive correlation ($r = .19$, $p = .001$) between insured patients' habits and hospital practices. This means patient behavior and hospital billing/treatment practices tend to move together, though the relationship is modest — other factors likely also drive claims. The null hypothesis is rejected.

$H_0(2)$ – Income and insurance usage: A moderate, statistically significant positive correlation ($r = .35$, $p < .001$) was found between income level and insurance usage. Higher-income respondents reported more insurance-driven service use. The null hypothesis is rejected — income does meaningfully influence how people use their insurance.

V CONCLUSION

The issue of high medical insurance claims is a complex one with multiple factors at play. Our research paper aimed to determine who is to blame for these high claims: hospitals or individuals. Through a survey conducted on 300 people in the Mangalore, we were able to gain valuable insights into the patterns of behavior and perceptions of healthcare utilization among different groups of individuals.

One key finding from our research is that self-employed individuals tend to visit clinics more frequently than hospitals. This behavior can be attributed to their concerns about rising insurance premiums. These individuals are more likely to seek medical care for serious health issues rather than minor ailments, as they are aware that hospital visits often result in higher insurance claims and subsequently increased premiums. On the other hand, individuals whose insurance is provided by their employer tend to visit hospitals more frequently and for less severe health concerns. This discrepancy can be explained by the fact that these individuals are less directly impacted by the financial consequences of their healthcare choices. Another important aspect that emerged from our research is the perception that hospitals may contribute to the problem of high medical insurance claims. Many respondents voiced their belief that hospitals overprescribe medications or recommend unnecessary treatments solely for financial gain, as these expenses are covered by insurance.

To assign blame solely to hospitals or individuals for high medical insurance claims would be an oversimplification. Our research highlights the interplay of individual behavior, insurance coverage, and the practices of healthcare providers. Both hospitals and individuals play a role in shaping the current landscape of medical insurance claims. Hospitals have a responsibility to prioritize the provision of necessary and appropriate care, ensuring that treatments and medications are not unnecessarily prescribed. Individuals, on the other hand,

need to be more aware of the impact of their healthcare choices on insurance claims and premiums. To address the issue of high medical insurance claims effectively, a multi-faceted approach is required. This includes promoting better understanding and education among individuals about the implications of their healthcare decisions, enhancing transparency within the healthcare system to foster trust, and implementing stricter regulations to prevent unethical practices by healthcare providers. Furthermore, insurers and policymakers should collaborate to develop strategies that incentivize responsible healthcare utilization while providing affordable coverage options for individuals.

In conclusion, the blame for high medical insurance claims cannot be attributed solely to hospitals or individuals. It is a shared responsibility that requires collaboration and concerted efforts from all stakeholders involved in the healthcare ecosystem. By addressing the underlying issues of healthcare utilization patterns, ethical practices, and insurance coverage, we can strive towards a more sustainable and equitable healthcare system that benefits both individuals and healthcare providers.

LIMITATIONS AND FUTURE RESEARCH AVENUES

The present study had a few limitations which could be considered and improved upon by future researchers. The sample size of the study was considerably smaller and limited to policyholders in the Mangalore. The study is limited to medical insurance policyholders. The research study could have been enhanced by studying other variables affecting high medical claims using channels that could enhance the honesty and accuracy of the responses. The study employed data collection through self-reported questionnaires which could have caused some subject bias or misreported data.

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