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The optimization of health insurance rejections practices: descriptive study among rehabilitation patients in SCMC

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Deceleration

Abstract

Background: The insurance industry plays a vital role in providing financial protection and ensuring access to healthcare services for patients. However, frequent rejections of insurance claims and delays in claim processing negatively impact both patients and healthcare providers.

Purpose: This retrospective research project aims to analyze the causes of frequent rejections in insurance claims during the first three months of 2023 in Sultan City Medical Center (SCMC) and recommend enhancements to insurance practices to reduce rejections and provide appropriate services to patients on time, without delay.

Method: This study is a retrospective study using secondary data from the insurance center of SCMC emphasizing on analyzing the causes of frequent rejections in insurance claims during the first three months of 2023 in SCMC. Ethical approval was granted for this study from the research and scientific center in Sultan bin Abdulaziz Humanitarian city (SBAHC), data were gathered on 332 patients whose health insurance was denied and approved in SCMC between Jan 2023 and March 2023.

Results: The study includes a sample of 1033 insurance claims. The analysis revealed a slight statistically significant difference between the means of the two gender groups regarding insurance status. These findings also suggest a potential relationship between age and insurance status, particularly for individuals in the "21-40 years" age group, who appear to have a higher likelihood of rejections.

Conclusion: The overall relationship between demographics and insurance status did not reach statistical significance, indicating that further investigation or data may be necessary to draw conclusive results regarding these hypotheses.

Keywords: *Claim Rejection, Insurance Companies, CCHI, & Sultan City Medical Center*

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Introduction

The insurance industry plays a vital role in providing financial protection and ensuring access to healthcare services for patients. However, frequent rejections of insurance claims and delays in claim processing negatively impact both patients and healthcare providers. The claim denial is one of the persistent issue that concern hospital executives worldwide (Goding, 2009).

Commonly health insurance companies serves as a means of payment or compensation in the event of unforeseen and unanticipated health risks and a transfer of liability for those risks (Samudera, 2021). Public health insurance, mostly for the impoverished, is a crucial strategy for lowering the financial risk connected with health and guaranteeing patients' access to high-quality care. However, it is accepted that customers' perceptions of their insurer are mostly shaped by claims, which are seen as the primary route and determining factor (Crawford, 2007).

Holyoak (2017) reported that healthcare organizations continuously lose roughly 3% of their net revenue as a result of paying insurance claims. It is therefore important to take proactive measures to prevent some claim rejections, even though certain insurance claim rejections are unavoidable under the existing healthcare system, given that 50% to 65% of all contested claims are never modified (Graham, 2014). In Saudi Arabia, both hospitals type, small and medium sized, reject around 20% to 25% of claims. This contributes to loss in revenues and delays between 3.5 and 4.5 billion SAR each year.

This retrospective research study aims to analyze the causes of frequent rejections in insurance claims during the first three months of 2023 in order to reduce rejections and provide appropriate services to patients on time, without delay.

Research Objectives:

This study aims to assess and gain a deeper understanding of the reasons for insurance denials from various insurance companies during the first three months of 2023 in Saudi Arabia, with a particular emphasis on investigating the relationship between gender, age, and the frequency of denials.

- To find out the insurance claim rejections rate among rehabilitation patients …and its relation to demographic factors (age and gender)
- To explore the main causes of insurance claim rejections in rehabilitation services

The Sultan City Medical Center (SCMC) can reduce the number of claim rejections, enhance patient services, and improve the overall healthcare experience for both patients and providers. Sultan City Medical Center's integrated medical staff, which consists of highly qualified professionals with a variety of specializations, provides medical and rehabilitation services that meet the highest international health standards. Sultan City's mission of "helping people to help themselves" is reflected in the establishment of Sultan City Medical Center. It provides safe and comfortable surroundings for patients along with specialized medical, surgical, and rehabilitation treatments to a range of societal groups.

This study is of high significance since the outcomes might help healthcare stakeholders and health insurance to understand the main factors contributing to claim denials with a particular focus on gender and age. The results could also be useful as a source of documentation for future researchers. Moreover, after reading this study, all insurance organizations even all workers will be inspired to broaden their perspectives and investigate the reasons behind denials. Consistent use of relevant primary sources, including research papers. Clever organisation and critical analysis of existing literature is used to provide a convincing rationale for the study and the methods used.

Literature Review

Insurance company residents are frequently warned by incidents or losses to take preventive measures (Yusuf et al., 2017). Although claims are generally viewed as the key channel through which customers generally view their insurer (Crawford, 2007), it is acknowledged that claims play a significant role in how customers generally perceive their insurer. Currently, the insurance sector has grown to be one of the biggest globally, accounting for about 6% of Gross Domestic Product (GDP)(OECD, 2022).

Insurance is perceived as a risk management tool that allows businesses or individuals to transfer responsibility for certain events to a third party in exchange for a premium payment that is guaranteed, for example, if you have health insurance, you pay a monthly premium, and the insurance company will cover your medical expenses if you get sick (Gillis, 2023). Moreover, based on the definition of Oxford Dictionary, insurance is described as "an arrangement which a person or company undertakes to provide a guarantee of specific compensation for specified loss, damage, illness or death in return for payments of a specified premium"(Oxford University Press, 2022).

Nandi et al., (2015) explained that the rising aging populations and noncommunicable diseases would impose a higher burden on healthcare facilities because secondary and tertiary treatment would be required. Further, ensuring that patients have access to high-quality care and lowering the financial risk associated with their health requires public health insurance, which is mostly provided to the impoverished. A number of studies have shown that health insurance lowers prescription drug costs and hospital expenses, granting patients to benefit from better medical care as they undergo treatment (Levine et al., 2018).

Healthcare Insurance in Saudi Arabia:

The population growth in Saudi Arabia is considered one of the fastest growing population in the Gulf Cooperation Countries, it was estimated that by 2030 Saudi Arabia will have 38.6 million residents, including third of them are non-Saudis (Ishfaq et al., 2016). Like most countries around the Arabian Gulf, the Kingdom of Saudi Arabia proposed health insurance as a way to achieve universal health care. The Saudi governance runs and manages eighty percent of the healthcare system, where only twenty percent represents the private sector (Alonazi, 2020).

The quality of healthcare services provided in the public sector highly experiences challenges and problems related to efficiency due to the overload number of people who benefit from free insurance services which made public people switch for private health care sector for treatment (Al-Harajin et al., 2019). Over a period of eight years, from 2006 to 2008, Saudi Arabia invested a total of SAR 94 billion on the healthcare sector, or around 25.3 billion each year (Ishfaq et al., 2016). The percentage of annual budget to healthcare reaches 11 %, with a significant annual growth rate.

In 2004, the Saudi Arabian Monetary Agency (SAMA) was tasked with developing and organizing the insurance sector in accordance with international standards (Ishfaq et al., 2016). In response, SAMA created the Cooperative Insurance Companies Control Law, Article 1, which established the Cooperative Health Insurance Act on August 12, 1999, making healthcare insurance mandatory. Actually, the Cooperative Council for Health Insurance (CCHI) was established in 2005 to supervise private participation and reduce the substantial burden of the government's yearly budget in an attempt to optimize resources (Alonazi, 2020). The main duty of this Council is to supervise, suggest, and manage a health insurance plan for the Saudi medical industry (Almalki et al., 2011).

In the initial phase, foreign workers employed by companies with more than 500 employees were required to enrol in the healthcare insurance program. With ambitions to expand it further by bringing all citizens under the coverage of healthcare insurance, this system has now been extended statewide to include both Saudi and non-Saudi employees working in the private sector. Al-Mohamadi et al.,(2014) explained that CCHI involves more than 9 million users out of 30 million people through which one-third of them are not Saudi residents. Under Article 12 of CCHI, foreign governmental workers are provided with free admission to the MOH, Ministry of Health without having access to their agency's medical facilities (CCHI, 1999). Furthermore, all private enterprises, regardless of the size or nature of the company, are required to provide private health insurance (PHI) to all of their employees, both Saudi and non-Saudi, and their dependents (CCHI, 1999).

Claim Management:

A claim is defined as a request for benefits to be paid in line with the guidelines that the insured party submits to the insurer (Asokere & Nwankwo, 2010). The original term of "claim" is the Latin word "Clamare" which means "call out"(Tajudeen & Adebowale, 2013).

According to Brooks et al., (2005), an insurance claim can alternatively be defined as a demand made by a person or business using an insurer to get paid back for damages that the policy would have covered. It also defined as is an application filed by an insurer to fulfil its obligation under the terms of the agreement made when the insurance policy was drafted in conjunction with the insured (Krishman, 2010)

In fact, claim denial is the act of refusing to reimburse medical bills or expert services that are obtained on behalf of an individual or company. When an insurance company declines a claim, it means they don't accept it, either because the claim wasn't submitted correctly or because some necessary information was omitted (Biddle, 2001).

The ability to calculate and process complex recurring payments, combined with a case management component, are the essential components of a modern claim management system that can handle all claim types (Michael & Richardson, 2008). In fact, the following actions must be taken as part of an effective insurance claim management process: stopping and identifying fraud, moving the claim process along, filing claims, accepting claims from the company, evaluating claims, resolving conflicts and complaints, maintaining claim files and procedures, and keeping an eye on services related to claims (Yusuf et al., 2017).

According to a number of recent studies, insurance firms' capacity to manage claims is a key factor in their continued existence and financial success. Rose (2013) highlighted that appropriate claim management necessitates the proactive identification and fair payment of claims, followed by a precise assessment of the claims reserve.

Methodology:

This study is a retrospective observational study used secondary data from from the insurance center of SCMC emphasizing on analyzing the causes of frequent rejections in insurance claims during the first three months of 2023 in SCMC. In fact, the utilization of quantitative methods in research enhances the feasibility and reliability of generalizations and trend identification by enabling researchers to collect data from large populations (Babbie, 2012).

Moreover, the research approach applied in this study is deductive. According to Trochim and Donnelly (2006), deductive reasoning is a top-down approach that progresses from general theories to specific observations and projections. Creswell (2014) also clarified that the deductive technique is frequently employed in quantitative research since it enables statistical analysis to verify the accuracy of data acquired.

After the approval from the institutional review board from the research and scientific center in Sultan bin Abdulaziz Humanitarian city (SBAHC), the study time line was from Jan 2023 and March 2023, where there was . gathered on all patients whose health insurance was denied in SCMC Since the data were collected all at once, this study represents cross-sectional research. The study involved the analysis of data from 332 insurance claims obtained from secondary sources. The data include claimants associated with insurance companies such as BUPA, GIG, Mala, MedG, NCCI and TAKA. The research approach comprised SPSS analysis of secondary data, incorporating descriptive and correlation analysis to evaluate hypotheses. This methodology enables a comprehensive examination of the correlations between diverse elements and the endorsement/declination of insurance requests within the data set.

The study Results

The organisation and presentation of the results are clear and of near publishable quality. Written text and analyses are of relevance to the primary research question(s) and can be understood without difficulty. An appropriate logical structure is used to guide the reader, without redundancy or repetition of information. Statistical / qualitative analyses are used which are appropriate, accurately interpreted and expressed using recognised conventions and language. Tables and graphs use suitable titles, labels and scaling and are formatted to departmental guidelines. There may be evidence of the relevant application of more advanced analytical considerations (e.g., effect sizes, confidence intervals, etc).

During the study timeline, there were 1,033 insurance claims, of which only 16.2% were rejected. As shown in Table 1, it is evident that the age distribution of the claimants is quite diverse, with the majority falling into the 61 or above years category, representing 41% of the total sample. This suggests that individuals in their senior years make a significant proportion of insurance claims. In contrast, those aged 21-40 and 40-60 years account for 12.6% and 25.2% of the sample, respectively. Gender-wise, the study has a slightly higher representation of females, with 55.5% of the participants being female and 44.5% male. This information can be important for insurance companies when tailoring their policies and services to meet the needs of different age groups and genders.

Moreover, of all the participants, 57.3% are insured by NCCI, followed by BUPA at 29.5%, and the remaining insurance providers with relatively lower percentages. Interestingly, participants under multiple insurance categories are worth noting, possibly indicating some overlap or secondary insurance coverage. Additionally, all 1033 participants in the study received outpatient (OP) care, indicating that the insurance claims are related to non-hospitalized treatments. This information is essential for understanding the nature of the claims, the insurance companies involved, and the scope of the study. Overall, the data in Table 1

provides valuable insights into the demographic and insurance-related characteristics of the participants in this insurance claims study, which can guide further analysis and decision-making within the insurance industry.

Table 1: the demographic and background characteristics of the patients who sought rehabilitation services for three months Period at Sultan city medical center (SCMC.

Characteristic	Frequency	Percentage
Age		
01-20 years	219	21.2
21-40 years	130	12.6
41-60 years	260	25.2
61 or above years	424	41.0
Gender		
Male	460	44.5
Female	573	55.5
In-Patient (IP)/Out-Patient (OP)		
OP	1033	100.0
Insurance		
BUPA	305	29.5
GIG	04	0.4
MALA	23	2.2

MedG	88	8.5
NCCI	592	57.3
TAKA	21	2.0
Total	1033	100.0

Moreover, the data in Table 2 shows the approval status of insurance claims in the study involving a sample of 1033 shares. Notably, a significant percentage of claims, representing 83.8%, have been approved, while 16.2% have been rejected. This information is essential in understanding the overall success rate of insurance claims within the study, indicating a relatively high approval rate. Further analysis can focus on the factors influencing claim approvals and rejections to enhance our understanding of the insurance process.

Table 2: Insurance Approval

Characteristic	**Frequency**	**Percentage**
Insurance Approval		
Approved	866	83.8
Rejected	167	16.2
Total	1033	100.0

Table 3 presents the monthly statistics for January, February, and March.

Table 3: Insurance Approval Months Based

Characteristic	**Frequency**	**Percentage**
Insurance Approval for January		
Approved	315	84.7

Rejected	57	15.3
Total	372	100.0
Insurance Approval for February		
Approved	276	94.8
Rejected	15	5.2
Total	291	100.0
Insurance Approval for March		
Approved	275	74.3
Rejected	95	25.7
Total	370	100.0

The difference in the rejection rate by gender groups

Crosstabulation was run to investigate the association between gender and insurance status. As shown in Table 3, out of the 1033 insurance claims in the study, the majority, 866 claims (approximately 83.8%), have been approved, while 167 claims (approximately 16.2%) have been rejected. Among the female claimants (573 total), 467 claims have been approved, and 106 (approximately 18.5%) have been denied. In contrast, among the male claimants (460 in total), 399 claims have been approved, and 61 claims (approximately 13.3%%) have been rejected. This breakdown allows us to see that, within both the female and male groups, the majority of claims have been approved, with rejection rates of around 18.5% for females and 13.3% for males. Overall, the findings show relatively higher rejection rates for female claimants within the study. The Chi-Square test shows that the difference is significant X^2 (1, N = 1033) = 5.166, p = .02)

Table 3: Gender and Insurance Status Cross-tabulation

Insurance Status	Approved	Rejected	Total
Gender			
Male	399	61 (13.3%)	460
Female	467	106 (18.5%)	573
Total	866	167	1033

The difference in the rejection rate by age group

Crosstabulation was run to examine the association between age and insurance status. The table is divided into two categories of insurance status. The findings show that in the "01-20 years" bracket, insurance claims of 14.2% of individuals were rejected. For those aged "21-40 years," a moderately higher percentage 22.3% of claims were rejected. In the "40-60 years" age group, 13.5% of individuals face rejections. Among those aged "61 or above years," 17% faced rejections, and 83% received approvals. These findings suggest that individuals in the "21-40 years" age group appear to have a slightly higher likelihood of rejections. However, the difference is not significant (X^2 (3, N = 1033) = 5.882, p = .117)

Table 4: Age and Insurance Status Crosstabulation

Insurance Status	Approved	Rejected	Total
Age			
01-20 years	188	31	219
21-40 years	101	29	130
40-60 years	225	35	260

61 or above years	352	72	424
Total	866	167	1033

Table 7 shows correlations between age, gender, and insurance status. Correlations measure the strength and direction of the relationship between two variables, with values ranging from -1 to 1. The correlation between age and insurance status is approximately .010. This indicates a very weak and insignificant correlation between age and insurance status. Similarly, the correlation between gender and insurance status is approximately .071*. This indicates a very weak but significant correlation between gender and insurance status. Moreover, a weak but significant correlation was found between insurance status and insurance provider (.151**).

Table 5: Correlations

Variable(s)	**Age**	**Gender**	**Status**
Age	1		
Gender	.253**	1	
Insurance Status	.010	.071*	1
Insurance Company	-.062*	-.060	.151**

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Summary

The study's hypotheses proposed that insurance claim approval is positively correlated with claimants' age, with older individuals having a higher likelihood of approval (H1), and that females are more likely to approve their insurance claims than males (H2). However, the findings revealed that females have a slightly higher (significant results) chance of claim rejections. These findings also suggest a moderate but insignificant relationship between age

and insurance status, particularly for individuals in the "21-40 years" age group, who appear to have a slightly higher likelihood of rejections. Nonetheless, the overall relationship between age and insurance status did not reach statistical significance, indicating that further investigation or data may be necessary to draw conclusive results regarding these hypotheses.

Table 6 The main causes of insurance claims rejections:

Main Causes	Number of rejections	Frequency
Medical reasons	78 rejections	47.5%
Policy exclusions	65 rejections	39.6%
Missing documents	8 rejections	4.98%
Other rejections	13 rejections	7.92%

The Discussion clearly links the findings of the study with the study rationale and the theory / research considered in the Introduction. It does not deviate too far from the discussion of the results obtained. The applications and theoretical consequences of the work may be considered but may not be fully developed. Explanations are offered for unexpected results. Any reflective methodological criticisms and suggestions for further research are based on actual results and are legitimate rather than trivial. A conclusion is offered

Discussion:

This paper aimed to examine the prevalence of health insincere claims rejection among rehabilitation services patients in center. Also, this study seeks to identify the main cause of rejection and the in fun lol factor in terms of age, gender, claims management issues (by insurance company) on insurance claim denial rates in SCMC. Outcomes proved gender has a slight impact on claim denial while age might affect it. Two hypotheses were designed by the study to explore the possible relationships between insurance claim approval and demographic

characteristics, such as age and gender. Following the data collected, results indicated a slightly statistically significant difference between the means of the two genders and claim rejection. This indicates that there is o definitive interpretation and indication that females are more likely to have their insurance claims approved compared to males. Such outcomes confirms some studies that state that claims in health insurance might be denied based on patients' gender. In fact, several studies show that women use more healthcare, which could lead to more opportunities for health insurance and a lower percentage to have their claim insurance denied (Hunt et al.,2011). Moreover, a randomly chosen group of women is expected to be more morbid than a similar group of males, which will lead to higher claim expenses for health insurance and disability income insurance (Sydlaske, 1975).

On the other hand, the results showed a significant correlation between age and insurance status mainly in the 21 to 40 years where patients seemed to get their claim more rejected. However, the total association between insurance status and age did not approach statistical significance, suggesting that additional research or data may be required to make definitive conclusions about these theories. Such outcomes were confirmed by other studies indicating that elderly people are more prone to have their insurance claims accepted while young people seemed to have their claim denied.

This study recommends optimize insurance practices for ensuring timely patient services and reduced claim rejections through improving documentation processes, offering staff training, and better communication with insurance providers. Jacob (2007) explained that the main issues with claims processing that impact the costs of all businesses are supply chain management, business information, and responsive and flexible workflows. Esri (2012) identified five critical steps: mobility, data organization, management, evaluation and preparation, and customer interaction for improving the insurance claims process. In Saudi Arabia context, the Nphies platform was launched by the Saudi Health Ministry in cooperation

with the Council of Health Insurance, the Saudi Health Council, and the National Health Information Center with the aim of sharing data to achieve levels of integration in national health services. Claims processing in Saudi Arabia was processed through NPHIES, the National Platform for Health Information Exchange System created by CHI (Reka et al., 2023).

Several studies declared that claims processing serves as a mirror for consumers, enabling insurers to better attract, retain, and enhance their clientele while also providing corporate insight into how to enhance their offerings and boost profits. According to certain estimations, the healthcare sector manages problematic revenue worth between $11 and $5 billion annually (Gottlieb et al., 2018).

Conclusion

Despite advancements in payment methodology, claim rejections continue to cause substantial income leakage for healthcare providers across the country. Notwithstanding the numerous phases and changes in each procedure, the majority of insurance companies find it difficult to continuously enhance their claims operations. This demonstrates how challenging and complex efficient claim handling may be (Tajudeen & Adebowale, 2013).

According to a new report on denial rates released in February, of the $3 trillion in claims filed by healthcare organizations, $262 billion were rejected, translating to an average of nearly $5 million in rejections per provider. Thus, Capgemini (2011) presented very effective claims methods that might be critical in bolstering client retention and drawing in new business in order to provide an extraordinary and excellent customer experience.

Such findings did not approach a high statistical significance, suggesting that additional research or data may be required to make definitive conclusions about these theories. Therefore, it takes a team effort to prevent denials. Implementing effective preventative measures and streamlining the appeals process through root cause analysis should be the first step in any healthcare organization's endeavour to lower the number of rejections. In order to maintain their revenue, providers strive to identify, handle, and ultimately avoid rejections. Before discussing tactical measures and remedies, it is important to thoroughly explore the fundamental causes, appeals, and prevention of these three variables.

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