Improving the Revenue Management Matrix and Re-Engineering the Insurance Department Process: For Hospital in Sharjah, U.A.E administered by Innovamed Practice Management

By

Soumya Arora

Dissertation submitted in partial fulfillment of the requirements of the degree

MBA Hospital and Health Management

Academic year, 2017-2019

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IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that Dr Soumya Arora, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Innovamed Practice Management LLC,Sharjah, UAE from 7 Feburary 2019 to 5 May 2019

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

The Internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.

(Col) Dr. Ashok Kaushik
Dean, Academics and Student Affairs
The IIHMR University, Jaipur

16 May 2019.

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iNNOVAMED
PRACTICE MANAGEMENT LLC

May 06, 2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr Soumya Arora holder of Indian Passport Number J5416424 was working in our organization as "Management Trainee" from Feb 07,2019 to May 05,2019 as a part of her dissertation program of MBA (Hospital & Health Management).

She has completed the assigned project in U.A.E office as well as supported the India office in operations, monitoring and routine activities.

She came across as a committed, sincere and diligent person who has a strong drive & zeal to learn. She was also sponsored for Certified Professional Coding (C.P.C) Training to meet operational requirements of our organization.

We wish her every success in life.

For Innovamed Practice Management LLC

(Mr. A.B.Shaheen)
Head, Human Capital

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INNOVAMED PRACTICE MANAGEMENT LLC

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Dr. Soumya Arora
for ~~his~~ / her Proficiency / ~~Participation~~
in CPC Certification Preparation via 80 Hrs of Classroom Training
Conducted by Al Talouk Medical Coding Training
Wishing you good luck
April, 2019
Date
Authorized Signatory
Al Talouk

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "IMPROVING THE REVENUE MANAGEMENT MATRIX & RE-ENGINEERING THE INSURANCE DEPARTMENT PROCESS" for Hospital in Sharjah, U.A.E administered by Innovamed Practice Management and submitted by Dr. Soumya Arora Enrollment No. IIHMR-U/01/2017-19/0679 under the supervision of Dr. Nutan Jain for award of MBA in Hospital and Health/ Pharmaceutical / Rural Management in Health and Hospitals of the University carried out during the period from 07th Feb'19 to 05th May'19_ embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Signature

ACKNOWLEDGEMENT

"Ideas are easy. It's the execution of ideas that really separates the sheep from the goats. The efforts that bring changes is purely not only yours but mainly of the people who stood by you in understanding and delivering your today's hard-work into tomorrow's results" **—** *Sue Grafton*. In my effort towards the understanding of my project work, I have drawn on the guidance of many people for which I'm really happy to acknowledge.

I got the opportunity to pursue my dissertation from Innovamed Practice Management, one of the leading RCM Company of U.A.E

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I'm also thankful to my father, my friends and all those who have directly or indirectly helped me to complete this project.

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PART A – INTERNSHIP REPORT

OBJECTIVES AND PURPOSE OF THE INTERNSHIP

It is imperative in the field of management to do internship at the end of class room teaching. As a part of the curriculum of Master of Business Administration (Hospital & Health management), I was supposed to undergo 3 months of internship with a healthcare organization to learn various management processes. It allows having hands on experience that is sometime missing in theoretical knowledge.

It is crucial to conduct an independent project / analysis during internship. It also gives a value addition to the respective organization. The fundamental objectives of the internship are:

- To understand and get involved in day to day operations in the organization and its various departments/ services of clients.
- To comprehend the company-client commitments & relations.
- To find an area in the organization where improvement is required and where management knowledge and skills can be imparted for increasing the efficiency and scope for revenue generation.
- To efficiently carry out the projects/ special responsibilities assigned to me in the company.

Routine or general management activities during Internship

Our day in company begins with meeting titled as morning meeting, all the activities of previous days were discussed and then task were evaluated and every work in progress was monitored.

I was sent to see various parts of client's hospital i.e. Outpatientand Inpatient approvals department, billing department, coding department and finance department. I was initially being told to learn the floor activities so that I can monitor them in near future.

Clientvisited / associated with:

Client services were supported by the company with my parallel supervision. Also, I was sponsored for coding training program which help me in improving my skill set and channelize my potential to maximum benefit of company for supervising the processes.

ORGANIZATION PROFILE

INNOVAMED Practice Management LLC established in year 2018 in Sharjah Media City Freezone (Shams), is licensed for the activity of 'Business Management Consultancy Services.'

INNOVAMED PM is a consultancy company that applies its healthcare management/ insurance/ coding/ billing experience to aid providers in the development and enhancement of their current process flows and management policies. It serves physician groups, hospitals, surgery centers and behavioral health agencies, and provides management solutions for medical billing, certified coding, analytics, practice management and compliance.

VISION

'To become the reference point of HealthCare business consultancy of the region.'

MISSION

'Provide profitable expertise in terms of business management consultancy to potential clients with detailed business analysis and effective consultancy plan.'

Expertise

INNOVAMED's strong expertise at understanding potential client needs and mapping them against its wide range of consultancy plans, gives us a comprehensive edge in the healthcare market place.

Since its launch in June 2018, INNOVAMED has offered and continues to offer innovative business solutions coupled with regional healthcare management expertise.

Potential Clients

INNOVAMED targeted clients are healthcare facilities within UAE. Having the expertise of RCM in the healthcare management, we are targeting healthcare clients, to analyze their existing management and business strategies, and support them with enhancement of the same.

Existing Clients

INNOVAMED PM has scored to link up with the masters in business intelligence in the region and has currently contracted with the following medical facilities for Management Strategies:

- Specialized Dental and Orthodontic Centre
- Lilac Medical Centre
- W.Wilson Specialized Hospital
- Ishtar Medical Centre

In order to capitalize the healthcare market of GCC and their revenue INNOVAMED have various Revenue Cycle Management (RCM) companies in UAE. Innovamed is one of leading Revenue Cycle Management Companies. As Revenue Cycle Management experts, the company provides Hospitals with the precise information and methodology needed to systematically and continuously optimize their revenue. Through its proprietary technology and expert consultants, it serves as a bridge between providers, payers and patients. As a business process outsourcing (BPO) company, INNVOVAMED serves as an extension of the healthcare providers-billing department. When compared with running an in-house RCM facility, the company can provide their client access to state-of-the-art technology and highly qualified professionals at a much more cost-effective proposition.

INNOVAMED, takes account from activities from overseeing complex insurance and patient billing processes, reducing Turn Around time (TAT) and resources, which reduces the hospital's burden of revenue cycle management and where client can focus more on clinical components than administrative ones.

Innovamed is staffed by a team of expert professionals who assist in administering to the needs and queries of patients holding insurance cards. Insurance companies on direct billing: Abu Dhabi National Insurance Company, Al Buhaira Insurance Company, Al Ittihad Al Watani Insurance Company, Al Khazna Insurance Company, Alliance Insurance Company, Arabian Scandinavian Insurance Company, Axa Insurance, American Life Insurance Company "ALICO", Ahlan Care, Al Dhafra National Insurance, ACE Life, AlMadallah Health Care Management, Daman Insurance, EKLAIM, Fathima Healthcare Management Services UAE, FMC, Focus, GLOBE MED, Globel Net, Aetna Health Service, "Goodhealth", Healthnet Insurance, Interglobal, Lebanese Insurance Company, MEDISERVE, Mednet and all the Insurance Companies listed under Mednet, MIPOL, MSH, NAS Admin Services, Next Care, Neuron, P.M care "AVITA" and Oman Insurance Company are served by company.

Managerial Tasks performed:

a) **Invoice submission & Processing**: After my initial training I was assigned the task to monitor the quality of claim coding, processing, submission, resubmission till final reconciliation.

b) **Additional Responsibilities:** I was assigned additionalresponsibilitiesto monitor the establishment of India office and to define proper process of interaction between both offices.

c) **Extra-curricular**: Daily I use to be the part of intense coding training which is the base of insurance in U.A.E market and was essential for our company operations.

PART B – DISSERTATION

IMPROVING THE REVENUE MANAGEMENT MATRIX & RE-ENGINEERING THE INSURANCE DEPARTMENT PROCESS" for Hospital in Sharjah, U.A.E administered by Innovamed Practice Management

CHAPTER- 1

1.1 INTRODUCTION

As a consequence of falling oil prices, diversification of the economy has remained a priority for governments across the Gulf Cooperation Council (GCC) in recent years. Throughout troubled economic times as well as during fiscal stability, spending on healthcare has continued to grow. The private sector has increasingly been considered as a key partner in the long-term development of the healthcare industry, particularly in terms of the quality of care in medical services. According to a 2018 GCC Healthcare Industry Report by Alpen Capital, the current healthcare expenditure (CHE) in the GCC is projected to reach US$ 104.6 billion in 2022 from an estimated US$ 76.1 billion in 2017, implying a CAGR of 6.6%. Between 2017 and 2022, CHE on outpatient services is predicted to grow at an annualized average rate of 7.4% to US$ 32.0 billion, faster than an anticipated CAGR of 6.9% on inpatient services to US$ 45.4 billion. The inpatient market will remain the largest segment with a contribution of 43.4% in 2022. CHE in the 'Others' category is expected to grow at a CAGR of 5.2%. Meanwhile, in view of the anticipated rise in the number of patients, the GCC may require a collective bed capacity of 118,295 by 2022, indicating a demand for 12,358 new beds. This demand is being mitigated by the 700 healthcare projects worth US$ 60.9 billion under various stages of development.

With such a huge potential of healthcare in GCC region the government of U.A.E aims to maintain a correct business practices by both public and private sectors. In hold to maintain various regulatory authorities were established to define the process processes and maintain a good standard of healthcare.

1.2PRINCIPLE REGULATORY AUTHORITIES

The healthcare services are administered by various regulatory authorities in the U.A.E which includes like: The Ministry of Health (Ministry), the Health Authority-Abu Dhabi(HAAD), the Dubai Health Authority (DHA), and the recently formed Emirates HealthAuthority (EHA) are the main authorities.

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

The UAE Ministry of Health (the Ministry) was established pursuant to Federal Law No.7of 1972 to, among other things, license companies and individuals providing healthcareservices, 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 citizenswith healthcare, prepare health, preventive and training programs, organize the practicingof healthcare professions and establish, manage and supervise health facilities.

The Ministry administers a number of federal healthcare laws, including (i) Federal Law No. 5 of 1984 (regulating the licensing and registration of physicians, pharmacists and other healthcare specialists within both public and private healthcare establishments); (ii) Federal Law No. 7 of 1975 and Federal Law No. 2 of 1996 (defining the specific requirementsfor establishment and licensing of public and private medical laboratories, clinicsand hospitals in the UAE); and (iii) Federal Law No. 4 of 1983 (governing pharmaceuticalprofessions and establishments and the import, manufacture and distribution of pharmaceuticalproducts). Until 2009, the Ministry oversaw the Northern Emirates healthcare system (the Northern Emirates include Ras Al Khaimah, Ajman, Umm al Quwain, Sharjah and Fujairah).Federal Law No. 13 of 2009 established the Emirates Health Authority, which has similarregulatory functions and initiatives as HAAD and DHA (described below).

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 independencepursuant to Abu Dhabi Law No. 1 of 2007. According to Law No. 1, HAAD's mandateis to provide the highest levels of medical and health insurance services and to developthe health sector and related policies in Abu Dhabi.

HAAD is also having seven defined priorities for healthcare improvement:

1. **Integrated continuum of care for individuals**

- "Cradle-to-grave", the individual's care throughout life;
- Access to care (all types of care: ER, primary, secondary, tertiary, quaternary, home, pre-hospital, rehabilitation, preventive measures/vaccination etc); this will reduce need for IPC;
- Capacity planning – including rural areas in the Western and Eastern Regions;
- Address healthcare issues specific to the Emiratis

Drivequality and safety as well as enhance patient experience among the community

- Track outcomes and processes from healthcare providers to drive quality improvement
- Publish outcomes and processes once data is validated

Attract/retain/train workforce

- Particularly Emiratis;
- Encourage Research, Innovation, Education/ Training

Emergency preparedness

- The Emirate of Abu Dhabi has to be prepared at anytime for a major disaster or disease outbreak

Wellness and prevention—public Health approach

- Community initiatives to enhance wellness and awareness

Ensure value for moneySustainability of healthcare spend

- Reduce waste;
- Encourage Private Sector ("level playing field");
- Elimination of loss transfer for non-mandated healthcare provision;
- Effective management of funded mandates;
- Ensure appropriate reimbursement framework

Integrated Health Informatics and eHealth

- Including Telemedicine

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, SEHAowns and manages, either directly or indirectly, public health facilities and is expected toimplement the policies, projects and strategies approved by HAAD to develop the healthcareindustry 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 PrimaryHealthcare Clinics. According to its website, SEHA is currently collaborating with anumber of healthcare groups, including the following:

• Johns Hopkins Medical for the management and operations of Tawam Hospital in Al Ain, Al Rahba Hospital located 40 km outside of Abu Dhabi and Corniche Maternity Hospital in Abu Dhabi;

• Cleveland Clinic to manage Sheikh Khalifa Medical City (SKMC), a network of healthcare facilities in Abu Dhabi consisting of Sheikh Khalifa Hospital, a Behavior Sciences Pavilion and the Abu Dhabi Rehabilitation Center, in addition to more than 12 specialized outpatient clinics and nine primary healthcare centers around the city of Abu Dhabi;

• Bangkok-based Bumrungrad International Limited (BIL) to manage Al Mafraq Hospital; and

• Vienna Medical University and VAMED for the management of the central hospital in Al-Ain.

Dubai Health Authority (DHA)

The Dubai Health Authority (DHA) is a government organization overseeing the health system of Dubai, United Arab Emirates. It was formed in 2007 under the directives of Sheikh Mohammed bin Rashid Al Maktoum, the Vice President, Prime Minister, and Ruler of Dubai. The program was launched in March 2008.

Before the DHA was established, the body overseeing healthcare in the emirate was known as the Department of Health and Medical Services, which was established in 1973.

Beyond general oversight of Dubai's healthcare sector, the DHA provides healthcare services through hospitals and other facilities that fall under its direct jurisdiction. These include Latifa Hospital, Dubai Hospital, Rashid Hospital and Hatta Hospital, in addition to other specialty centers and DHA primary health centers throughout Dubai.

Other aspects of the DHA's services are:

- Creating and ensuring the execution of policies and strategies for healthcare in Dubai's public and private healthcare sectors.
- Enabling partnerships between healthcare providers.
- Licensing and regulating medical professionals and facilities.

Center for Healthcare Planning & Quality, Dubai Healthcare City (DHC)

Dubai Healthcare City (DHCC) is a healthcare free economic zone situated in the Emirate of Dubai, United Arab Emirates. DHCC was launched in 2002 by Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai. DHCC was mandated by the government to meet the demand for high-quality, patient-centered healthcare, and the main aim is to attract tourists to Dubai for medical services and treatments.

Through strategic partnerships, DHCC provides a wide range of services in healthcare, medical education and research, pharmaceuticals, medical equipment, wellness and allied support. DHCC comprises two phases. Phase 1 of DHCC is dedicated to healthcare and medical education and covers 4.1 million square feet.Phase 2, which is under development, is dedicated to wellness, and will cover 19 million square feet.

In 2014 alone, visits to DHCC were up 20 percent to 1.2 million from 1 million in 2013, of which 15 percent were medical tourists. According to DHCC, the most popular procedures sought by medical tourists to DHCC include infertility, cosmetic and dental treatments. Most medical tourists came to the DHCC from the Gulf Cooperation Council area (37 percent) and wider Arab world (25 percent), though 20 percent came from Europe and 18 from Asia.

1.3 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. Through this as a base I would like to highlight the various laws of medical insurance as per there developments and as per each emirate in the following:

DUBAI

The Health Insurance Law of Dubai No 11 of 2013 requires that all Residents must have a level of health insurance that meets or exceeds minimum benefits stipulated by Dubai Health Authority (DHA).In Dubai employers are legally obligated to provide medical cover for their employees. Article 10 section 2 states that employers must not deduct premiums or reduce the salary of the employee to mitigate the cost of insurance cover.

The law also states that all dependents (this includes spouse and children) and domestic workers (including maids, cooks, drivers) of the employee must also be covered for basic health insurance. This basic health insurance is called the Essential benefits plan (EBP).

Employers are under no legal obligation to provide cover to dependents of their employee (although they are encouraged to do so), and the responsibility lies with the visa sponsor.

The law was rolled out in phases (depending upon the size of the company) which came

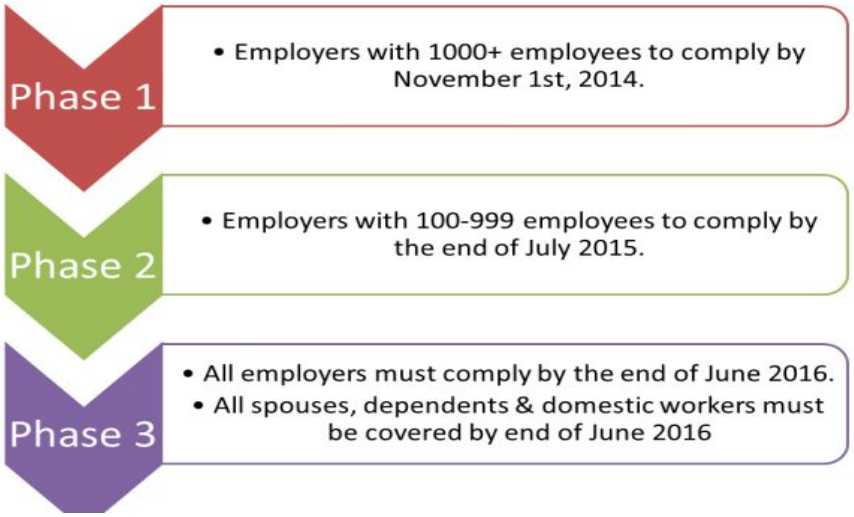

Fig A: Roll-out phases of mandatory health insurance plan

The complete roll out is phase is duly completed and counter-verified by authorities.

Fines for Non- Compliance in Dubai

The DHA has stated that fines will be imposed on sponsors and employers who fail to comply with the regulation. Fines of AED 500 will be issued for each month of non-compliance and no new visas will be granted, and existing visas will not be renewed.
Fines will be paid during the renewal or cancellation of residence visas.

For Emiratis, their medical insurance is covered by the Government sponsored scheme that is set out by the DHA. Nationals who work in the private sector have the option of opting into their employer's health insurance policy or to join the National Government scheme.

ABU DHABI

The Health Authority Abu Dhabi (HAAD), is the regulator of the healthcare sector in Abu Dhabi.Emiratis in Abu Dhabi are covered under the Thiqa Scheme.
Employers are legally obligated to provide medical cover for their employees and their dependents. Dependents include a spouse and up to 3 children under the age of 18, and the employer is only required to pay 50% of the cost for dependents, with the remaining 50% payable by the sponsor/employee. If the employee has other dependents such as parents or a 4th child, then they are legally obligated to fully bear the cost of this

themselves.The minimum level of health insurance cover for expats is set out in the Abu Dhabi Basic Plan which is provided by The National Health Insurance Company (Daman).

NORTHERN EMIRATES – "SHARJAH, FUJAIRAH, RAS AL KHAIMAH, AJMAN, UMM AL QUWAIN"

The Ministry of Health oversees the healthcare regulation in the UAE for Ras Al Khaimah, Ajman, Umm al Quwain, Sharjah and Fujairah. However, some Emirates have also incorporated their own healthcare institutions.

In these Emirates employers are not required by law to provide cover to employees or their dependents.

In Sharjah employees and their dependents who work for their Government are provided with healthcare cover.

1.4FUTURISTIC DIMENSION IN HEALTHCARE INSURANCE FOR RESIDENTS

The Essential Benefits Plan (EBP) is the minimal level of health insurance cover that residents of Dubai are required to meet or exceed under Dubai law.

ELIGIBILITY

The EBP is for Dubai residents who are earning less than AED 4,000 per month, which includes dependents who may not work at all. Those earning more than AED 4,000 are not eligible for the EBP, but as a minimum their medical insurance will meet the standards outlined in the EBP.

PRICING

The Essential Benefits Plan has a fixed cost of between AED 550 and AED 650 per year.

COVERAGE IN ESSENTIAL BENEFITS PLAN

The EBP coverage includes emergencies, surgeries, medical tests, medication, outpatient and inpatient treatments and maternity. However, there are restrictions, limitations and co-insurance (the amount the insured person will have to pay) stipulations in place.

These include:

An annual claim limit of AED 150,000

Emergency medical treatment limited to Emirates within the UAE

Treatment for chronic and pre-existing conditions are not included for the first 6 months, but are included after.

For basic in-patient healthcare services there is a 20% co-insurance payable by the person insured with a cap (the most that can be paid) of AED 500 per encounter, and an annual aggregate cap of AED 1,000. Anything above these caps the insurer will pay for.

Cost of drugs and medicines up to an annual limit of AED 1,500 – there's a 30% co-insurance (payable by the person insured) in respect of each and every prescription.

The complete details of coverage can be found in DHA's Employer's Information Pack.

MATERNITY COVERAGE IN EBP

The EBP provides some cover for maternity, this includes;

Out-patient antenatal services – blood tests, 3 ultrasounds, and 8 pre-delivery visits.

In-patient services – normal birth delivery of up-to AED 7,000 and AED 10,000 for medically necessary C-section.Coverage for newborn – 30 days coverage for the newborn child from the date of birth under the mother's insurance policy for tests and screenings.

Forout-patient and in-patient maternity services there is a 10% co-insurance that will need to be paid by the person insured.

1.5AIM

The study aims at improving the Revenue Management Matrix and Re-engineering the Insurance Department process for a Multispecialty Hospital in Sharjah, U.A.E.

1.6OBJECTIVES

- To review the insurance processes related guidelines and standards of a Multispecialty Hospital in Sharjah, UAE and hospital settings in general.
- To assess the processes of health insurance in a hospital against standards.
- To identify the gaps against the health insurance processes of the hospital.

CHAPTER- 2

REVIEW OF LITERATURE

2.1 HEALTHCARE OF UNITED ARAB EMIRATES

The U.A.E. healthcare market is quickly growing. In 2017, according to Business Monitor International, healthcare expenditures in the U.A.E. reached $17 billion and are expected to rise to $21.3 billion by 2021. Overall healthcare spending is projected to account for 4.6% of a country's GDP by 2026 from 4.2% in 2016. Population growth is one driver of this expansion. The World Bank projects that the U.A.E.'s population will grow from 9.4 million people in 2017 to 11.055 million by 2030. Meanwhile, the World Bank projects that by 2030 the U.A.E.'s average life expectancy will reach 79.4 years, up from 77.3 years in 2016. Demographic shifts are also at work, as the U.A.E.'s population slowly begins to age. The estimated share of the U.A.E.'s population above the age of 65 will, according to the World Bank, increase from 1.1% at present to 4.4% by 2030. This will stimulate demand for healthcare, and geriatric care in particular. Problematic lifestyle habits are also propelling healthcare growth, with poor nutrition and sedentary behavior leading to obesity. In the U.A.E., 66% of the adult population carries excess weight and 31.7% of the adult population is obese. Widespread use of tobacco is also at play. According to the 2018 Tobacco Atlas, more than 900,000 adults in the U.A.E. use tobacco every day. Smoking is responsible for one in eight deaths among men in the U.A.E. In 2016, smoking amounted to $569 million in healthcare costs in the U.A.E. As a result of the above problematic lifestyle habits, chronic conditions such as cardiovascular diseases, cancer, and diabetes are prevalent.

2.1.1 United States Interest in Healthcare of United Arab Emirates

As per U.S.-U.A.E. Business Council report for financial year 2019, FY 2018 was another landmark year for the U.A.E.'s healthcare sector and its partnerships with leading U.S. institutions. In February 2018, the U.A.E. Embassy in Washington, D.C. and Johns Hopkins Medicine announced a new institute for stroke research and clinical care. The Sheikh Khalifa Stroke Institute, established through a $50 million gift from the U.A.E., will feature facilities in Baltimore and Abu Dhabi. The Institute will enable Johns

Hopkins scientists to collaborate with their Emirati colleagues, training a workforce of biomedical researchers in the U.A.E. Furthermore, in April 2018, the U.A.E. Ambassador to the U.S., His Excellency Yousef Al Otaiba, signed memoranda of understanding (MoU) with leaders from several top American hospitals on behalf of U.A.E. government institutions. The agreements will ensure enhanced medical care for designated Emirati patients and ongoing coordination between the American hospitals and their U.A.E. counterparts. The hospitals are: Brigham and Women's Hospital, Dana Farber Cancer Institute, The Cleveland Clinic Foundation, University of Chicago Hospitals, Cincinnati Children's Hospital Medical Center, Children's Hospital of Philadelphia, Shirley Ryan AbilityLab, and Johns Hopkins Hospital.3 In addition, Ambassador Al Otaiba signed a similar agreement with Children's National Medical Center in November 2018. The above developments are the latest chapters in a long history of healthcare partnerships between the United States and the U.A.E. In 1960, U.S. missionaries Drs. Pat and Marian Kennedy built the U.A.E.'s first hospital – the Oasis Hospital in Al Ain – in a mud-block guesthouse donated by the late U.A.E. President Sheikh Zayed bin Sultan Al Nahyan.4 Just over five decades later, in 2015, the U.A.E.'s Mubadala Investment Company and the U.S.-based Cleveland Clinic Foundation opened a 364-bed (expandable to 490) multidisciplinary, physician-led hospital to bring an unparalleled level of specialized care to the heart of Abu Dhabi and the wider Gulf region. The next year, Dubai-based Valiant Clinic became part of Houston Methodist's Global Health Care Network and the American Hospital Dubai became the first hospital in the Middle East to join the Mayo Clinic Care Network. Building on the Business Council's previous reports on the U.A.E. healthcare sector, this updated edition aims to facilitate the involvement of U.S. companies in the next phase of the U.A.E.'s healthcare development by providing key information about the Emirati healthcare sector and potential U.A.E. partners. The healthcare industry is keen in anticipated growth of the U.A.E. healthcare market, the challenges this poses for the U.A.E. government, and the steps the government is taking to meet these challenges. As per new developments the U.S. companies have become involved in the U.A.E. healthcare system to the benefit of these companies' bottom lines, their U.A.E. partners, and the health and wellness of the citizens and residents of the U.A.E.

2.2 OVERVIEW OF MARKET TRENDS AND DEMAND

2.2.1 Current Market Trends

The U.A.E. was a zero-tax country until December 2017. In January 2018, a 5% value added tax (VAT) was implemented. The country has an excellent transportation and logistics infrastructure and is geographically well-positioned to be the center of a transportation network that links vibrant economies like India and China to Europe and the United States.

These factors make it an attractive location for establishing a regional hub for healthcare and even invites patients of medical tourism. U.A.E. Healthcare system is regulated at both the federal and Emirate level.

2.2.2 Current Demand

The U.A.E. suffers from a shortage of trained medical personnel. There are numerous hospital construction and renovation programs underway as a result of public and private investment. The Dubai Health Authority (DHA) has reported that the UAE needs an additional 8,000 hospital beds by 2025, therefore it is encouraging further private sector investment. Estimates suggest there is now a shortage of almost 2,000 hospital beds across the country, despite an increase of around 30% in the number of beds in recent years. Also, a growing medical tourism sector is generating demand for modern facilities with state-of the-art medical equipment.

2.3 General Framework of the Insurance Sector in the UAE

The UAE insurance sector is governed by Federal Law No. (6) of 2007 concerning Establishment of the Insurance Authority & Organization of its Operations, which came into effect on 28/08/2007. In addition, the legal framework is also governed by the Board of Directors Resolution No. (2) of 2009 issuing the Executive Regulation of the Federal Law No. (6) of 2007, as well as all the regulations, instructions, and decisions issued in application of the provisions of the law.

2.3.1 Insurance Authority "IA"

The Federal Law No. (6) of 2007 concerning Establishment of the Insurance Authority & Organization of its Operations entrusts the IA to enforce its provisions and to undertake

its role in supervising and monitoring the insurance companies and insurance-related professions. The aims are to ensure a suitable environment for the development of the insurance sector; to enhance the role of the insurance industry to secure lives, properties, and liabilities against risks in order to protect the national economy; to collect, develop, and invest the national savings to sustain the economic development of the UAE; to encourage fair and effective competition; to provide the best insurance services with technically sound premiums and adequate coverages; and to Emiratis jobs in the UAE insurance market.

2.3.2 Emirates Insurance Association ("EIA")

The EIA was registered as per the Ministerial Decree No. (62) of 1988 issued on 27/09/1988. Its members include all the insurance companies operating in the UAE in addition to many of the insurance-related professionals.

2.3.3 Regulatory Developments

The IA undertakes a supervisory and regulatory role on the insurance companies and related professionals to ensure the organization of the insurance sector. In this role the IA verifies compliance with the issued regulations and ensures soundness of the financial positions of the companies and insurance related professions through onsite and offsite inspections in 2017 for 120 insurance companies and related professionals. To serve the establishment of the regulatory financial and technical rules of the insurance companies, the IA issued the financial regulations for insurance companies and Takaful insurance companies early in 2015. These instructions were considered a quantum leap in the regulation of the UAE insurance market for their comprehensiveness by addressing all the financial and technical aspects of the assets and investments of the insurance companies along with the methodology of measuring solvency as per best international practices. The full implementation of the financial regulations for insurance companies and Takaful insurance companies was most significant event that took place in the end of 2017 and the start of 2018. The IA has developed an action plan to supervise and control the implementation of the regulations requirements along with sending a unified circular to all companies that includes all reports and data requirements from all companies. Besides, the required disclosures by the companies' chairmen, external auditors and

actuaries each within his responsibilities. Through the Insurance Authority's monitoring of the results achieved by insurance companies and in order to maximize the use of the financial regulations and achieving its objectives, the authority has issued an amendment on the application of the investment limits stipulated in the financial regulations for insurance companies and Takaful insurance companies through the Board of Directors' Decision No. (22) of 2017.The amendment was issued because of the Authority's belief that the full application of the regulations will achieve balance in the insurance market, increase the solvency of insurance companies to withstand any future challenges. Within this framework, the Insurance Authority has held a wide range of financial, technical and actuarial workshops and training courses related to the regulatory requirements. The main regulatory requirements and financial and technical reports required from the sector were reviewed and discussed in these workshops. Application of the Financial Regulations Requirements In a related aspect, the IA launched the updated version (Version 1.6) of the electronic forms (e-Forms) which represents a control tool through which a comprehensive financial information database on the insurance sector in the UAE is being created and financial and technical indicators based on a risk-based approach. The electronic forms (e-Forms) include a comprehensive analysis of all the financial and technical aspects related to insurance, which includes an analysis of the financial data, investments, insurance premiums, commissions, expenses, technical provisions, reinsurance, receivables, and transactions with related parties, and others. Further, the supervisory e-Forms established a methodology for unifying and comparing the financial and technical indicators applied for all the insurance companies in line with the purposes of issuing the financial regulations. Namely, they provide an early warning ratio to follow up on the financial position of the insurance companies which improves the ability to handle financial deficiencies at early stages, contributes to strengthening control and monitoring over the insurance companies, and enhances the ability of the insurance companies to absorb any financial crises they may encounter. This in turn contributes to stabilizing and boosting competitiveness of the insurance market in the UAE.

2.4. GROWTH DRIVERS

2.4.1 Economic Diversification

The round of oil price meltdown since the second half of 2014 has widened the fiscal deficits of the energy-dependent GCC economies. A consequent cut in fiscal budgets and implementation of austerity measures, alongside an economic slowdown resulting in job losses, have derailed consumer and business spending. Amidst such a backdrop, economic diversification efforts have intensified to build a sustainable economy. Revenue diversification is a key agenda in the long-term development plans of the GCC nations. The diversification strategies focus on the expansion of sectors such as tourism, transport, financial services and logistics. The government is also encouraging participation of private sector to fund and develop large projects. As a result, the region is witnessing a spate of construction activities related to infrastructure, retail, hospitality, tourist attractions and commercial complexes. The developments have gathered steam particularly in the UAE and Qatar, as they get ready to host their respective mega international events of Expo 2020 and FIFA World Cup 2022. At the start of September 2017, the total value of active construction projects in the GCC reached US$ 2.4 trillion. Completion of such projects is likely to create a large base of insurable assets, thus providing new underwriting opportunities to insurance companies. Moreover, expanding non-oil sectors coupled with stimulus measures are likely to revive and strengthen the GCC economies. This is likely to translate into an improvement in the purchasing power of people and augment business activities, thus expanding the potential market for insurers.

2.4.2Development of Mandatory Health Insurance

Health insurance business line, accounting for nearly 40% of the GCC insurance market, is set to witness a swift growth in the coming years, owing to the directives making medical covers compulsory. In the past, the introduction of compulsory motor insurance had led to a rapid growth in the overall sector premiums in the region61. A similar growth trend is being observed in recent years in the UAE following the introduction of mandatory health scheme. While Abu Dhabi was the first Emirate to introduce the scheme in 2006, Dubai completed the final phase of compulsory health insurance scheme

in March 2017. Buoyed by the implementation, health insurance GWP in the UAE grew at a CAGR of over 20% between 2011 and 2015. Saudi Arabia has a mandatory health scheme in place, but the coverage of nationals in the private sector is low. To address this and reduce the state's burden of cost of healthcare treatments taken abroad, the Council of Cooperative Health Insurance announced a Unified Health Insurance Policy for the private sector in July 2016. According to the policy, private companies have to provide health insurance to all employees and their dependents. The implementation of its final phase began in April 2017. Compulsory health insurance in the other GCC countries is either under consideration or in the preliminary stages of implementation. Oman is set to implement mandatory health insurance for all private sector employees in phases from 2018.

Qatar, the ministries of public health and finance along with the central bank have formed a committee to study the possibility of introducing a new mandatory health insurance scheme. In Kuwait, mandatory health cover is being proposed for visitors. The gradual implementation of compulsory health insurance programs across the region is likely to present strong growth avenues for insurers. Further, the growing cost of healthcare and rising prevalence of lifestyle-related diseases is pushing the overall medical spending and hence, cost of insurance.

2.4.3Risk Based Capital Reporting & Regulatory Reforms

The GCC insurance market is becoming competitive with its evolving regulatory landscape. Even as the regulatory developments are at various stages in each constituent country, the region altogether is moving towards risk-based capital reporting and actuarial led reserving. Prudent and actuarial reserving will lead to adequate pricing of premiums and ease price competition in the industry. Saudi Arabia was the first to bring in reforms by introducing a new insurance law in 2013. The law covered regulations pertaining to prudent reserving and actuarial-based pricing regime, which assisted in profitability improvement of the industry. In 2014, Oman directed insurers to double their minimum capital requirement and list on the Muscat Securities Market within three years. The move aims at ensuring transparency and providing insurers access to capital. The UAE implemented several new guidelines for the insurance sector in 2015 including actuarial certifications, solvency-based capital controls, proper reserving, better governance and realignment of the investment portfolio. While these regulations are

currently putting pressure on the industry profitability, in the long-term they are likely to assist in improving insurer's credit profiles and asset quality. At the same time, the other regulations such as mandatory health cover and an upward revision of motor insurance premiums are aiding growth. In March 2016, Qatar Central Bank issued a new law stating governance principles and operating guidelines for the insurers. It covered topics related to licensing, regulations and controls, risk-based capital requirements and actuarial reporting. Kuwait is also soon likely to come out with a new insurance law, the draft of which is under consideration. The developing regulatory environment in these countries is likely to improve the market conduct and create sustainable business models. In the short-term, the firms are likely to face operational challenges and high costs to comply with the regulatory requirements. However, the long-term financial strength of the companies is set to improve and align with some of the best international practices.

2.5 HEALTHCARE QUALITY TOOLS TO DEFINE T.Q.M

Quality tools help people understand and improve processes. There are many different tools, and the skill of quality professionals lies in their ability to take an application from one field or industry and apply it, or adapt it, to specific situations in other fields. Similar concepts you will find in my below report but going further let me give you a quick overview of tools of Total Quality Management (TQM).

2.5.1 Plan-Do-Study-Act (PDSA)

Quality improvement projects and studies aimed at making positive changes in health care processes to effecting favorable outcomes can use the Plan-Do-Study-Act (PDSA) model. This is a method that has been widely used by the Institute for Healthcare Improvement for rapid cycle improvement. One of the unique features of this model is the cyclical nature of impacting and assessing change, most effectively accomplished through small and frequent PDSAs rather than big and slow ones, before changes are made systemwide.

The purpose of PDSA quality improvement efforts is to establish a functional or causal relationship between changes in processes (specifically behaviors and capabilities) and outcomes.

Langley and colleagues proposed three questions before using the PDSA cycles:

(1) What is the goal of the project?

(2) How will it be known whether the goal was reached?

(3) What will be done to reach the goal?

The PDSA cycle starts with determining the nature and scope of the problem, what changes can and should be made, a plan for a specific change, who should be involved, what should be measured to understand the impact of change, and where the strategy will be targeted. Change is then implemented and data and information are collected. Results from the implementation study are assessed and interpreted by reviewing several key measurements that indicate success or failure. Lastly, action is taken on the results by implementing the change or beginning the process again.

2.5.2 Six Sigma

Six Sigma, originally designed as a business strategy, involves improving, designing, and monitoring process to minimize or eliminate waste while optimizing satisfaction and increasing financial stability. The performance of a process—or the process capability—is used to measure improvement by comparing the baseline process capability (before improvement) with the process capability after piloting potential solutions for quality improvement. There are two primary methods used with Six Sigma. One method inspects process outcome and counts the defects, calculates a defect rate per million, and uses a statistical table to convert defect rate per million to a σ (sigma) metric. This method is applicable to pre-analytic and post-analytic processes (a.k.a. pretest and post-test studies). The second method uses estimates of process variation to predict process performance by calculating a σ metric from the defined tolerance limits and the variation observed for the process. This method is suitable for analytic processes in which the precision and accuracy can be determined by experimental procedures.

One component of Six Sigma uses a five-phased process that is structured, disciplined, and rigorous, known as the define, measure, analyze, improve, and control (DMAIC) approach. To begin, the project is identified, historical data are reviewed, and the scope of expectations is defined. Next, continuous total quality performance standards are selected, performance objectives are defined, and sources of variability are defined. As the new project is implemented, data are collected to assess how well changes improved

the process. To support this analysis, validated measures are developed to determine the capability of the new process.

Six Sigma and PDSA are interrelated. The DMAIC methodology builds on Shewhart's plan, do, check, and act cycle. The key elements of Six Sigma is related to PDSA as follows: the plan phase of PDSA is related to define core processes, key customers, and customer requirements of Six Sigma; the do phase of PDSA is related to measure performance of Six Sigma; the study phase of PDSA is related to analyze of Six Sigma; and the act phase of PDSA is related to improve and integrate of Six Sigma.

2.5.3Lean Sigma / Lean Production / Toyota Production System

Application of the Toyota Production System—used in the manufacturing process of Toyota cars—resulted in what has become known as the Lean Production System or Lean methodology. This methodology overlaps with the Six Sigma methodology, but differs in that Lean is driven by the identification of customer needs and aims to improve processes by removing activities that are non-value-added (a.k.a. waste). Steps in the Lean methodology involve maximizing value-added activities in the best possible sequence to enable continuous operations. This methodology depends on root-cause analysis to investigate errors and then to improve quality and prevent similar errors.

Physicians, nurses, technicians, and managers are increasing the effectiveness of patient care and decreasing costs in pathology laboratories, pharmacies, and blood banks by applying the same principles used in the Toyota Production System. Two reviews of projects using Toyota Production System methods reported that health care organizations improved patient safety and the quality of health care by systematically defining the problem; using root-cause analysis; then setting goals, removing ambiguity and workarounds, and clarifying responsibilities. When it came to processes, team members in these projects developed action plans that improved, simplified, and redesigned work processes. According to Spear, the Toyota Production System method was used to make the "following crystal clear: which patient gets which procedure (output); who does which aspect of the job (responsibility); exactly which signals are used to indicate that the work should begin (connection); and precisely how each step is carried out."

Factors involved in the successful application of the Toyota Production System in health care are eliminating unnecessary daily activities associated with "overcomplicated processes, workarounds, and rework", involving front-line staff throughout the process, and rigorously tracking problems as they are experimented with throughout the problem-solving process.

2.5.4Root Cause Analysis (RCA)

RCA, used extensively in engineering and similar to critical incident technique, is a formalized investigation and problem-solving approach focused on identifying and understanding the underlying causes of an event as well as potential events that were intercepted. The Joint Commission requires RCA to be performed in response to all sentinel events and expects, based on the results of the RCA, the organization to develop and implement an action plan consisting of improvements designed to reduce future risk of events and to monitor the effectiveness of those improvements.

RCA is a technique used to identify trends and assess risk that can be used whenever human error is suspected with the understanding that system, rather than individual factors, are likely the root cause of most problems. A similar procedure is critical incident technique, where after an event occurs, information is collected on the causes and actions that led to the event.

An RCA is a reactive assessment that begins after an event, retrospectively outlining the sequence of events leading to that identified event, charting causal factors, and identifying root causes to completely examine the event. Because it is a labor-intensive process, ideally a multidisciplinary team trained in RCA triangulates or corroborates major findings and increases the validity of findings. Taken one step further, the notion of aggregate RCA (used by the Veterans Affairs (VA) Health System) is purported to use staff time efficiently and involves several simultaneous RCAs that focus on assessing trends, rather than an in-depth case assessment.

Using a qualitative process, the aim of RCA is to uncover the underlying cause(s) of an error by looking at enabling factors (e.g., lack of education), including latent conditions (e.g., not checking the patient's ID band) and situational factors (e.g., two patients in the hospital with the same last name) that contributed to or enabled the adverse event (e.g., an adverse drug event). Those involved in the investigation ask a series of key questions,

including what happened, why it happened, what were the most proximate factors causing it to happen, why those factors occurred, and what systems and processes underlie those proximate factors. Answers to these questions help identify ineffective safety barriers and causes of problems so similar problems can be prevented in the future. Often, it is important to also consider events that occurred immediately prior to the event in question because other remote factors may have contributed.

The final step of a traditional RCA is developing recommendations for system and process improvement(s), based on the findings of the investigation. The importance of this step is supported by a review of the literature on root-cause analysis, where the authors conclude that there is little evidence that RCA can improve patient safety by itself. A nontraditional strategy, used by the VA, is aggregate RCA processes, where several simultaneous RCAs are used to examine multiple cases in a single review for certain categories of events.

Due the breadth of types of adverse events and the large number of root causes of errors, consideration should be given to how to differentiate system from process factors, without focusing on individual blame. The notion has been put forth that it is a truly rare event for errors to be associated with irresponsibility, personal neglect, or intention, a notion supported by the IOM. Yet efforts to categorize individual errors—such as the Taxonomy of Error Root Cause Analysis of Practice Responsibility (TERCAP), which focuses on "lack of attentiveness, lack of agency/fiduciary concern, inappropriate judgment, lack of intervention on the patient's behalf, lack of prevention, missed or mistaken MD/healthcare provider's orders, and documentation error."—may distract the team from investigating systems and process factors that can be modified through subsequent interventions. Even the majority of individual factors can be addressed through education, training, and installing forcing functions that make errors difficult to commit.

2.5.5Failure Modes & Effect Analysis (FMEA)

Errors will inevitably occur, and the times when errors occur cannot be predicted. Failure modes and effects analysis (FMEA) is an evaluation technique used to identify and eliminate known and/or potential failures, problems, and errors from a system, design,

process, and/or service before they actually occur. FMEA was developed for use by the U.S. military and has been used by the National Aeronautics and Space Administration (NASA) to predict and evaluate potential failures and unrecognized hazards (e.g., probabilistic occurrences) and to proactively identify steps in a process that could reduce or eliminate future failures.The goal of FMEA is to prevent errors by attempting to identifying all the ways a process could fail, estimate the probability and consequences of each failure, and then take action to prevent the potential failures from occurring. In health care, FMEA focuses on the system of care and uses a multidisciplinary team to evaluate a process from a quality improvement perspective.

This method can be used to evaluate alternative processes or procedures as well as to monitor change over time. To monitor change over time, well-defined measures are needed that can provide objective information of the effectiveness of a process. In 2001, the Joint Commission mandated that accredited health care providers conduct proactive risk management activities that identify and predict system weaknesses and adopt changes to minimize patient harm on one or two high-priority topics a year.

Organizations equipped to adapt to the rapid changes occurring within the healthcare environment need individuals at all levels empowered and trained with the knowledge and skills to identify, solve, and/or avoid problems. Problem analysis and decisions must be driven by data. The tools provide the strategies for data collection which supports an effective process of problem solving and continuous improvement. These tools ensure the competitiveness of your healthcare organization in this era of rapid and often mandated change.

CHAPTER- 3

METHODOLOGY

3.1 STUDY DESIGN

A Qualitative Observational Study was carried out retrospectively over a period of 3 months in the client insurance department on the outpatient and inpatient claims. Also, the same study was done on operational years financial records for the client hospital with reference to other market players.

3.2 METHODS OF DATA COLLECTION

- Review of Health Insurance process related guidelines, and standards in General, and the guidelines of the Hospital under study.
- Review and analysis of financial & hospital records from finance department, Insurance Department and Quality department.

3.3 STUDY RESPONDENTS

All the records of patient coming with insurance coverage, services rendered and claims processed over a period of three months were reviewed with financial books for operational 2years. Data was collected for other market competitors to benchmark and analyze.

The data does not have any patient or human interactions and is reviewed retrospectively.

3.4 DURATION

Period: February-April'2019

3.5 SAMPLE SIZE

2100 total processed claims during October to December 2018 (3months) and Financial book records for operational years were observed and mapped

3.6 METHODS OF DATA COLLECTION

Review of Manual Interpretations of Hospital records, Financial Books, Balance Sheets, HMIS and DHPO claim records was done.

3.7 DATA ANALYSIS APPROACH

The collected data wasanalysed by using six sigma androot cause analysis. The proper assessment of factors related to the denial of claims and the subsequent issues faced by the hospital as loss of revenue were being shortlisted and analysed.

The data was processed through 5 phases of Six sigma which are Define, Measure, Analyse, Improve and Control

3.8 ETHICAL CONSIDERATIONS

The confidentiality of the patients and client hospital wasmaintained and no disclosure of their records was done. Even in this document, the processed data and analysis done on behalf of Innovamedwas shared only.

CHAPTER 4

RESULTS

In order to analyze and draft the insurance matrix for improving the revenue management system and re-engineering the insurance department of the client hospital. The six-sigma tool basic application was utilized. As per the current market standard's there is no trending or benchmarking available in U.A.E healthcare industry with regard to insurance profiles.

4.1 DEFINE PHASE

The current financial status of the hospital was defined and compared with the sample of 4hospitals in the market. After the review of the data the values to define client hospital and competitors are as following:

For the client hospital the operational facts were recorded. The size of hospital is hidden as per company non-disclosure agreement with client.

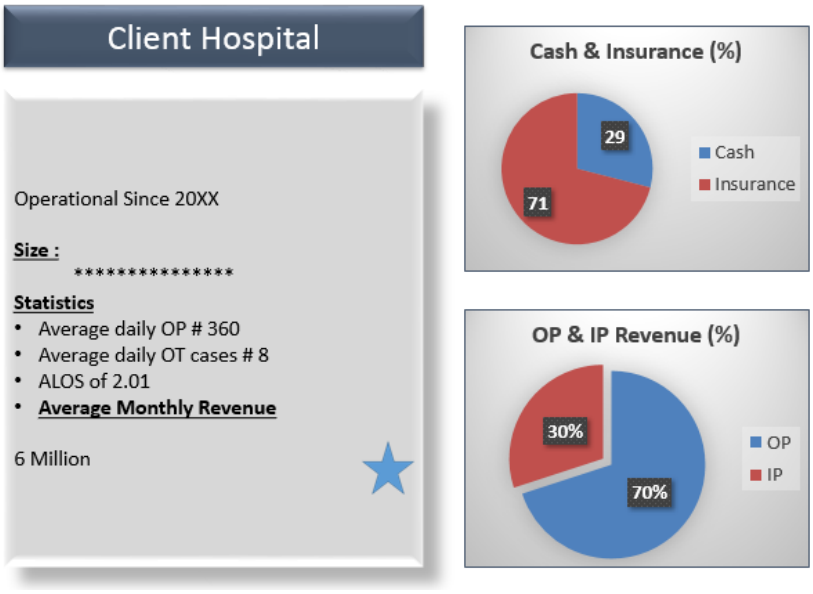

Fig B.1-Client Hospital current stats

For competitors the facts are:

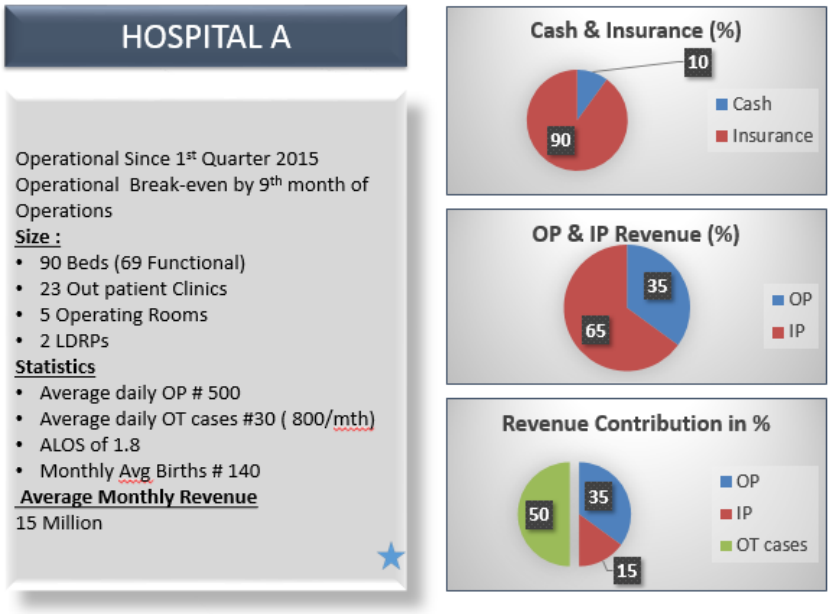

Fig B.2- Hospital A current stats for the study

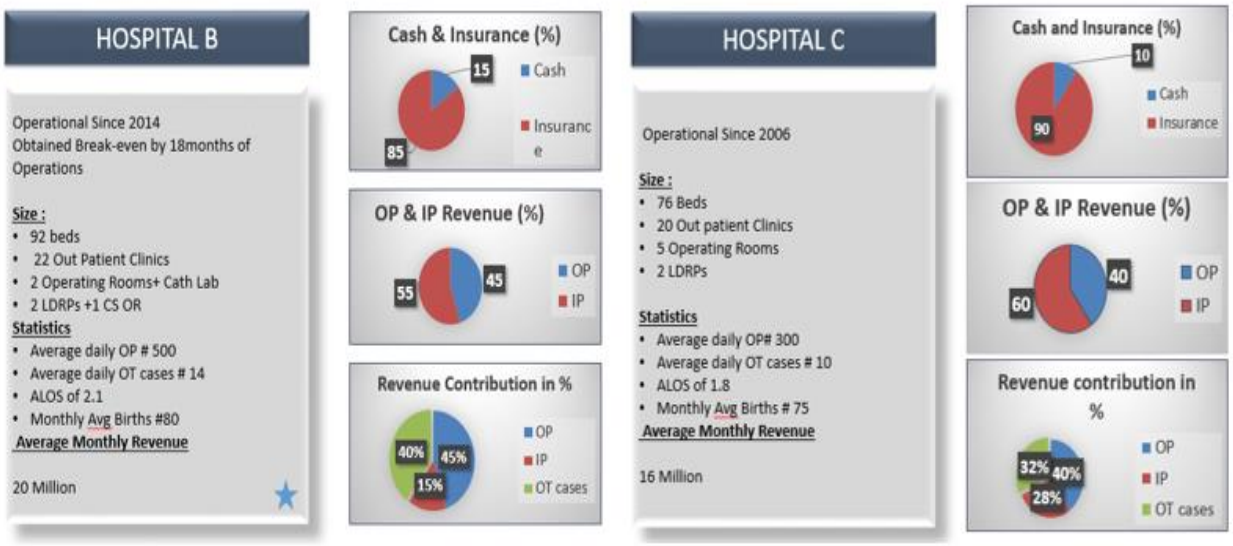

Fig B.3- Hospital B current stats for the studyFig B.4- Hospital C current stats for the study

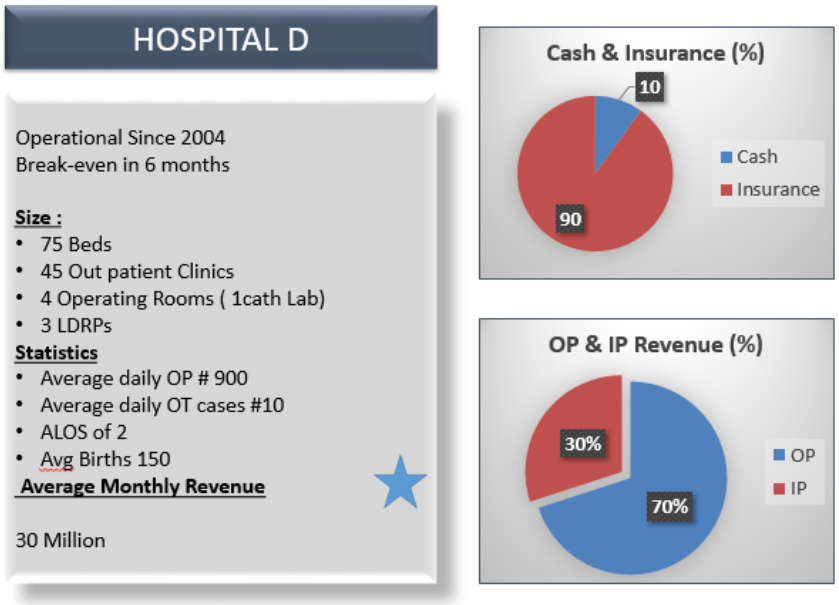

Fig B.5- Hospital D current stats for the study

4.2MEASURE PHASE

The financial and operational capacity of each of hospital was measured and compared with client hospital on parameters like Average monthly revenue, Yearly revenue per bed, OP & IP Revenue Contribution, Cash & Insurance patient ratio, etc

4.2.1 Average Monthly Revenue

The total revenue for the defined period were divided by operational year(months)and the average value was calculated for respective hospitals.

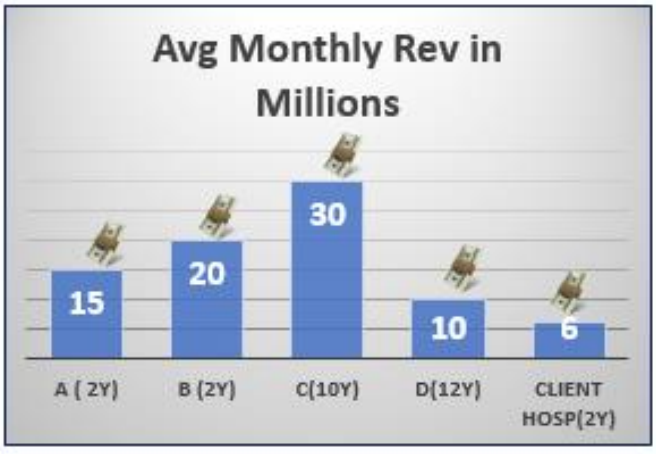

Table 1 – Average Monthly Revenue (in Millions) for client hospital Vs Others

Interpretation: The net average monthly revenue was found to be lesser than market standards / average.

4.2.2 Yearly Revenue /Bed

The total revenue for the defined period were divided by operational beds and the average value was calculated as show in the table below.

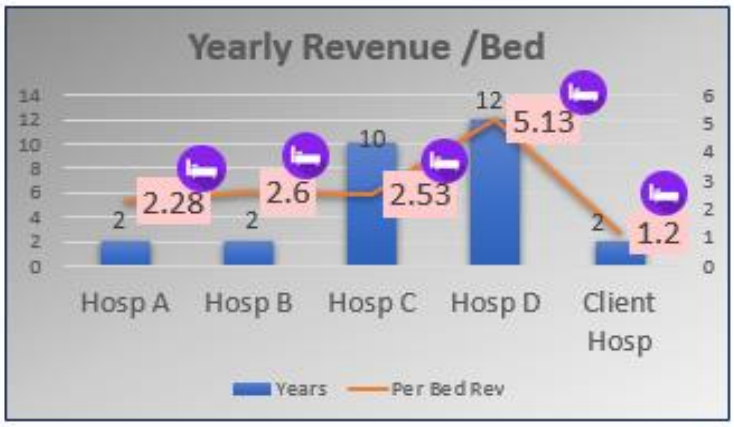

Table 2 – Yearly Revenue per bed for client hospital Vs Others

The net yearly revenue per bed was found to be lesser than market standards / average.

4.2.3 OP & IP Revenue Contribution

The total revenue for the defined period were sorted as per out-patientand in-patients and the average were taken for the defined data.

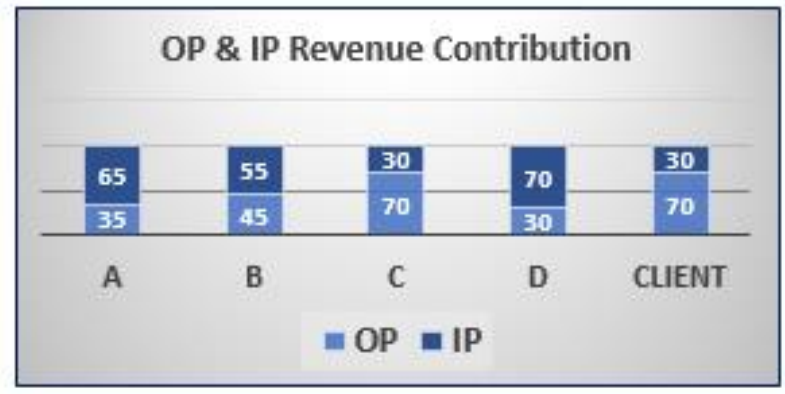

Table 3 – OP & IP Revenue Contribution for client hospital Vs Others

The IP revenue contribution was found to be lesser than market standards / average.

4.2.4 Cash and Insurance Ratio

The total number of patients for the defined period were sorted as per cash and insurance counts the average were taken for the defined data.

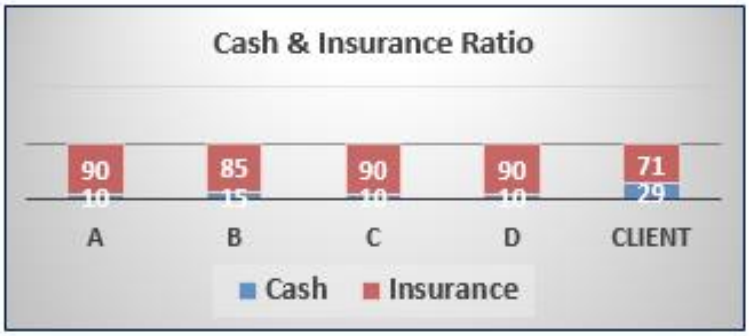

Table 4 – Cash & Insurance Patient ratio for client hospital Vs Others

The Insurance patient ratio was found to be lesser than market standards / average.

4.3 ANALYZE PHASE

The various pricing mechanisms were analyzed and compared with market standards to find the difference in billing collection and revenue generation.

4.3.1Price List for Self-Pay / Cash Patients Review

- In the Current Market Scenario, the gross price list at Client Hospital is quite ambiguous
- While some of the prices are higher than benchmark hospitals, a significant number of services are priced less (relative to the effort required to perform such services) which needs a relook and price revision
- Also, due importance is not given to the derivation of pricing for services that occur recurrently (common procedures) and contribute significantly to improving the top line

Lack of clarity in the Billing Guidelines pertaining to Anesthesia Charges for packages

Self-Pay Guidelines (Client Hospital)

- It has been mentioned that 5% of Procedure Charges to be considered as Anesthesia charge.
- Further it also states that Package charges includes OT & Anesthesia and to be considered as a Package with a disclaimer -Some Packages

anesthesia charges 5% included some packages anesthesia charges excluded.

Self-Pay Guidelines (Hospital A)

- Follows the International Standard Guidelines states 20% of the Procedure can be charged as Anesthesia Charges

Therefore, if the Procedure (IP surgeries) are inclusive of all charges then the prices for Self-Pay may need to be revised.

Comparison study of Client Hospital Self Pay Price List against Hospital A Price List a few highlights on our observations

No.	Description	Units
1	Services with higher pricing compared to Hospital A	1321
2	Services with lower price compared to Hospital A	1070
3	Services not included in Hospital A tariff (Ex: Consumables)	2516
	Other Observations	
1	Duplicate CPT noted in the tariff list	
2	Almost 1/3rd of the price list contains consumables codes	

Table 5 –Discrepancies & variation found in price list for client hospital Vs Hospital A

Delivery Package (AED)	Hospital A (Sharing Room)	Client Hospital
NVD	8200	6999
LSCS	14500	10999

Table 6 – Variation found in price's for Delivery packages of client hospital Vs Hospital A

Consultation Fee (AED)	Hospital A	Client Hospital
ER GP	150	175
Specialist	200	280
Consultant	350	315

Table 7 – Variation found in price's for Consultations of client hospital Vs Hospital A

4.3.2 Price List for Insurance Patients Review

- The Discounts offered for various networks across Health Insurance Companies are on the higher side relative to benchmark hospitals
- Higher discounts can be provided for Diagnostic Services,howeverit is generally infeasible to maintain high discount rates for resource-intensive services such as Room Charges since this will affect the direct revenues of the organization.

- In a Matured market like UAE, a Hospital cannot charge separately for Nursing Services since it is perceived as a part of Room Charges. Hence if the Insurance team can take an effort to reduce the discounts on Room Charges it would be ideal.
- Anesthesia Charges needs to be streamlined or there is no clarity in how the charges are arrived.
- OT & Anesthesia needs to be charged always additional from the Service price.
- With DRG being implemented in Dubai & Northern Emirates, it will be a tough challenge for a private hospital to cope with the above billing practices.

Revision of Price list is required with a proper study on their utilization and resources

Table 8 –Detailed Variation found in price list for client hospital Vs Hospital A

Ins Comp	Hosp	Network	Consultation			Services		Pharmacy		Dental	Radiology	Lab	Room	OT	Anesthesia
			Consultant	Specialist	GP	IP	OP	IP	OP						
Oman	Hosp A	DHA PLUS AND ESSENTIAL NETWORK	0	100	70	0%	0%	0%	5%	NO COVERAGE	0%	0%	0%	20%	20%
		BASIC , STANDARD, COMPREHENSIVE NETWORK	200	130	85	55%	55%	0%	5%	45%	55%	55%	55%	20%	20%
		COMPREHENSIVE PLUS, PREMIUM , BUPA NETWORK	300	225	150	35%	35%	0%	5%	35%	35%	35%	35%	20%	20%
	Client Hospital		210	156	90	40%	40%	0%			40%	40%	40%		
NextCare	Hosp A	GN+, GN, CN, RN, RN2	200	125	75	50%	50%	5%	5%	50%	55%	60%	50%	20%	20%

		RN3 (IP ONLY)	**200**	**125**	**75**	**60%**	**0%**	**5%**	**0%**	**60%**	**60%**	**60%**	**60%**	**20%**	**20%**
			190	**125**	**75**	**NextCare Price List (Which is not shared)**									
	Client Hospital	**NEXT CARE INSURANCE RN3 IP**	**171**	**112.5**	**67.5**	**10%**	**10%**	**5%**			**10%**	**10%**	**10%**		
NAS		**CN, GN, RN**	**210**	**150**	**85**	**50%**	**50%**	**5%**	**5%**	**50%**	**50%**	**50%**	**50%**	**20%**	**20%**
	Hosp A	**SR, WN, SP**	**100**	**75**	**50**	**65%**	**65%**	**5%**	**5%**	**65%**	**65%**	**65%**	**65%**	**20%**	**20%**
		NAS (SR) Insurance	**123.5**	**97.5**	**58.5**	**40%**	**40%**	**3%**			**40%**	**40%**	**40%**		
		NAS INSURANCE (CN, GN &RN)	**190**	**150**	**90**	**20%**	**20%**	**3%**			**20%**	**20%**	**20%**		
		NAS WN	**123.5**	**97.5**	**58.5**	**60%**	**60%**	**3%**			**60%**	**60%**	**60%**		
	Client Hospital	**NAS BN NETWORK FOR IP**	**123.5**	**97.5**	**58.5**	**60%**	**60%**	**3%**			**60%**	**60%**	**60%**		

4.3.3 Review of Initial Client Billing Methodology

Observations and interactions were made on floors of client hospital to understand the process flow and how the invoices are generated for Insurance and Cash Patients.

Based on our interaction with the Staff related to process (OP & IP Billing and pprovals) the observations are

1.There is a lack of coordination between Departments.

- OP Billing staff focus purely on Billing without rejection considerations, and rely solely on system efficiency for the same
- Similarly, IP has reservations on what they bill.

2.It was observed that Billing team do not have a common reporting heads.

3.Different OP and IP Staff have different understanding and interpretation of the Billing Methodology.

4.While the IT System is robust and well equipped from a Billing Perspective, feedback from Staff indicates that the Tariff Master doesn't always pick up the right prices against the Insurance companies and many times they had to correct it manually.

5.There is a major communication gap between Approval Team and Invoicing Team of client hospital.

4.3.4 Review of Initial Client Service Billing

OUT PATIENT BILLING

1.Currently OP Bills auditing are being done on a daily basis by the Night Supervisor.

As per our review of 1100 claims (For O.P)

a) the process is to check and validate the Card Numbers and Insurance entitlements.

b) the audit does not include the following to be checked

- Covered or Non-Covered services
- Approval Validity
- Coverage of Diagnosis
- Standard Exclusions
- Maternity Approvals
- Verbal App Codes.

INPATIENT BILLING

As per our review of 1000 claims (For I.P)

1. It was observed that IP Bills are not checked against services rendered, which is attributed to the shortage of staff & lack of training.
2. Internal Billing Audit not done on daily basis by experienced or senior team members.
3. There is no process where Medical coders code on the procedure performed before the closure of Invoice and patient discharge.

4.3.5 REJECTION TREND – ANALYSIS

To understand the rejection trend, we have taken an Audit Sample of insurance claims which consists of 2100 files of XML shared by the IT team.

Below are the Audit Findings of Claim Submission

- There are claims that are submitted late has already applied with late submission fee @ 5% and 10%
- Technical rejections due to pre-authorization number was not provided noticed during the sample audit. Also noticed many claims have been rejected due to not obtaining pre-approvals. Unfortunately, the said category having the highest denial amount.
- Co-payment and deductible rejections are reflected in the remittance advices due to the wrong calculation of the same. The users need to refer the "DHPO" system before calculating and applying.
- Many claims have rejected due to coding of non-covered diagnosis which can be eliminate referring the policy description and adjudication rules.
- Many DDC codes have rejected stating duplicate claim submitted or the item have already paid to pharmacy which need to be monitored.

Below is the fish – bone diagram representation for analysis of Reasons of Rejections in Denied claims

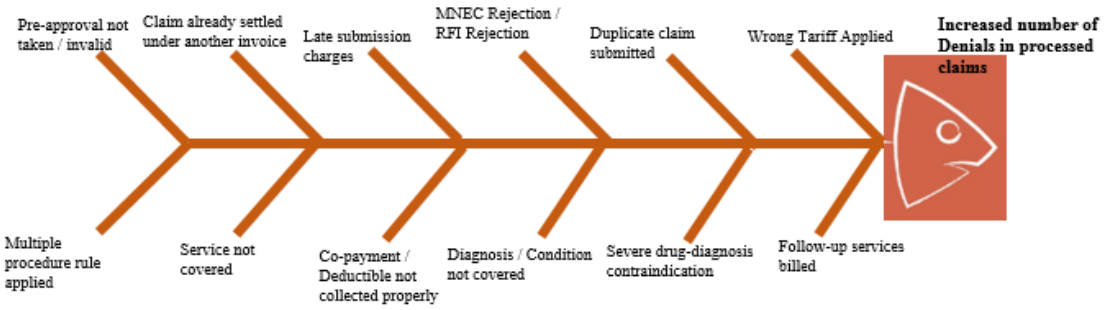

Fig C: Fish – Bone Analysis for reasons of denied claims

Going further in details, as per Root Cause Analysis following denials were observed over reviewed data marked with % in set of denied claims

S No.	Denial Categories	Denial %
1	Preapproval not taken/invalid	80
2	Late submission charges	14
3	Duplicate claim submitted	3.5
4	Claim already settled under another invoice	<1
5	Diagnosis not covered	
6	RFI Rejections/MNEC Rejections	
7	Multiple procedure rule applied	
8	Diagnosis/ Condition not covered	
9	Co-payment/Deductible not collected properly	
10	Wrong tariff applied	
11	Follow-up services billed	
12	Sever drug - diagnosis contraindication	

Fig D: Root Cause Analysis for reasons of denied claims

Analysis of Revenue report for the year 2015 & 2016

- Observed that even with effort made to rectify the errors and rejections from 2015 the trend continues.
- The errors which primarily have been committed in terms of Billing and Medical Rejections -continues for the year 2016 & 2017 as well.
- Rejection Percentage for the year 2015 stands at 20% and for 2016 stands at 18%.

- Industry standards for Rejections: Rejection Rate should not exceed more than 5%.
- The Average Rejections for Major Providers such as Mediclinic, American Hospital, Med-care Group falls at 3%.

Resubmission

- The Resubmission team as per the report states that they have resubmitted all the amount, however what we could see was that not much was recovered from Insurance companies in spite of resubmission.
- The Reconciliation team is submitting all the invoices which are being rejected without – checking on the trend of similar rejections which could have been avoided

4.4IMPROVE PHASE

- We have found to improve the current revenue cycle the correct approach should be followed in matrix for development. The focus should start from improving service pricing, re-negotiating insurance contracts, re-define service billing methodology and then correcting the claims management as per analysis of denials and drawn fish-bone diagram.

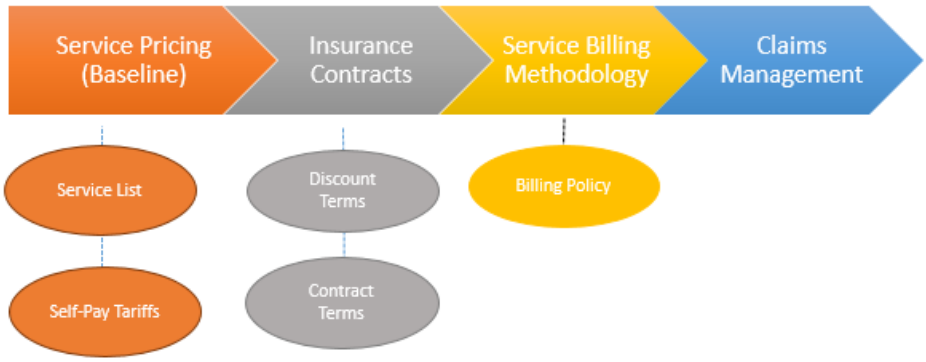

Fig E: Phase wise distribution of Areas of Improvement to enhance Revenue management system

4.5CONTROL PHASE

- If the Rejections are controlled and reduced to the standard of 3 to 5% that itself gives anautomatic revenue to the bottom lines by 15-17%. This must have hurt the EBITA of Hospital in spite of efforts made to control rejections.
- This is how a complete control on RCM process is a needed and to maintain the streamlined processes & to keep a check on the rejections.

CHAPTER 5

DISCUSSION AND CONCULSION

To conclude, utilization of application of methodologies of six sigma findings shows promising positive impact on improving the existing processes of claim management and revenue generation in the hospital. We have re-defined the system in accordance to Insurance Authority (UAE) law sets, coding & billing international guidelines and mutually agreed contracts & pricing mechanism.

The analysis re-focuses on comprehensive improvement at various stages of the hospital operations including staff training, orientation to policy, understanding of billing & coding methodology, focus for reduction of denials, removing non-network patient invoicing to insurance and complete documentations to ensure cost optimization for the processed claims.

The Intern also realized old processes aren't enough to lead effectively in the new healthcare environment for generation of revenue. Improved processes are the key to optimizing the way health insurance organizations service customers, manage workflow and operations, and capture data that support decisions that drive the reconciliation of accounts.

Also, the rejections are controlled and are being focused for reduction of 16-18 to 3-5% &that itself gives anautomatic revenue to the bottom lines by 15-17%. Thus, to enhance operational efficiencies and reduce denials at every possible step with improved results, six sigma provides insights for complete cost containment.

Addition to this as Intern noticed the highest rejection was due to pre-approval not taken (80% of the denied claims) I have prepared a pre-approval manual for the training of the client. (Attached in Appendix)

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APPENDIX – Pre-Approval Manual

iNNOVAMED

PRACTICE MANAGEMENT LLC

Pre-Approval Manual

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