Study on Rejection Rate of High Risk Insurance Companies Using Six Sigma DMAIC Tool

By

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MBA Hospital and Health Management

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This is to certify that Aarushi Dua student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Thumbay Hospital, Ajman (United Arab Emirates) from 2nd March 2016 to 24th May 2016

The candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The internship is in fulfillment of course requirements.

I wish her success in all her future endeavors.

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This is to certify that **Ms. Aarushi Dua** holder of Indian Passport Number N7279893 was working in our institution as Management Trainee from 2nd March 2016 till 24th May 2016, as a part of dissertation of her MBA (Hospital & Health Management). She has completed the assigned project.

We wish her all the best.

For **Thumbay Hospital , Ajman**

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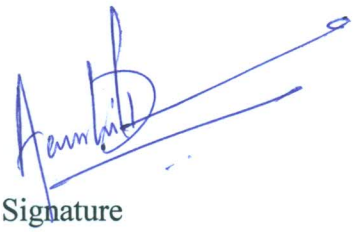

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Date 29.05.2016.

ABSTRACT

Title: A study of health insurance claims rejection in Thumbay hospital in Ajman

Author: Aarushi Dua

BACKGROUND

Standards of healthcare in the UAE are considered to be very high. Without a comprehensive medical insurance plan is not only risky, but can be very costly. Identified as a priority sector by the UAE government, the UAE health sector has displayed extraordinary growth and significant progress in medical insurance of their population. The health insurance industry has assumed a new dimension of professionalism with TPAs.

It is very important for the healthcare providers to be able to swiftly and economically process claims with this exponential expansion of health insurance in UAE. Therefore quantification of the denial rates by the healthcare providers is critical to calculate the effectiveness of your revenue cycle management processes and medical reimbursement. The denial rate represents the percentage of claims denied by payers during a given period. A low denial rate indicates cash flow is healthy, and fewer staff members are needed to maintain that cash flow. A 5% to 10% denial rate is the industry average; keeping the denial rate below 5% is more desirable as per the American Academy of Family Physicians.

Unexpected uptick in denials and rejections of medical claims are a major cause of lost revenue for healthcare providers in UAE. Maintaining a high clean claims rate requires attention to detail at every step of the patient journey, and having good medical billing tracking HIMS for a positive difference. Finances obtained from the medical claims are the major source of income in UAE health sector and hence the reflection of functioning of insurance department in the hospital.

Thumbay Hospital, Ajman is a world-class medical institution offering quality and affordable specialized superior medical care complemented by a warm and personalized human touch to the members of most of the insurance companies in UAE. The Insurance department of the hospital has 43 Insurance companies on direct billing.

The past few quarters of financial year in 2015 suffered high rejection from insurance companies and no sufficient report or analysis was done in the hospital to figure out the reasons. Hence the need to map the process, analyze the reasons and streamline the process was felt, and the study was proposed to be conducted.

AIM

To develop an understanding of the process flow of insurance department, the claim management and analysis of rejection rate for high risk insurance companies of 2015.

OBJECTIVES

- To identify the reasons and rate of rejection for medical claims in Thumbay Hospital, Ajman.
- To apply Six Sigma DMAIC tool for analysis and suggestive measures to reduce rejection rate of medical claims in Thumbay Hospital, Ajman.

METHODOLOGY

A Qualitative Retrospective Study was carried out on the insurance department in Thumbay hospital; Ajman. The study was on claims processing of the patients who have the health insurance policy for out-patient, inpatient and pharmacy services. 5566 medical claims from September to October 2015 (last financial quarter) were included. These medi-claims were collected from accounts department and HIMS of Thumbay Hospital, Ajman. The collected data will be analyzed using simple statistical methods and Six Sigma DMAIC tool.

RESULTS

It was analyzed that there are 5 high risk insurance companies which faced the maximum rejection rate for 5 departments which were Internal medicine, Obstetrics and Gynecology, Pediatrics, general surgery and Emergency.

CONCLUSION

Since the reasons of high rejection rate were identified, methods to improve the process and streamline it were suggested. A proper up gradation in the HMIS system of the hospital could reduce the rejection rate drastically. There should be a proper training manual for the insurance front desk staff with all the inclusion and exclusion criteria's for all companies so that if becomes easy to understand approval requirements. Doctors should also be informed about the general insurance policies and the medical claim requirements. All these changes when incorporated could help in reducing the rejection rate.

Acknowledgement

"A Great achievement solution dawns with an idea, grows with our effort and attains fulfillment with our will power". In our effort towards the realization of my project work, I have drawn on the guidance of many people for which I'm glad to acknowledge.

I got the opportunity to pursue my dissertation from Thumbay hospital, Ajman. It was an opportunity to work with one of the best health care service providers & Ist JCI Accredited hospital of Ajman. I would like to thank my mentor & guide **Dr. Nada Omar**, Head of Department, Insurance Department, Thumbay hospital, Ajman for providing an opportunity to carry out the project work and utilizing the facilities available.

I'm thankful to **Dr. Manvir Singh**, Director operations and quality, Thumbay Group for being my mentor and project guide for the entire period of my dissertation, for helping me improve the quality of my work and for helping me identify areas where I lack and work upon them.

I also express my special thanks to my senior & colleagues Dr. Harsh Sood, Dr. Ankita, Dr. Rajesh and Dr. Astha who helped me develop better understanding of Insurance process and Healthcare Revenue Management, which has helped me a lot in successful completion of my project.

I'm grateful to my guide **Col (Dr.) Ashok Kaushik** for his help and wholehearted encouragement. Their assistance enabled me to overcome many obstacles during the work of my project study.

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LIST OF ABBREVIATIONS

1. TPA: Third Party Administration
2. HMIS : Hospital Management Information System
3. RR : Rejection Rate

Part B – Dissertation Report

Chapter- 1

Background of the Study

1.1 Introduction

Healthcare is among the priority sectors identified by the UAE government and, as result, the UAE healthcare industry has displayed extraordinary growth and significant progress in the past few years. The government's focus on healthcare in aimed not only to diversify the oil-reliant economy but also to develop unprecedented healthcare infrastructure to ensure that adequate services are provided in the Emirates. Healthcare is regulated at both the Federal and Emirate level. Federal level legislation dates back to the 1970s and 1980s and there are pending legislative reform initiatives in order to facilitate the development of the healthcare industry. There are also two healthcare free zones in Dubai, Dubai Healthcare City and Dubai Biotechnology and Research Park, which have their own regulatory bodies.

Principle Regulatory Authorities

Public healthcare services are administered by different regulatory authorities in the United Arab Emirates. The Ministry of Health (Ministry), the Health Authority-Abu Dhabi(HAAD), the Dubai Health Authority (DHA), and the recently formed Emirates Health Authority (EHA) are the main authorities.

Ministry of Health (the Ministry) and Emirates Health Authority (EHA)

The UAE Ministry of Health (the Ministry) was established pursuant to Federal Law No. of 1972 to, among other things, license companies and individuals providing healthcare services build and manage health facilities and regulate various areas of healthcare, including the practice of medicine, dentistry, nursing, pharmaceuticals and laboratories. According to Cabinet Resolution No. 10 of 2008, the Ministry is to provide UAE citizens with healthcare, prepare health, preventive and training programs, organize the practicing of healthcare professions and establish, manage and supervise health facilities.

Health Authority Abu Dhabi (HAAD)

In 2001, the Abu Dhabi government established GAHS, the General Authority of Health Services, with a mandate to oversee all public healthcare institutions in the Emirate of Abu Dhabi. In 2007, GAHS was split into two organizations, HAAD (Health Authority of Abu Dhabi), the regulatory body of healthcare in Abu Dhabi, and SEHA (Abu Dhabi Health Services Company), the operator of public healthcare assets.

HAAD was established as a public authority with financial and administrative independence pursuant to Abu Dhabi Law No. 1 of 2007. According to Law No. 1, HAAD's mandate is to provide the highest levels of medical and health insurance services and to develop the health sector and related policies in Abu Dhabi. HAAD is also responsible for, among other things, monitoring and regulating the healthcare industry in Abu Dhabi, and overseeing the process to upgrade the hospitals and clinics in the Emirate of Abu Dhabi in accordance with accredited international standards.

Abu Dhabi Health Services Company (SEHA)

Abu Dhabi Amiri Decree No. 10 of 2007 established SEHA as an Abu Dhabi public joint stock company owned by the Abu Dhabi government. According to Decree No. 10, SEHA owns and manages, either directly or indirectly, public health facilities and is expected to implement the policies, projects and strategies approved by HAAD to develop the healthcare industry in the Emirate of Abu Dhabi. SEHA's website states that it owns and operates12 hospital facilities, 2,644 licensed beds, and more than 40 Ambulatory and Primary Healthcare Clinics. According to its website, SEHA is currently collaborating with a number of healthcare groups, including the following:

Dubai Health Authority (DHA)

DHA was created in June 2007, pursuant to Law No. 13 issued by His Highness Sheikh Mohammed bin Rashid Al Maktoum, the Ruler of Dubai. As the strategic health authority for the Emirate of Dubai, DHA's principle objectives include healthcare planning and promotion of healthcare investment in Dubai, improving healthcare quality through information systems and standards, regulating healthcare services in Dubai, developing a comprehensive healthcare

insurance and funding policy, public health promotion, developing medical education and research, and owning and operating Dubai government healthcare facilities.

DHA is authorized to regulate all healthcare services in Dubai, including those in free zones. Healthcare facilities and professionals in Dubai must be licensed by DHA. The principle facilities license categories are hospital and day surgical centers, ambulatory care facilities, diagnostic centers, complementary and alternative medicine centers, pharmaceutical facilities and other facilities. DHA owns and operates a network of medical facilities including hospitals (Al Wasl, Dubai and Rashid), and primary health care and specialty centers (e.g. the Dubai Diabetes Center) spread throughout the Emirate of Dubai.

1.2 Health Insurance Law – Mandatory Insurance to All

The Dubai Health Authority (DHA) enacted a health insurance law (No. 11, 2013) in November 2013 that mandates coverage for all residents and visitors in Dubai, the largest Emirati state, with a population of around three million. This move has been under consideration since 2009. Dubai is following the lead of other nations in the Middle East; workers in Abu Dhabi and Saudi Arabia have long been required to have health insurance, and in June 2013, Qatar enacted a health insurance law that mandates coverage for all Qatari nationals and visitors.

Key Details

Implementation of the law will be phased in gradually, started in 2014, and is expected to be completed by June 2016 as follows:

- Employers with over 1,000 workers must comply by the end of October 2014.
- Employers with between 100 and 999 workers must comply by the end of July 2015.
- Employers with less than 100 workers must comply by the end of June 2016.
- All workers' spouses and dependents must be covered by the end of June 2016.

Starting January 1, 2014, insurers, brokers, third-party administrators and health care providers are required to register with and obtain a permit from the DHA. Insurers will not be allowed to deny individuals coverage due to preexisting health conditions.

The new law applies to all residents (including offshore zones) and visitors. Compliance with the health insurance requirements will be a prerequisite to applying for residency or a visitor's visa. Noncompliance could lead to stiff penalties for the employer.

Employer Implications

Health insurance for employees must be provided and paid for by employers. At a minimum, a prescribed basic health plan must be provided, although it will be permissible to offer richer plans. The basic health plan includes coverage for dental, hearing and vision, and includes deductibles and coinsurance; visits to a specialist are subject to a referral system. Coverage for spouses and dependents is the responsibility of the employee, although we expect that some employers may elect to provide it.

The UAE government spends almost $10 billion on health care annually. According to the World Health Organization, this is 75% of the total spend on domestic health care — 25% is covered by the private sector. The new rules are intended to shift more of this burden from the government to the employer.

1.4 Aim

To develop an understanding of the process flow of insurance department, the claim management and analysis and reduction of rejection rate.

1.5 Objectives

- To understand thoroughly the process flow of a health insurance claim in Thumbay hospital, Ajman.
- To suggest measures to reduce rejection rate of medical claims in Thumbay Hospital.

Chapter- 2

Review of Literature

Comparatively Health insurance coverage is high in developed countries like USA, UAE, Canada, but there are very few reports and work done on the rejection rate and process improvement of Health Insurance claim processing. Few of the literatures worked on rejection rate and process improvement are as follows.

A reporter of Kiser Health news (Galewitz P) through his report has given overview of rejection rates of different insurance companies in America - Kentucky, Columbia. The findings of the report in this context are the denial rates of different insurance companies, comparison between the policies, reasons for the variations in rejection rates, as per the report the reason for variation is difference in claims process adopted between the payers and providers.

A similar study conducted in 2011 (Carmel P.W) gives details about the denial rates, comparative data of before and later stages, and the reason of betterment in America. The key findings of report are health insurers' shows that claims denial rates in 2011 are dramatically lower than in previous years. Billions of dollars per year are saved by eliminating administrative waste, by processing the claims timely, accurately and specifically. Health insurers' claims-payment processes are still littered with inaccuracies and inefficiencies. Claim process campaign was introduced; campaign's goal is to spur improvements in the industry's billing process.

Accumed Pm is a TPA; it works on the gap between healthcare providers and service payers. The report made by accumed pm says the gap between health care providers and service payers has been well established and clearly defined in the United States, Canada and Europe, this relationship has yet to mature in the Middle East. The result is lost money and poor business management. As per the report In the UAE it is estimated that up to 15% of claims submitted to insurance companies by private practices are rejected. Another 15% of claims are delayed because of inappropriate processing of claim forms and supporting documents. The average claim payment cycles are between 90 and 120 days. The report works on medical coding, billing, insurance validation, financial and business management through assisting healthcare providers by optimizing healthcare delivery and operational processes.

A report (by Xerox) made aggressive 75 days study with data capture services of over 250000 claims per week. Report gave solution through a smart system to auto-adjudicate claims,

processing cycle time was accelerated by 75 percent, from 10 days to 60 hours. Report worked on Implementation of state-of-the-art technology to perform all claims processing services, including full mailroom services, data entry, storage and retrieval, digital imaging, x-ray processing, online updating and Intelligence Queue/Data Cleansing.

Chapter- 3

Methodology

3.1 **Study design**: A Qualitative Retrospective design was planned to analyze the rejection rate of insurance department.

3.2 **Time period**: September – October 2015

3.3 **Location of study**: Thumbay Hospital, Ajman

3.4 **Study subjects**: All medical claims from September – October 2015 for outpatient, inpatient, and pharmacy.

3.5 **Sample size:** 5566 medical claims.

3.6 **Data analysis:** Statistical methods and Six Sigma DMAIC tool.

3.7 **Source of data:** HIMS and accounts department of Thumbay Hospital.

3.8 **Inclusions:**

- Samples of patients availing inpatient, out-patient and pharmacy services.
- Samples of Internal Medicine, Emergency, Gynecology, Pediatrics and Dermatology.
- Samples of 5 high risk insurance companies NAS, Damaan, Mednet, Al-Buhaira and OMAN.

3.9 **Ethical considerations:** The confidentiality of records was maintained and not shared elsewhere. It was taken only for study purpose and no information of hospital will be revealed elsewhere other than the academic purposes.

Chapter 4

Analysis and Results

Six Sigma is a project methodology that strives for: – Continuous Improvement. The Six Sigma approach follows 5 phases: – **Define**: Identify, prioritize, and select projects – **Measure**: Identify & understand process parameters and measure performance – **Analyze**: Identify the key process determinants – **Improve**: Optimize performance – **Control**: Hold the gains

4.1 In the DEFINE stage

- Process flow of the insurance department is designed.
- KPI of high risk insurance companies is found justifying why these 5 companies were chosen for analysis.
- Department Specific Rejection Rate (RR) using Pareto tool is calculated to justify why study was conducted on five departments only.

4.1 .1 Drafting of Process Map

The four main operational sections of the insurance departments are

1. **Approvals Section** – where the pre-approvals are taken for out-patients and in-patients. It includes approvals for all consultations, lab investigations, radiologic investigations, procedures, surgeries & admissions.
2. **Claim Processing Section**- is designed as the unit dealing with proper processing and documentation for claims.
3. **Claims Verification Section** – where inspection and verification of all documents takes place.
4. **Reconciliation Section –** it is a secondary unit which focuses to review the rejected amount and amount received from insurance department.

Basic steps involved in getting the approval process are listed below-:

- Obtaining approvals for out-patients & in-patients,
- Claim processing
- Claim verification,
- Final settlement & reconciliation for payments

After the in depth understanding and observational tracking of the system a process map was drafted to clearly visualize the process flow and services.

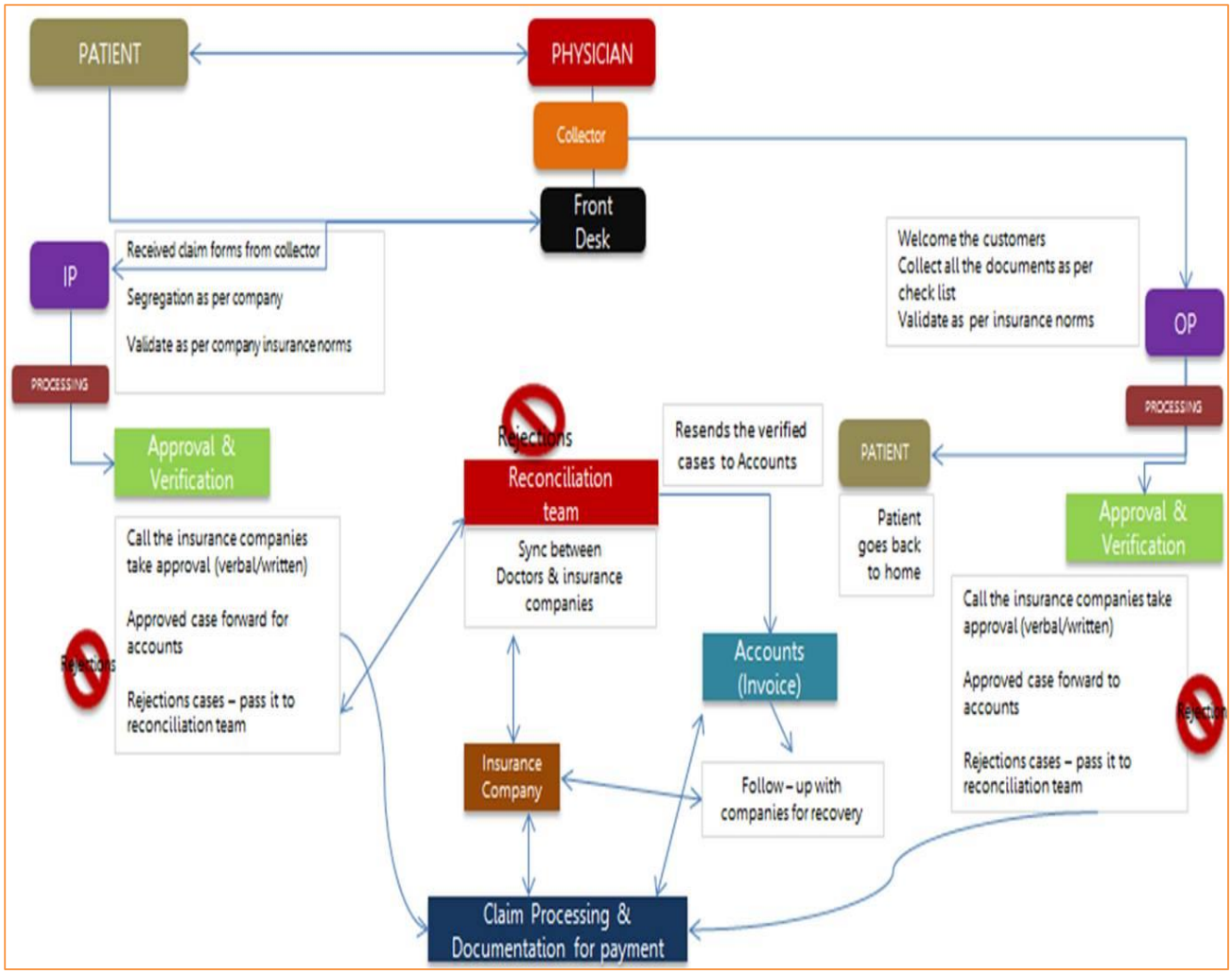


Figure 1 process flow chart of insurance department.

4.1.2 Drafting the Process Flow

- After obtaining the process map the process flow was drafted.

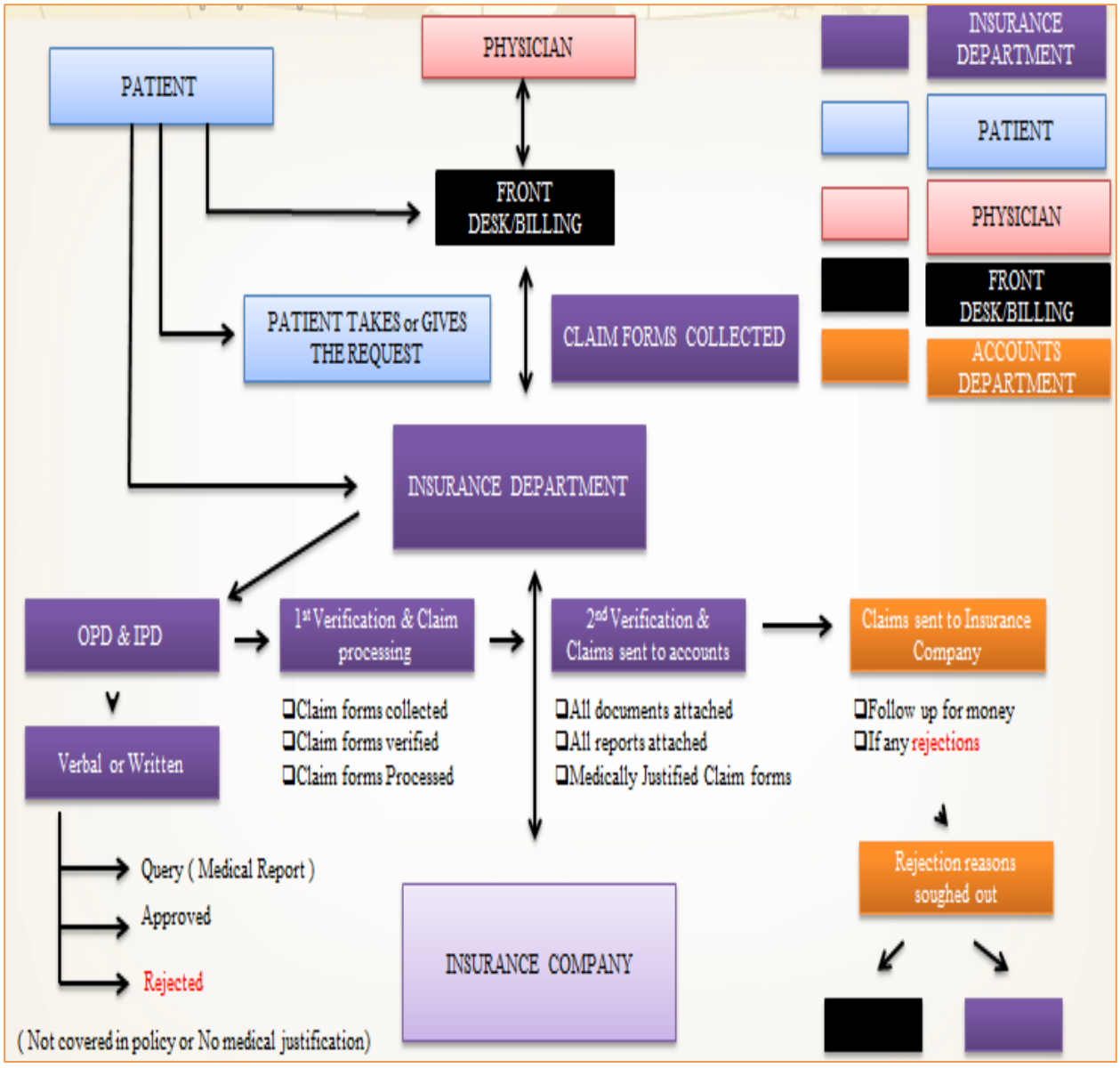


Figure 2 Process map of insurance department

4.1.3 Rejection Rate

Rejection rate of insurance department is a critical to quality factor. The purpose of calculating the RR is to know the reasons for high rejection and departments which need attention. Implementation of necessary changes will be planned to reduce the volume of insurance claims that are denied so that rework can be reduced and revenue generation is increased.

Ideal RR should be <6%. The present scenario od rejection in the hospital is described by the figures mentioned below:

- All the processed claims and settled amount was compared from the received amount to calculate the rejection rate.

Months	August '15	September '15	October '15
Net Amount	1204087.25	1951445.9	1874062.73
Rejected Amount	236325.54	605995.43	539076.43
Rejection Rate	19.63%	31.05%	28.77%

Table 1 Overall Rejection Rate

- It was the first time when the net amount and rejected amount were calculated in the organization. The monitoring of rejection rate leads to sudden attention towards need for financial monitoring of insurance department.

4.1.4 Rejection rate of high risk insurance companies

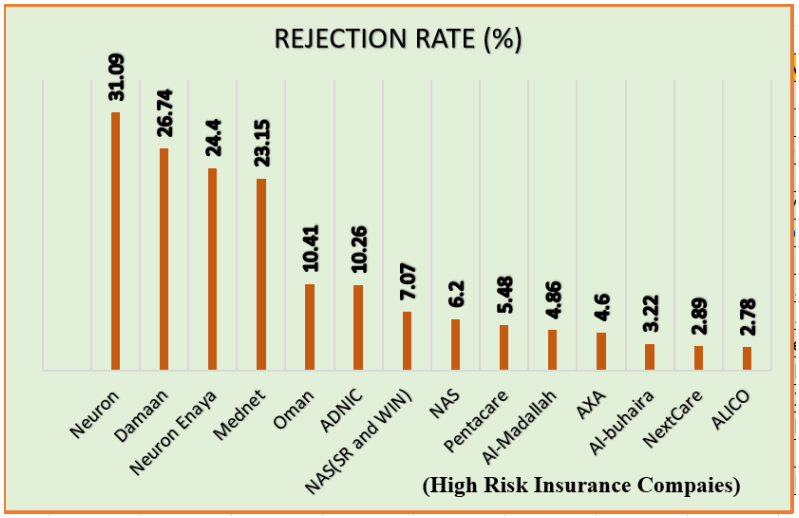


Figure 3 Rejection Rate of High Risk Insurance Companies

Rejection rate of insurance companies is a Key Performance Indicator (KPI) for the insurance department and should always be < 6%. For 2015 these 10 companies have had the highest rejection rate causing maximum financial loss to the hospital. Although, companies like Pentacare, Al-Madallah, AXA, Al buhaira, NextCare and ALICO have Rejection Rate <6% but

this is an average, if calculated deprtemnt wise the Rejection Rate is >6%. Hence, department wise rejection rate for all 10 companies was calculated.

4.1.5 Department specific Rejection Rate of high risk insurance companies was calculated.

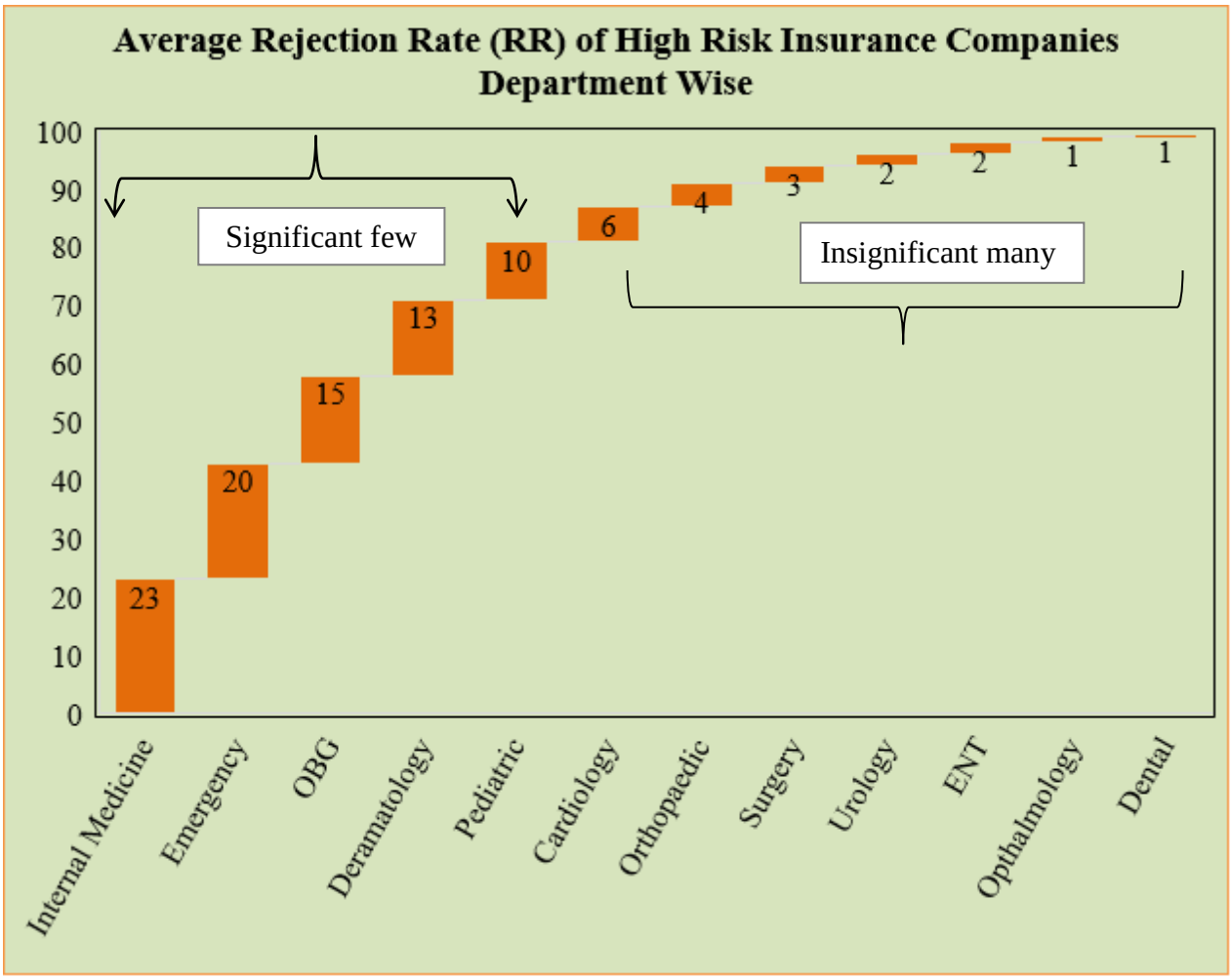


Figure 4 Department Specific Rejection Rate

After calculating the department wise RR for August to October 2015 we inferred that even if the RR of insurance companies on an average is <6% it is important to calculate it department wise to know the actual RR in each department of the hospital so that department specific corrective measures can be taken.

Pareto tool with the concept of 80-20 was applied to find the few significant departments which had alarming results i.e. had RR >10% and required immediate attention. Departments with RR <6% were inconsidered. Department specific RR was calculated for the first time.

4.2 MESURE

Department specific rejection rate was calculated taking an average of all the three months i.e. August, September and October 2015.

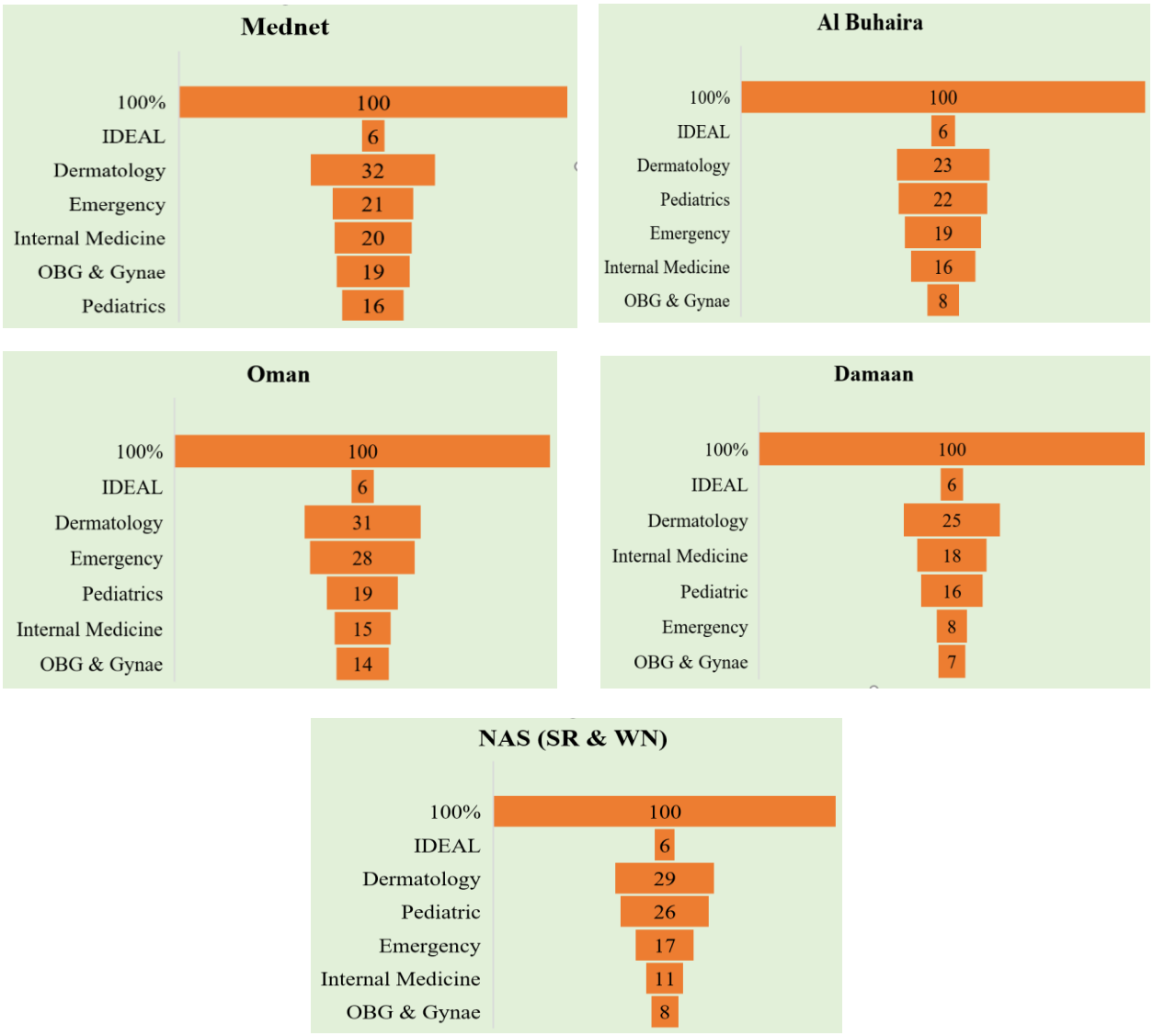


Figure 5 Rejection Rate of High Risk Insurance Companies For High Risk Departments

From the above analysis we inferred that maximum rejections were being faced in Dermatology and Emergency. Calculation of department specific analysis was done for the first time in the hospital. It helped the insurance department to understand the critical departments which need to be taken care of during approvals. After knowing the critical departments, it was important to know the reasons for high rejection in these departments, specially dermatology and emergency. Hence, further in the study data of all insurance companies for these 5 departments was analysed and segregated on the basis of reasons of rejection.

4.3 Analyse

After the evaluation of claims and before reimbursing to the hospital all insurance companies issue statements of rejection or denial for all doubtful or unjustified cases. The reconciliation team of the insurance department of the hospital has to justify the claimed amount for reimbursement. According to these statements of rejection issued by the insurance companies, reasons for rejection were analysed for all the cases.

After linking the RR with the specific departments it is important to analyse the cause of Rejection also department wise so that corrective measures can be taken. Hence, using the Fish Bone Diagram assessment of the causes of rejection was done. They were further sub-classified: Administrative and Clinical.

4.3.1 Clinical causes of rejection

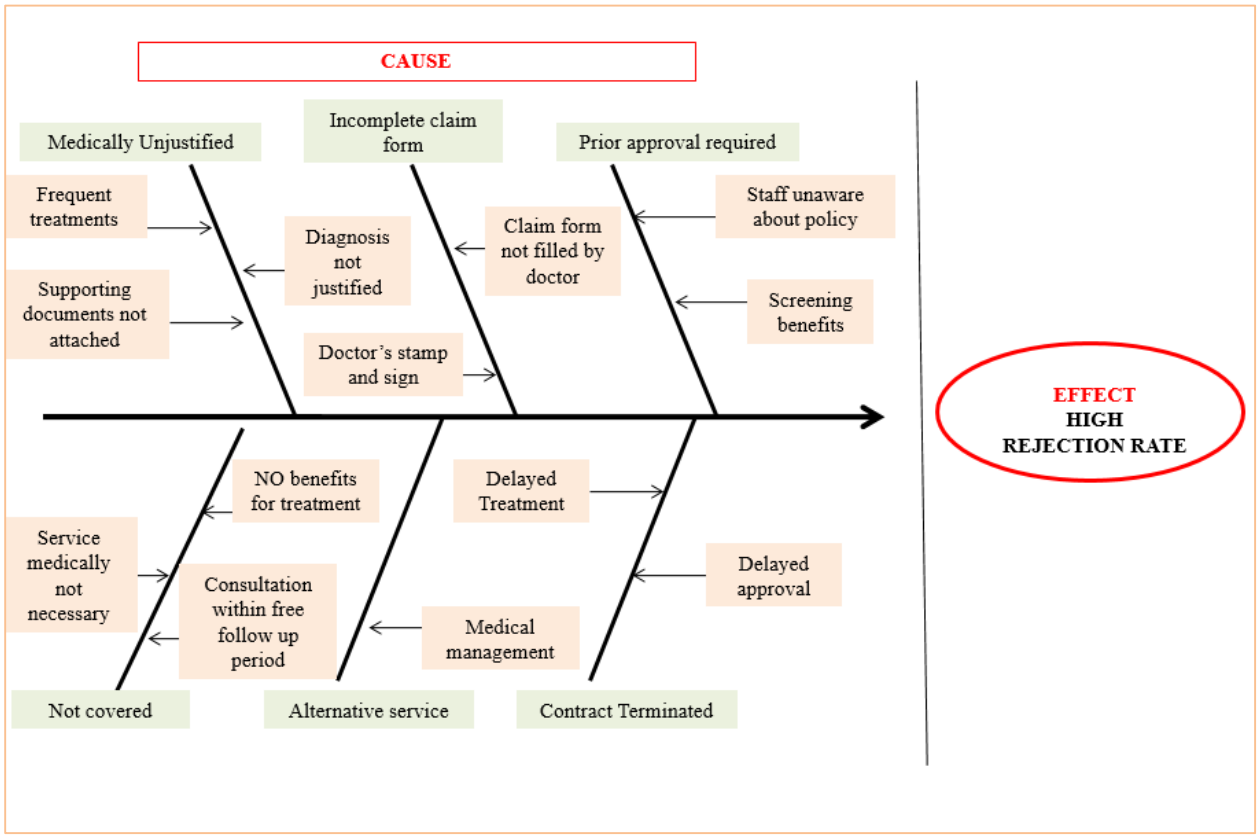


Figure 6 Fish Bone Diagram for Clinical Reasons

4.3.2 Administrative causes of rejection

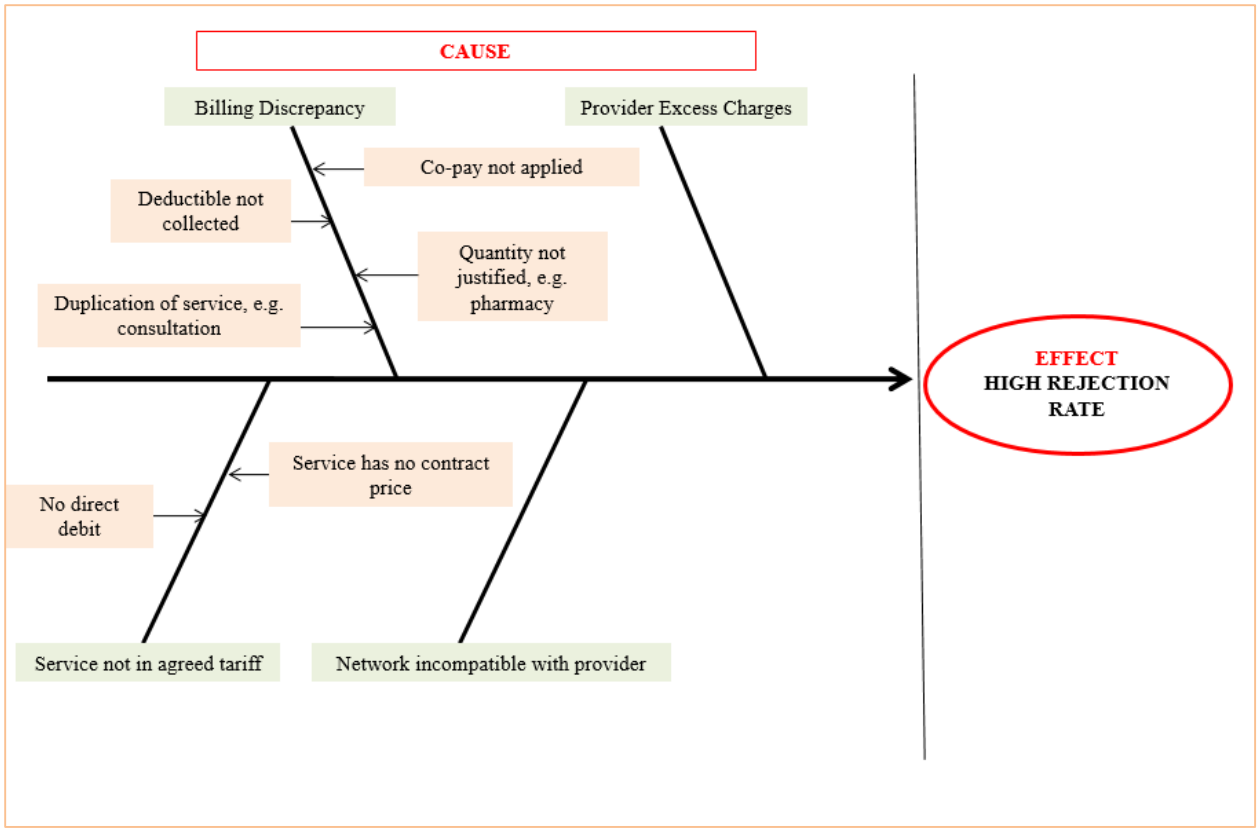


Figure 7 Fish Bone Diagram for Administrative Reasons

Pareto tool (80-20) was used to prioritise the attention of the hospital insurance team on the causes of rejection. It was then found that major rejections in all departments were because of medically unjustified and billing discrepancy. By knowing the two major reasons we know the corrective measures to be taken for each department.

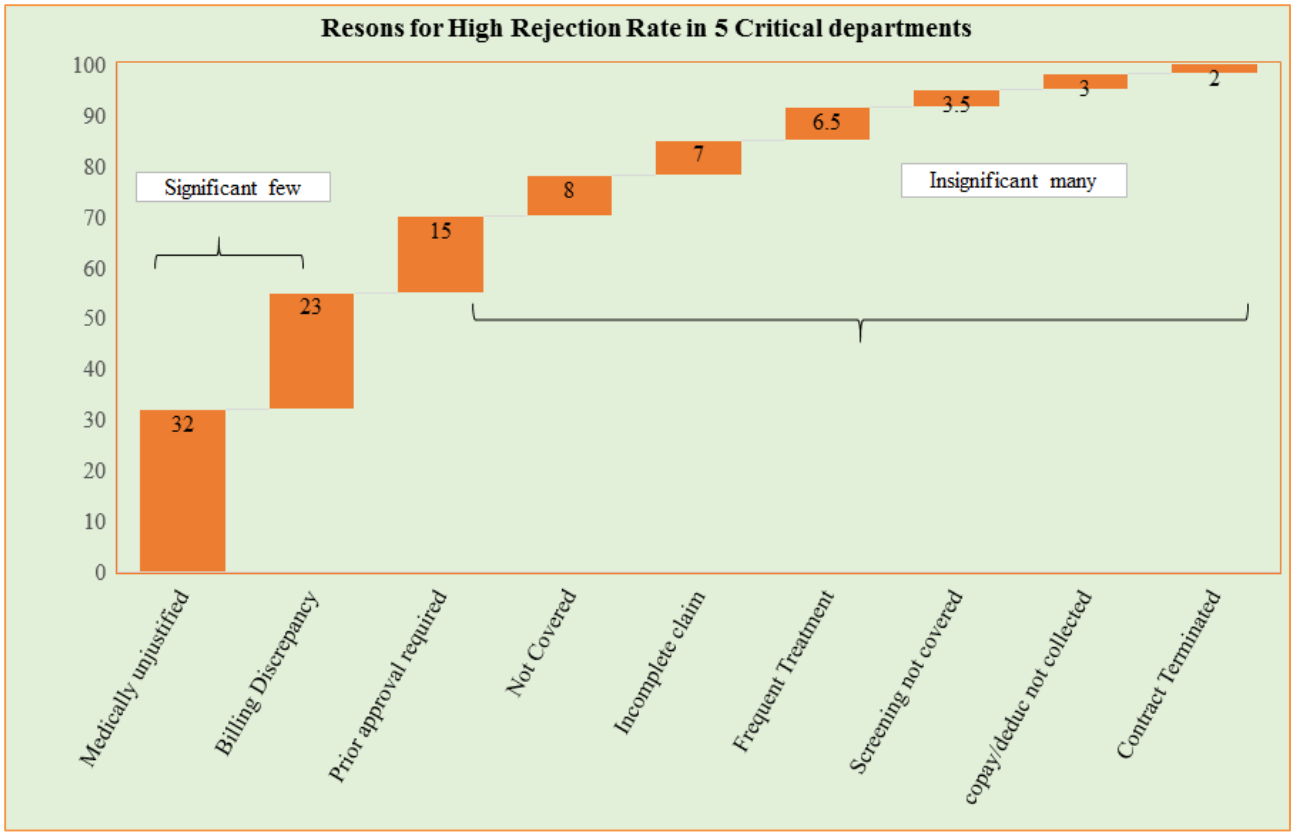


Figure 8 Reasons for high RR in 5 critical departments

Pareto tool (80-20) was used to prioritise the attention of the hospital insurance team on the causes of rejection. It was then found that major rejections in all departments were because of medically unjustified and billing discrepancy. By knowing the two major reasons we know the corrective measures to be taken for each department

Chapter 5

Suggestions & Conclusion

5.1 Implementation

Reasons for high rejection rate as per the department were known now. In the next step Value Stream Mapping of the department is done to identify the vulnerabilities in the process. Each step was thoroughly monitored and corrective measures were suggested to avoid clinical and administrative reasons of rejections. Also, up gradation in HIMS were suggested. These up gradations have been shown below:

5.1.2 Suggested Upgradations in HMIS

As per the analysis, maximum rejection is because medically unjustified claims and billing discrepancies. Hence, the following upgradations were suggested to be made in the HIMS to reduce the RR.

For medical justification, we can have

1.) Additional sections of lab reports, radiology reports and medical records to see the previous case history and background of the patient. This will make the process of approval easier and accessible.

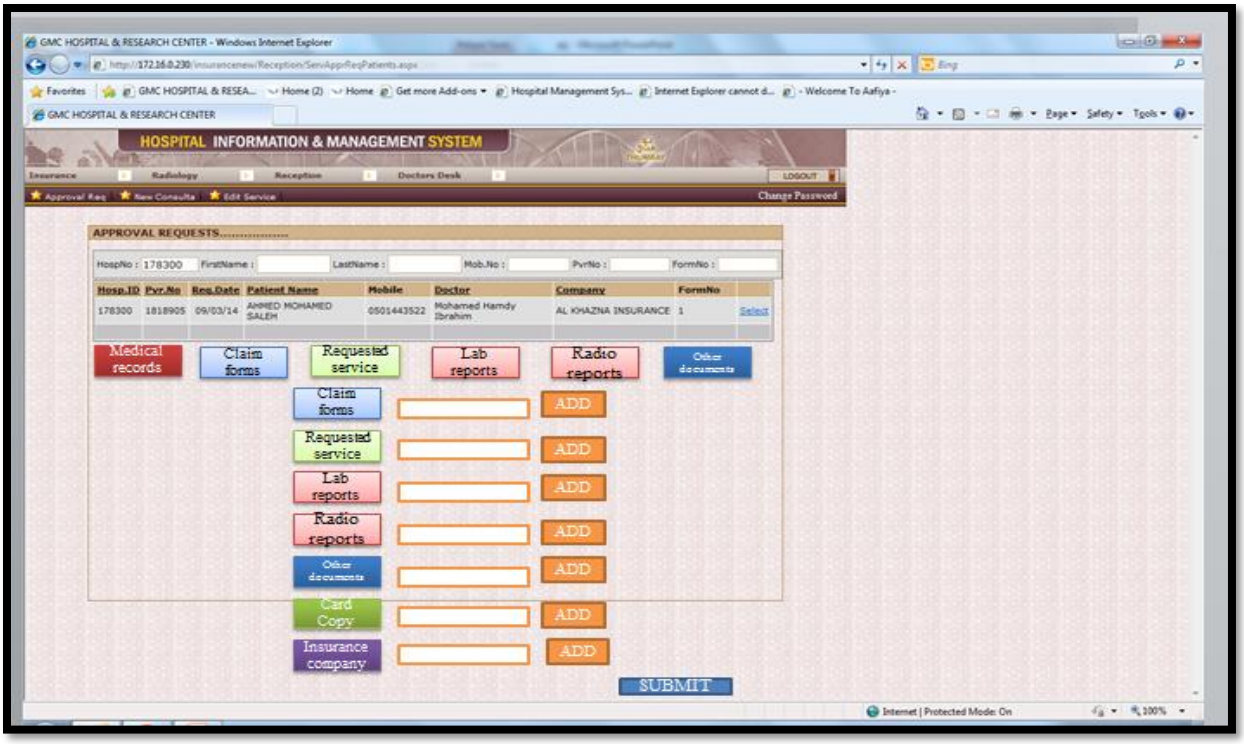
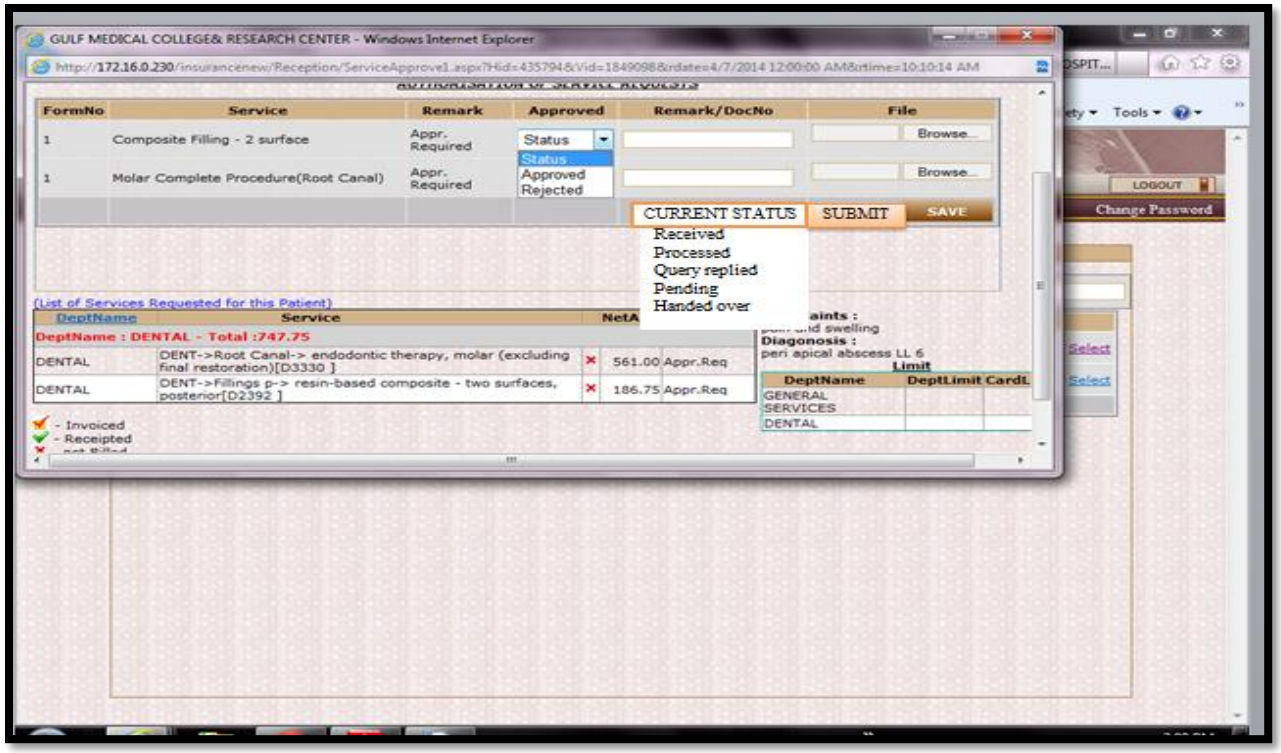
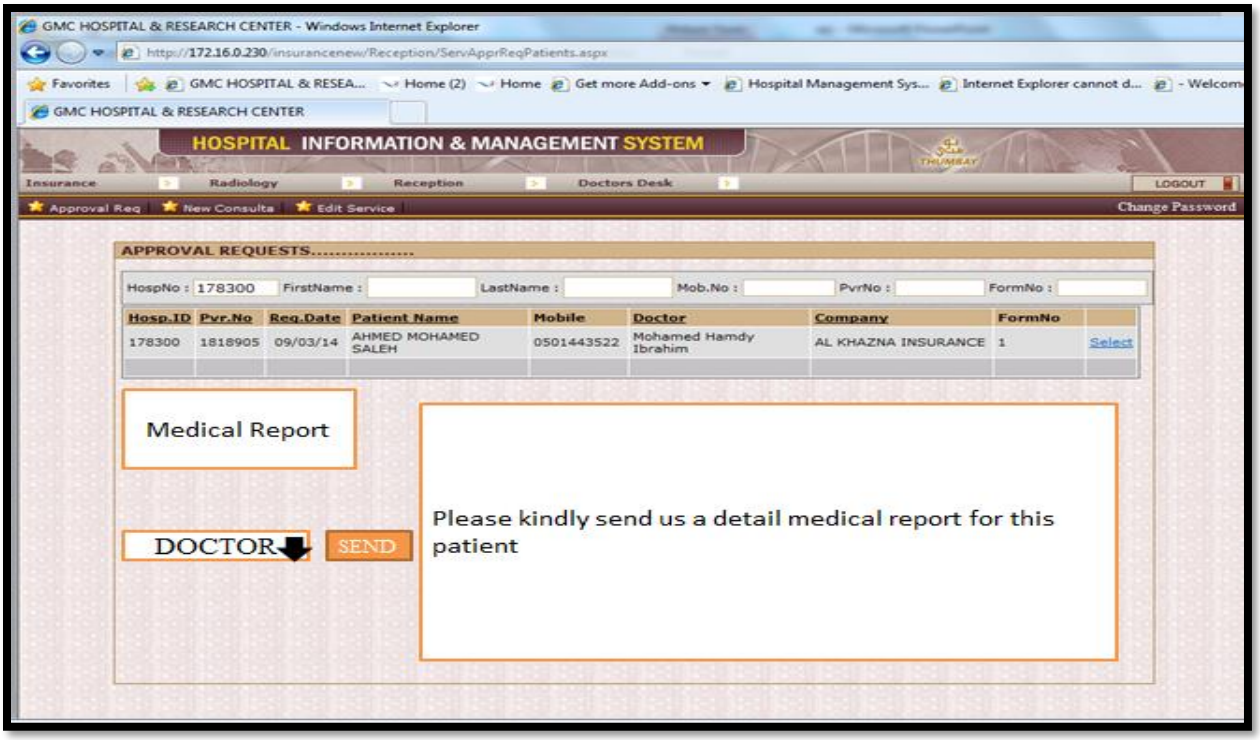


Figure 9 HIMS Upgradations

2.) Many a times, the claim expires and the patient still doesn't get the approval or patient collects the approval from insurance department but does the procedures or investigations at his/ her convenience. This leads to rejection of claims when submitted. If an approval status button is added in the HIMS at the time of collection of approval, the insurance executive would be aware about the claim form status. Also, this would save time and money for the hospital.



3.) Presently in case of a query from the insurance company, the office boy goes to the doctor to get the medical reports, it is then scanned and mailed. This wastes a lot of time causing delayed approval. E-Prescription and E-medical report button can be added in HMIS for sending various replies to queries of insurance companies for faster and better medical justification to reduce rejections or denials.



5.2 Control

For following the implementations suggested, it is important to regularly check or control them so that the process is sustainable.

The following measures are suggested to control the rejection denial rate.

1.) A proper revenue control check should be done timely to calculate and analyze the revenue losses and check for loop holes.
2.) The financial results after final claim rejection should be discussed for every quarter where the reasons are justified.
3.) All approval team members should be periodically updated with the changing policies and direct billing tariff list.
4.) A proper first verification team should be there to check for all the claim approvals and documentation claims for all departments. This should be done within 24 hours of approvals.
5.) A regular up-gradation of the HMIS system should be done periodically.
6.) Regular updates on approvals attachments should be checked by the verification team.
7.) A tracker for each app.
8.) A common online portal for reconciliation for ability to appeal, reason for denial and justification should be made. So that tracking becomes easier.

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