# Study on "Risk identification, Assessment and Development of Risk Management Strategies for Non-Clinical Departments in Thumbay Hospital, Ajman, UAE

***By***

*Kirti Agarwal*

*Dissertation submitted in partial fulfillment of the requirements of the degree*

*MBA Hospital and Health Management*

***Academic year, 2017-2019***

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**TO WHOMSOEVER MAY CONCERN**

This is to certify that **Kirti Agarwal**, student of MBA Hospital Management from The IIHMR University, Jaipur has undergone internship training at **Thumbay Hospital, Ajman (UAE)** from 21st February 2019 to 21st May 2019.

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 the course requirements.

I wish her all success in all his future endeavors.

Dr. P.R.Sodani
Pro President
The IIHMR University, Jaipur

Dr. Anoop Khanna
Professor, Guide
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May 20, 2019

**To Whom It May Concern**

This is to certify that Ms. Kirti Agarwal holder of Indian Passport Number N2253251 has undergone internship in our organization from 24th February 2019 till 20th May 2019, as a part of dissertation of her MBA in Hospital and Health Management program. She has completed the assigned project.

We wish all the best for her future endeavor.

For **Thumbay University Hospital Complex, Ajman**

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## THE IIHMR UNIVERSITY, JAIPUR

## CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled A study on "Risk identification, Assessment and Development of Risk Management strategies for Non-Clinical Departmentssubmitted by Kirti Agarwal Enrollment No.…0587…… under the supervision of Dr. Anoop Khanna for award of MBA in Hospital and Health/ Pharmaceutical / Rural Management in Health and Hospitals of the University carried out during the period from …24th February….. to ……21st May ..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

Abstract

**Title**: A study on "Risk identification, Assessment and Development of Risk Management strategies for Non-Clinical Departments

**Author**: Kirti Agarwal

**Advisor:** Dr. Anoop Khanna

**Background**: In Healthcare & Hospital industry, risk can be stated as: The probability of event or action that can harm patients, visitors or staff and can result as a negative impact on the organization. Identification and management of risks will provide invaluable opportunities to improve on Hospital Quality of care, performance, patient and staff safety. The diversity of collected risks from hospital departments helps to formulate strategies on the basis of risk assessment. It would provide translucency and timely response to the adverse events, thereby focusing on overall Quality and safety of the Hospital. Through periodic monitoring and maintenance of risk register, one can minimize the adverse events that can have a negative impact on hospital. Thus, it is essential for a healthcare organization to develop, maintain and implement a framework for risk management.

**Objectives:**

- To identify and describe the risks of non-clinical departments for managing the risk register
- To identify the nature of the risks.
- To determine the organization's competencefor mitigating the risks which were identified through existing controls.
- To prioritize the risk based on likelihood and consequence of the reported incidence.
- To propose additional risk management strategies forcombating the stated risks.

**Method:** An Observational Descriptive study was conducted at a 250 bedded hospital in Ajman, UAE. The study was carried out for a period of 3 months. In thestudy the risks of 20 Non- clinical departments of the hospital was identified, assessed and development of Risk

Management strategies was done.The data was collected and recorded in the risk register template with the help of brief discussions, semi- structured interview with designated staff & HOD's of the concerned departments and also thorough Observation & Tracking of incidents reports of the concerned departments.

**Result:** Total of 108 risks were identified from 20 Non- clinical departments of the hospital, out of which 65 were identified as actual risks and 43 as potential risks.

Maximum number of risks were related to Patient/employee safety i.e. 34 risks.

Based on the Consequence and Likelihood Scale, Risk priority number was Obtained, 108 risks identified, Out of which 20 were Extreme Risks, 46 were High Risks, 21 were Medium Risks and 21 were low risk on the basis of risk matrix.

**ACKNOWLEDGEMENT**

Thanks to the almighty for all the countless gift that you have offered me, and thanks to my family for their love and support.

I would like to express my extreme sincere gratitude to H.E Dr. Thumbay Moideen President Thumbay Group for all his establishment that provided me an opportunity to move abroad and work in an International organization. Sir, I am truly thankful to you.

Someone who directly supervised and supported me on and off the work. My Guide Chief Quality Officer of Thumbay hospital Ajman, Dr. Pawan Gupta. Sir, I am grateful to you for all your support and guidance, I would like to express my deepest sincere gratitude for your entire support during my dissertation period. The kind of confidence and faith that you showed on me helped me be comfortable and protected in a foreign country. I am thankful to you for all your support and concerns.

I am grateful to Dr. Disha, Mrs. Sahana & Dr. Nivedita Purohit, who guided me and provided the necessary resources required during my training period at Thumbay hospital Ajman. I am thankful to you all. Without your support this would not be possible.

I am also grateful to Dr. Faisal for all his support and guidance, his suggestion during my dissertation was of immense importance to me.

I am deeply thankful to my mentor Dr. Anoop Khanna. Who was always there to help me. Sir I would like to express my deepest respect and thanks for all your support during my synopsis and dissertation. Your valuable comments contributed the most in my learning. Without your support this dissertation would never be a success.

I am also thankful to my colleague at the work place who helped me in all the possible way. Their presence always makes me feel comfortable. I am extremely thankful to you all.

My words may not be enough to express my respect for you all. But I am truly obliged and thankful to all.

At the end I am always thankful to my friends who were always there for me to boost my confidence and helped me whenever I needed. Their moral support was everything for me.

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List of Symbols and Abbreviations

| | |
|---|---|
| HOD | Head of Department |
| FMS | Facility Management Services |
| QA | Quality Assurance |
| QIPS | Quality Improvement and patient safety |
| UAE | United Arab Emirates |
| GMU | Gulf Medical University |
| HR | Human Resource |
| MRD | Medical Record Department |
| CSSD | Central Sterile Services Department |
| eHOR | Electronic Healthcare Occurrence andVariance Report |

## Chapter 1 – Organization Profile

Thumbay Hospital is a chain of academic hospitals based in the UAE, affiliated to Gulf Medical University (GMU), Ajman. Thumbay Hospitals are located in Ajman, Dubai, Fujairah, Sharjah and in Hyderabad-India. The hospital chain is owned by Thumbay Group.

GMC Chain of Hospitals is one of the largest health care providers in the region. The group focuses on three pillars Education, Healthcare and Research

The first Thumbay Hospital, affiliated to GMU, was inaugurated in Ajman on 17 October 2002 by H.H.Sheikh Humaid Bin Rashid Al Nuaimi, as the first teaching hospital in the private sector in UAE.

Today, Thumbay Hospital is considered as one of the largest private healthcare provider in the region, catering to patients from over 175 nationalities and having staff from over 20 nationalities, speaking over 50 languages.

The hospital network has extended its services through its hospitals in Dubai, Sharjah and Fujairah in the UAE as well as in Hyderabad - India.

Vision: To be the leading network of academic hospitals in the Middle East

Mission: To provide patient Centred care of the highest quality in an academic set up

Core Values:

- ✓ Excellence
- ✓ Trust
- ✓ Client Cantered
- ✓ Ethics
- ✓ Continuous Learning
- ✓ Teamwork
- ✓ Integrity

Figure 1.1: Vision, Mission and Core Values of Thumbay Hospital, Ajman

· **Thumbay Hospital - Ajman** is the first private and constituent teaching hospital of GMU with a capacity of 250 beds.

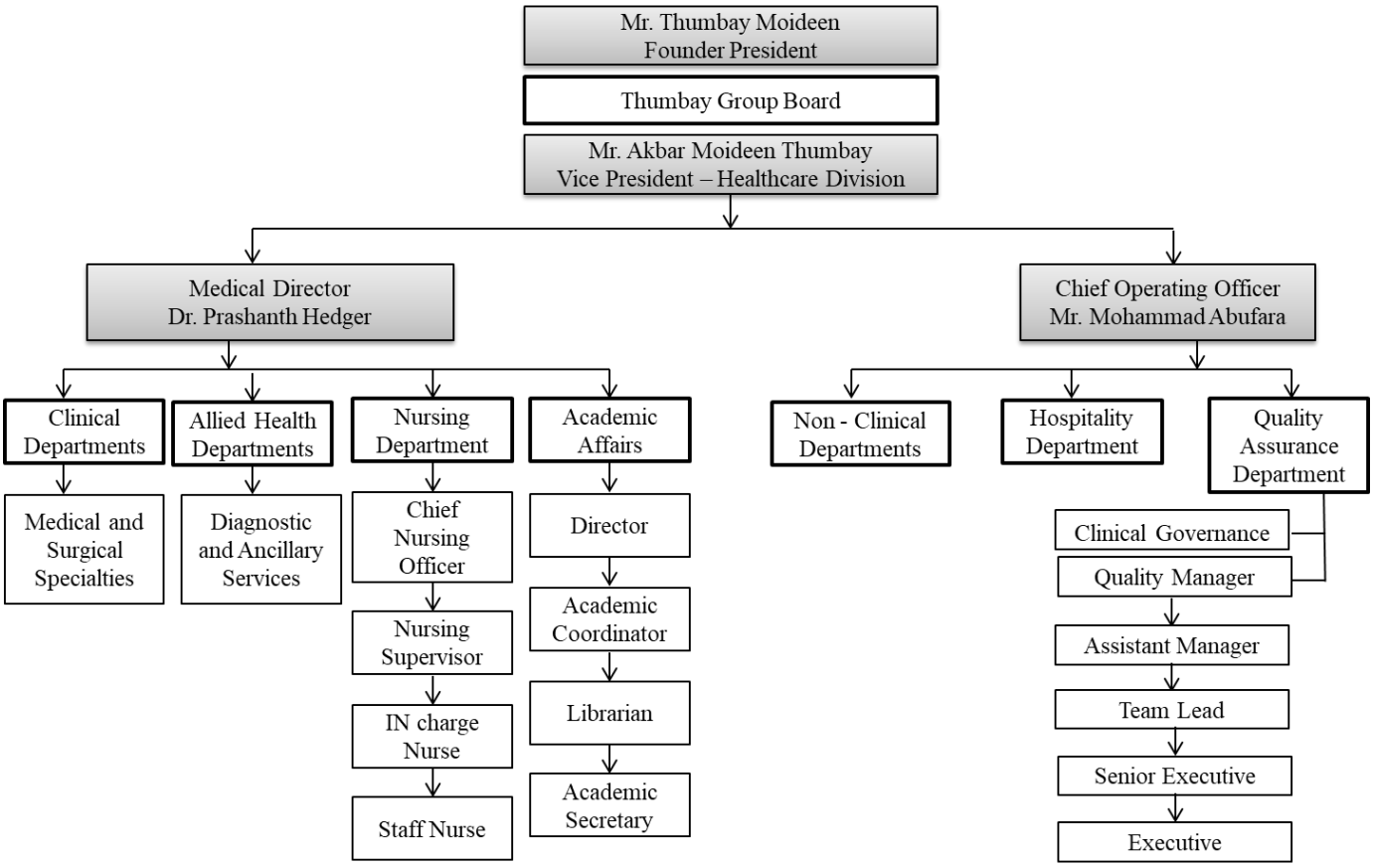


Figure 1.2: Organogram of Thumbay Hospital, Ajman

## Chapter 2 – Introduction

The U.A.E.'s healthcare sector has productively expanded over the past four decades. At the time of the U.A.E.'s founding in 1971, the country had just seven hospitals and 12 health centers. As of 2015, according to the latest figures from the U.A.E. statistics authority, the U.A.E. had 126 public and private hospitals with a combined capacity of over 12,000beds thus with the increasing Healthcare Facilities, risk related to patients, staff, and other departments of hospital are also prevalent in healthcare industry. Thus, it is necessary for an organization to have dedicated hospital risk management system to assess, develop, implement, and monitor risk management plans with the goal of minimizing exposure. There are many priorities to a healthcare organization, such as finance, safety and most importantly, patient care.

Risk is a probability/threat of damage, liability, injury that is caused by vulnerabilities and that may be avoided by Pro – active actions. Risk management for entities can be defined as an organized effort to identify, assess and reduce, where appropriate, risk to patients, visitors, staff and organizational assessts.

The risks in the hospital environment are significant and ever changing. Risk must be managed through the systematic analysis of actual and potential risks and the development and implementation of measures to counteract those risks.

The template of risk register which is used in the study includes the following headings:

- ✓ Name of Department
- ✓ Risk Owner: This is the individual who will be held accountable for the risk and its effective control. The maxim of 'the risk taker is the risk owner' should be adopted.
- ✓ Risk Type: Refer to Table 2.1
- ✓ Risk Description:Risk is inherently negative, implying the possibility of adverse consequences.

  Describe the potential consequences if the risk were to materialize.

  Describe the causal factors that could make the risk materialize.

  Ensure that the context of the risk is clear, e.g. is the risk 'target' well defined (e.g. staff, patient, department, hospital, etc.) and is the 'nature' of the risk clear (e.g. financial, safety, physical loss, perception, etc.)

- ✓ Risk Category: is this a risk that has materialized in the past (i.e. an 'actual' risk'), or is it a risk that has not materialized to-date, but could at some time in the future (i.e. a 'potential' risk)?
- ✓ Existing Controls: Specify all the controls currently in place to help mitigate the risk, e.g. policies, procedures, physical controls, etc.
- ✓ Consequence:Use 1 to 5 as described in the risk quantification information given in figure 2.2
- ✓ Likelihood:Use 1 to 5 as described in the risk quantification information given in the Figure 2.3
- ✓ Risk Priority NumberCalculation**: Risk score (R) = Likelihood (L) × Consequence (c)**
- ✓ Risk Categorization is done on the basis of risk Matrix ( Refer Table no. 2.4)
- ✓ Risk reduction strategies/ additional controls required: Also known as risk reduction strategies or risk treatments. List all the controls required. These can subsequently be translated into individual actions

**Table 2.1: List of common risk types**

| **Common Risk Types** |
|---|
| Business Risk |
| IT Risk |
| Legal Risk |
| Market Risk |
| Reputational Risk |
| HR Risk |
| Medication Risk |
| Strategic Risk |
| Integrity Risk |
| Employee Safety Risk |
| Operational Risk |
| Physical Resource Risk |
| Financial Risk |
| Patient Care and Safety Risk |
| Environmental Risk |

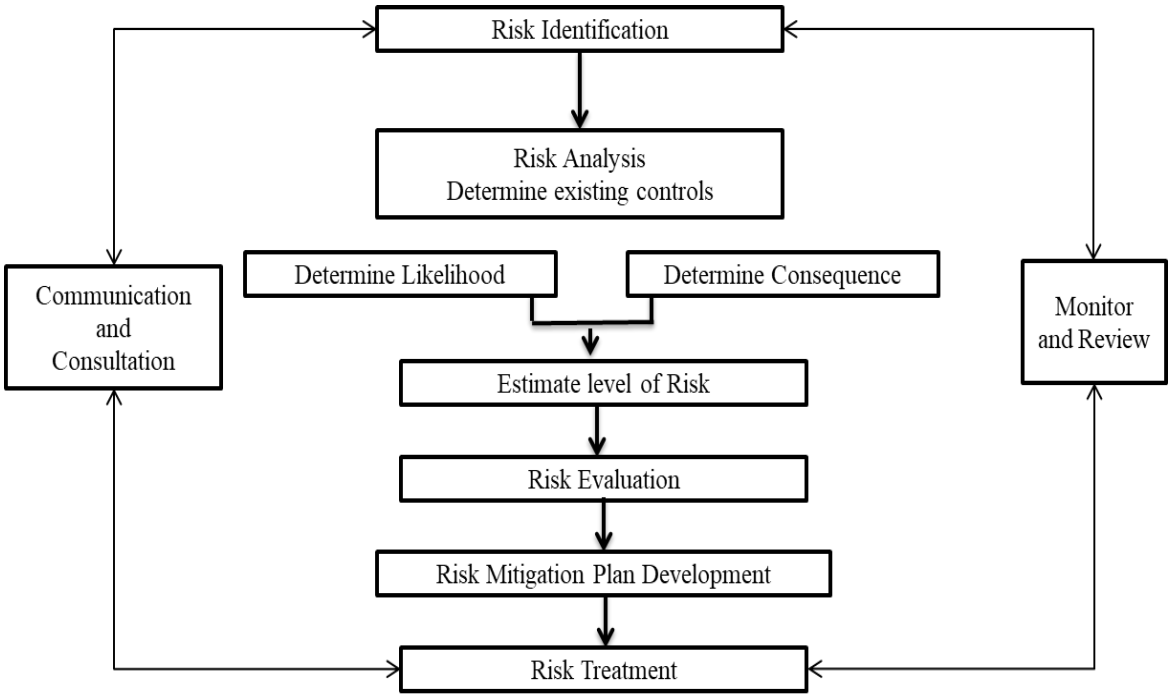


Figure 2.1: Risk Register Development Process

**Table 2.2: Consequence Table**

| **Descriptor** | **Level** | **Definition** |
|---|---|---|
| Insignificant | Level 1 | No Injury |
| Minor | Level 2 | Injury/ill health requiring first aid |
| Moderate | Level 3 | Injury/ill health requiring medical attention |
| Major | Level 4 | Injury/ill health requiring hospital admission |
| Severe | Level 5 | Fatality |

**Table 2.3: Likelihood Table**

| Descriptor | Level | Definition |
|---|---|---|
| Rare | Level 1 | The event may occur only in exceptional circumstances |
| Unlikely | Level 2 | The event may occur at some time, say once in 10 years |
| Possible | Level 3 | The event should occur at some time, say once in 3 years |
| Likely | Level 4 | The event will probably occur in most circumstances, say once a year |
| Almost Certain | Level 5 | The event is expected to occur in most circumstances |

**Risk Matrix**

| Likelihood | Consequence | | | | |
|---|---|---|---|---|---|
| | **Insignificant** | **Minor** | **Moderate** | **Major** | **Severe** |
| **Almost Certain** | High | High | Extreme | Extreme | Extreme |
| **Likely** | Medium | High | High | Extreme | Extreme |
| **Possible** | Low | Medium | High | Extreme | Extreme |
| **Unlikely** | Low | Low | Medium | High | Extreme |
| **Rare** | Low | Low | Medium | High | High |

## Chapter 3 – Rationale

Hospitals are a common setting for the prevalence of risk due to high volume of care transactions and interventions that take place during hospital stay. Any kind of risk actual/ potential of any degree extreme to low can be of potential threat to the hospital in terms of financial loss, decreased work efficacy and efficiency, Patient satisfaction, service outcome or reputation. Thus, A risk management system should be implemented in order to control the prevalence or incidence of the risks. A risk register thus, would help to mitigate the existing risk and control the future risks

## Chapter 4 - Literature Review

**Gul, M., Ak, M. F., & Guneri, A. F. (2017). Occupational health and safety risk assessment in hospitals: A case study using two-stage fuzzy multi-criteria approach. Human and Ecological Risk Assessment: An International Journal, 23(2), 187-202.**

Aim of this paper was to assess risks for healthcare staff, planning of health services, and enhancement of regulations. The study was carried outin one of theleading hospital in Turkey using a two-stage fuzzy multi-criteria approach, which delivers more consistency in decision-making process and gives an appropriate final rank of hazard types. On conclusion of the hazard control hierarchy, measures are overtaken for the hazards, and areas open for improvement are presented.

**Kaya, G. K., Ward, J., & Clarkson, J. (2018). A Review of Risk Matrices Used in Acute Hospitals in England. Risk Analysis**

This article examines ways in which hospitals could use risk matrices more effectively and efficiently. Findings reveal that there is a huge variety of risk matrices used, where the design of some might increase the chance of risk mis prioritization. Additionally, findings show that hospitals may provide inadequate guidance on how to use risk matrices as well as what to do in response to the existing criticisms of risk matrices

**Singh B, Ghatala MH. Risk management in hospitals. International journal of innovation, management and technology. 2012 Aug 1;3 (4):417**.

Risk management has become an integral part of hospital administration in most of the developed countries in general and the USA. However, the needed attention to the concept and process of risk management in the developing countries is yet to be given. Since we are living in a global village and with advances in communication technology, the day is not far when patients will initiate law suits against the health care providers and hospitals for medical malpractice and negligence threatening patient Safety. It is suggested that hospitals give serious consideration for implementing and/or strengthening risk management programs to protect their assets and minimize financial losses

**Uzulāns, J. (2015). Project Risk Register Analysis And Practical Conclusions. *Practice and Perspectives,* 414.**

The aim of the current research is to examine real project risk registers to find correlations between the project management theory, especially project risk management, and practical results of real project risk management –the risk registers publicly available in the Internet. In the research the author has analyzed the compliance between the project risk management theory which is described in "A Guide to the Project Management Body of Knowledge" by Project Management Institute, Tasmanian Government Project Management Guidelines and Risk Management Guide For DoD Acquisition and the project risk registers

**Mathews, S. C., Sutcliffe, K. M., Garrett, M. R., Pronovost, P. J., & Paine, L. (2018). A framework for operationalizing risk: A practical approach to patient safety. *Journal of Healthcare Risk Management, 38*(1), 38-46**

This paper gives an overview of the framework for addressing patient safety within the Johns Hopkins Health System, which approaches patient safety in the context of risk at the patient, provider, unit, and system levels. We present practical examples of how this approach is applied and highlight the resources needed as well as describe how it fits within the broader quality management infrastructure in the health system on its journey toward high reliability.

**Milliken, S. (2014). Introducing and populating risk registers in four clinical units in a teaching hospital–a quality and safety initiative**

This research concluded that business of healthcare is fraught with risk, ensuring robust risk management processes are in place is central to reducing preventable adverse events. Risk register population and implementation is one important component in reducing error rates.. Global reports of incidents and errors causing harm and even death are well documented. Effective leadership, developing a positive culture of patient safety and improving communication are all found to be major factors in improving quality care. Risk management is the responsibility of all, top down and bottom up or sharp enders to blunt enders and it is incumbent on each healthcare worker to provide the very best care at all times to all people who attend seeking better health and an improved quality of life or a dignified caring end of

life. Trust is laid in the hands of healthcare workers, trust for care, trust for safety, trust for truth.

**Dückers, M., Faber, M., Cruijsberg, J., Grol, R., Schoonhoven, L., & Wensing, M. (2009). Safety and risk management in hospitals. Health Foundation.**

Thirteen literature databases were examined in May and June 2008 following a predefined search strategy. they included studies of sufficient methodological quality if these dealt with the effects of safety and risk management (SRM) in a hospital setting. Two reviewers assessed unique studies. Two reviewers, working independently, studied the retrieved full-text articles and extracted information

**Patterson, F. D., & Neailey, K. (2002). A risk register database system to aid the management of project risk. International Journal of Project Management, 20(5), 365-374.**

This paper presents a Risk Register Database System, which incorporates a Risk Register and a Risk Assessment Tool which have been used to aid the management of project risk within an automotive company.The Risk Assessment Tool uses the information documented within the Risk Register to enable the overall riskiness of a project to be reported on a regular basis and as such, track the effectiveness of utilizing a Project Risk Management Methodology throughout the lifespan of a project.

## Chapter 5 - Research Question

What are the strategies that can be incorporated by the non-clinical departments of Thumbay hospital Ajman to reduce the incidents of the identified risks at the hospital?

## Chapter 6 – Aim and Objectives

AIM: To improve the work efficiency and patient's outcome by studying the incidents of risks in the non-clinical departments of Thumbay Hospital, Ajman

OBJECTIVES:

- To identify and describe the risks in non-clinical departments for managing the risk register.
- To depict the organization's competence to mitigate the risks which were identified through existing controls?
- To prioritize the risk based on likelihood and consequence of the reported incidence.
- To propose additional risk management strategies to combat the stated risks.

## Chapter 7 –Methodology

5.1 Study Design and Methods

- Type of Study: Observational Descriptive Study
- Study Location- Thumbay hospital, Ajman
- Study Duration: 3rd march to 29th April ( 56 days )
- Inclusion Criteria: Non- Clinical Departments of Thumbay Hospital, Ajman
- Exclusion Criteria – Clinical Department and Third-Party Services
- Data Collection Method:

• PRIMARY DATA:

  - ✓ Observational study
  - ✓ Semi structured Interview

• SECONDARY DATA:

  - ✓ Incident Reports

- Study Instruments – Risk Assessment Tool and MS Excel
- Study Setting

1. Biomedical
2. Guest Service
3. In – Patient
4. Insurance
5. Marketing
6. Medical Records
7. Patient Happiness
8. Public Relations and Medical Affairs
9. Human Resources
10. Training
11. Crèche
12. CSSD
13. Disaster
14. Ethics committee

15. Housekeeping
16. Information Technology
17. Facility Management Services (Maintenance, Fire and Safety, Security)
18. Nutrition
19. Pharmacy
20. Store
21.

- Steps involved in preparation of Risk Register:

**Risk Identification: To Identify and describe the Undesired events**

- Description of the system to be assessed was done
- Undesired Events were defined
- Contributory factors and owner of risk was determined

**Risk Analysis: To know the level of risk**

- Examination of current controls was done
- Categorization of risk was done on the basis of Actual/Potential risk
- Severity of risk was estimated on the basis of Consequence and Likelihood Scale
- Risk priority number was assigned to each risk
- Risk Classification was done with the help of Risk Quantification Matrix

**Risk Evaluation: Is there a need of action?**

- Required Controls were listed down on the basis of Risk Tolerability
- Required actions were defined
- Findings were documented and communicated in the concerned departments

In thestudy the risks of 20 Non- clinical departments of the hospital was identified, assessed and development of Risk Management strategies was done.The data was collected and recorded in the risk register template with the help of brief discussions, semi- structured interview with designated staff & HOD's of the concerned departments and also thorough Observation & Tracking of incidents reports of the concerned departments was done

## Chapter 8 – Results and conclusions

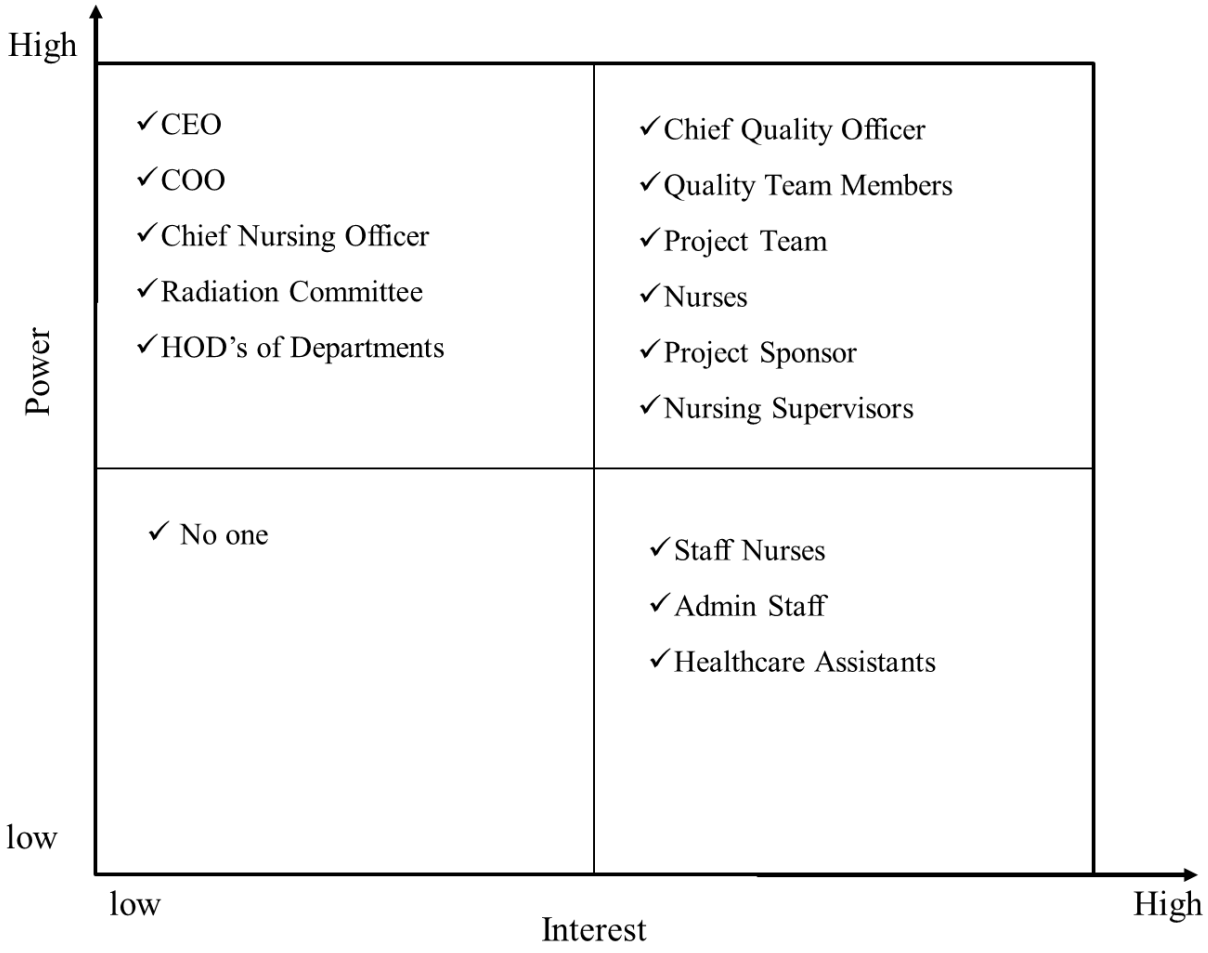


**Figure 8.1 –Stakeholder Matrix**

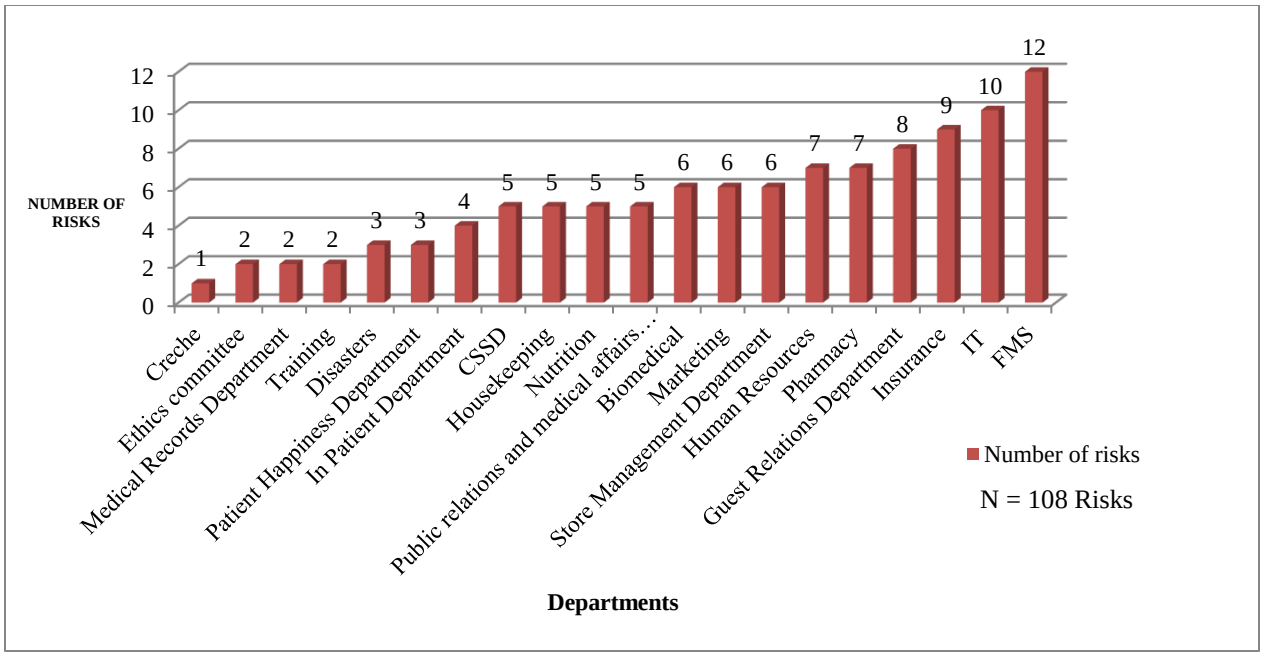


**Figure 8.2- Risk Distribution among Non-Clinical Departments**

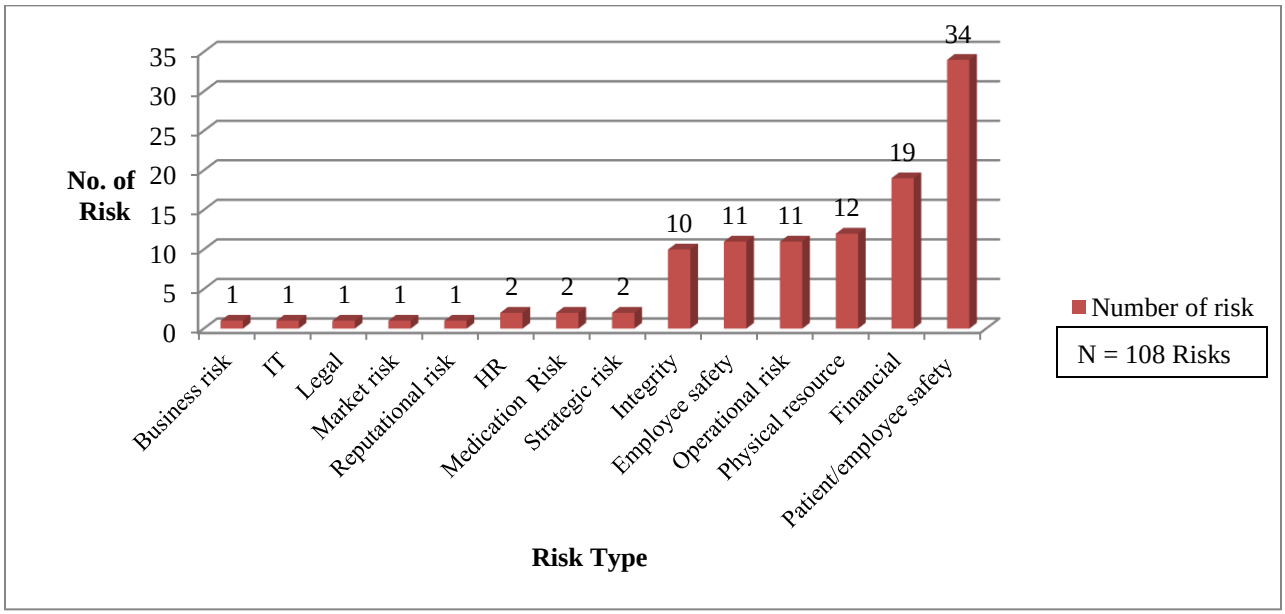


**Figure 8.3 – Frequency Distribution of risk on the basis of risk type**

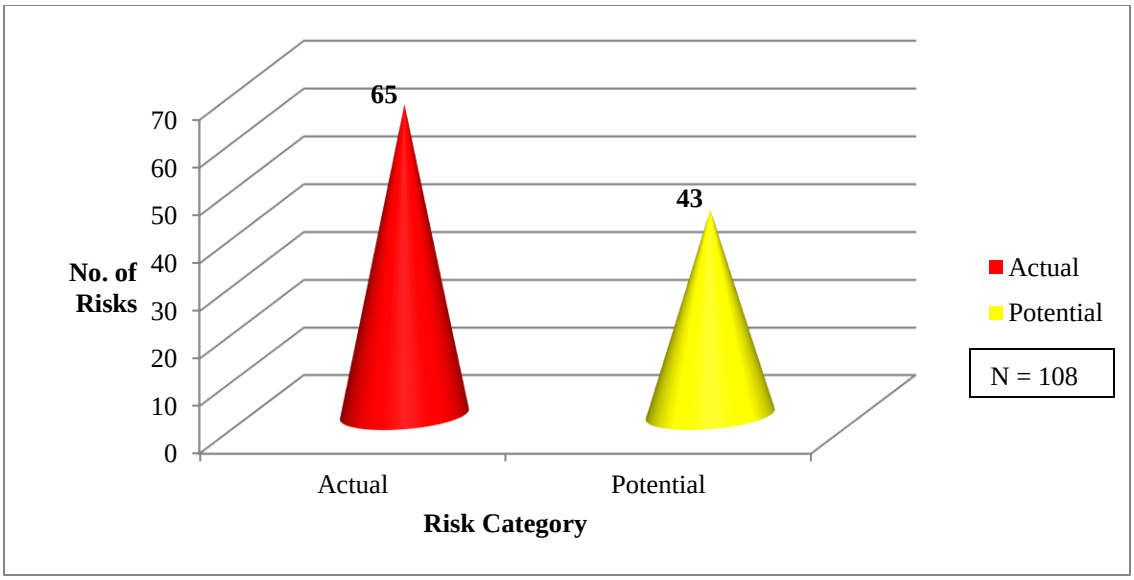


**Figure 8.4 – Frequency Distribution of Risk On The Basis of Risk Category**

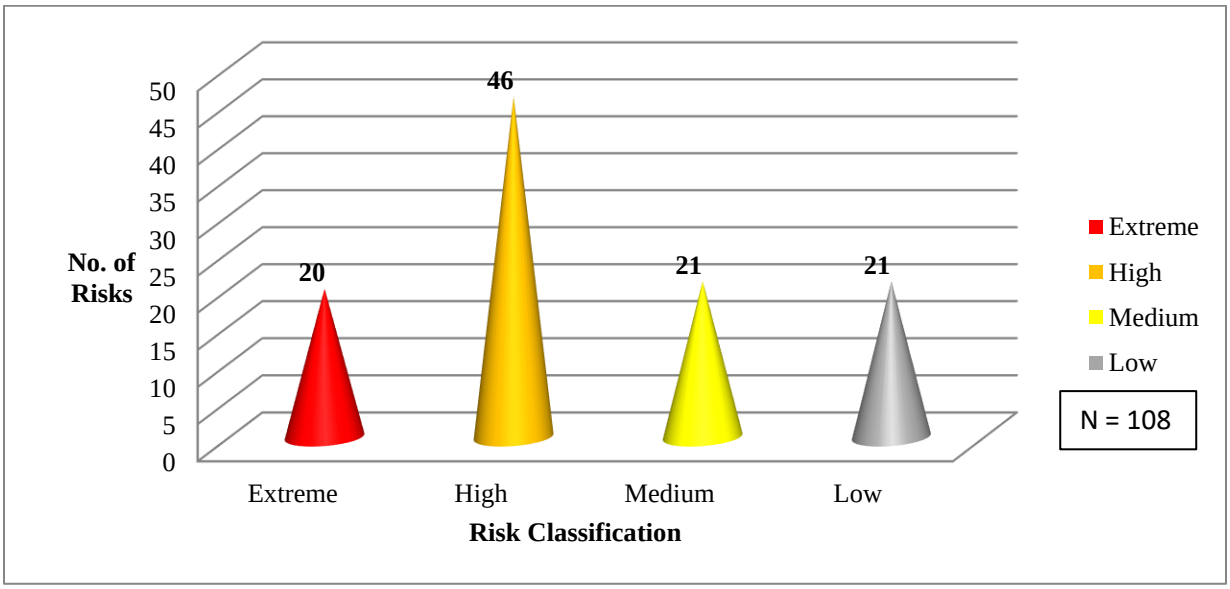


**Figure 8.5 – Frequency Distribution of Risk On The Basis of Risk Classification**

Total of 108 risks were identified from 20 Non- clinical departments of the hospital, out of which 65 were identified as actual risks and 43 as potential risks.

Maximum number of risks was found in Facility management Services Department i.e. 12 risks and Minimum number of risk was identified in the Crèche i.e. 1 risk

Maximum number of risks were related to Patient/employee safety i.e. 34 risks.

Based on the Consequence and Likelihood Scale, Risk priority number was obtained, 108 risks identified, Out of which:

20 were Extreme Risks,

46 were High Risks,

21 were Medium Risks and 21 were low risk on the basis of risk matrix.

**Conclusion**

From the report, it can be concluded that the risk register is ideal for documenting information in a constant stream, throughout the entire project cycle and it can be used as a tool for Quality improvement and patient safety. It is further useful in the end of a project to build upon the probability and impact factors of reoccurring risks. It is efficient at managing and visualizing risks, provided it is used with common sense: poorly documented risks could mislead coworkers. Risk assessment supports decisions made in relation to potential undesired events. Despite significant efforts of healthcare professionals and organizations, there is a potential to improve current risk assessment practice in hospitals for quality assurance.

**Recommendations**: Refer Table:8.6 (Recommendations are given in the form of Risk Mitigation Stratergies)

**Limitations**

Financial Resources required to implement the additional controls could not be determined.

Due to paucity of time the residual risk i.e. the risk left after the implementation of additional strategies/ controls could not be calculated. Hence, the efficiency and effectiveness of the control measures could not be measured

**Ethical Consideration:** Privacy and confidentiality will be maintained.

Table 8.6: Risk Register of Non – Clinical Departments

| NON - CLINICAL DEPARTMENTS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Risk Ownership, Definition and Existing controls | | | | Initial risk | | | Proposed risk treatment |
| **S. No.** | **Non-Clinical Department** | **Risk Owner** | **Risk type** | **Risk description** | **'Actual' or 'Potential' risk?** | **Existing Controls** | **Consequences** | **Likelihood** | **Risk Priority Number** | **Risk reduction strategies/ additional controls required** |
| 1 | Biomedical | Head - Biomedical Department | Employee safety | Risk of employee injury in form of burns,asphyxia etc -while handling/transporting high pressure cylinders containing oxygen, air and nitrous oxide. | **Potential** | 1) Cylinders are transported in a properly restrained and upright position.<br>2) Checking the valve of the cylinder before it is transported.<br>3) Checking that the cylinders have not been tempered with and safe to handle | 5 | 1 | **5** | Replace the high pressure cylinders (currently in use) with liquid oxygen tanks and with the installation of air compressor. |

| | | | | | | | | | | |
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| 2 | Biomedical | Head - Biomedical Department | Patient care and safety | Risk of delay in patient care and safety due to -breakdown of critical equipment's and hence increased downtime. | **Actual** | 1) Regular preventive maintenance<br>2) Standby machines | 3 | 3 | **9** | Annual Maintenance Contract for critical care Equipment's |
| 3 | Biomedical | Head - Biomedical Department | Employee safety | Risk of infection of the staff<br>- while repairing infected equipment (e.g. blocked spitoon in dental department) | **Actual** | Use of Personal protective equipment by staff while handling | 3 | 3 | **9** | Vaccination for the staff |
| 4 | Biomedical | Head - Biomedical Department | Patient care and safety | Risk of delayed patient care due to<br>1) Non availability of the parts of equipment/s<br>2) Non-cooperation of the supplier. | **Actual** | Contact the freelancer supplier so that equipment parts are available | 3 | 3 | **9** | Plan for replacement of equipment which are obsolete and having no support |
| 5 | Biomedical | Head - Biomedical Department | Patient care and safety | Risk of delayed or inadequate patient care due to malfunction of the equipments | **Actual** | Preventive maintenance done for all critical equipments every 6 months which includes checking the performance of the machines through the analysers. | 3 | 3 | **9** | Nil |

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| 6 | Biomedical | Head - Biomedical Department | Patient care and Safety | Risk of delay in surgical procedures (Laproscopy procedures)due to non-availability of portable CO2 cylinders in the OT complex. | **Actual** | Store maintains adequate buffer stock in the manifold room. | 3 | 3 | **9** | Constant monitoring of the store by the OT department in their storage area |
| 1 | Guest Service Department | Manager - Guest Service Department | Patient care and safety | Risk of transmission of infection to the paediatric patient/families due to the presence of wall mounted toys which serve as a common source of infection | **Potential** | Regular disinfection of the fixtures and toysin pediatric OPD. | 4 | 3 | **12** | Every one hourly the cleaning shall be done of the wall mounted toys |
| 2 | Guest Service Department | Manager - Guest Service Department | Patient care and safety Employee Safety | Risk of harm to patients/visitors/Staff while renovation/maintenance activities are being carried out in the OPD | **Actual** | None | 2 | 2 | **4** | Maintainance work shall not be done in presence of patient/staff due to safety reason. It shall however be done after OPD Timing or in Overlapping timing of OPD |
| 3 | Guest Service Department | Manager - Guest Service Department | Patient care and safety Employee Safety | Risk of falls in the outpatient settings due to<br>Slippery floors/Tiles | **Actual** | 1) watch your step signages is installed in the hospital<br>2) When the floors are slippery due to moping, caution board is placed | 2 | 2 | **4** | 1) Holding bars/railings to be fixed alongside<br>2) Gripping anti-skid sand work to be done in the OPD areas |

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| 4 | Guest Service Department | Manager - Guest Service Department | Patient care and safety | Risk of registering critical patients (with severe pain /Injury /Bleeding) in the OPD which could lead to delay in treatment | **Actual** | Referring such patients to emergency | 4 | 2 | **8** | 1) In case found any critical patient registering under OPD, should be referred to emergency department after coordinating with emergency doctor & reception staff for the immediate care & treatment |
| 5 | Guest Service Department | Manager - Guest Service Department | Patient care and safety Employee Safety | Security threat to the patients/visitors/staff in case of unguarded OPD entrance | **Actual** | Code white shall be activated in case of violence/security threat | 2 | 5 | **10** | 1) Training of staff about code white<br>2) Regular mock drills to be conducted to check the awareness of the same |
| 6 | Guest Service Department | Manager - Guest Service Department | Staff Safety | Risk of Receiving fake currency. | **Potential** | Controlling by checking the currency through Currency scanner. | 1 | 3 | **3** | Guest Service Department accepts and deal with multiple currencies. Staff have to make sure that the currency is being received from the patient are genuine by checking it through currency scanner. |
| 7 | Guest Service Department | Manager - Guest Service Department | Patient care and safety | Risk of Registering Patient with incorrect Demographic Details. | **Actual** | Staff Training | 1 | 4 | **4** | Guest Service Department should always ask and scan the valid ID proof at the time of Registration to avoid entering wrong Demographic details. Patient must fill a Registration form prior to Registration in case if |

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| | | | | | | | | | | no ID Proof. |
| 8 | Guest Service Department | Manager - Guest Service Department | Patient care and safety | Risk of Patient Dissatisfaction due to communication error/ Lack of Knowledge | **Actual** | Regular team briefing , Updates, changes about policies and procedures is being given to staff. | 1 | 4 | **4** | Guest Service Department should have weekly/monthly team meeting with Co-Departments, wherein the Department concern can be discussed and streamed line to avoid communication/Product related error. |
| 1 | In Patient Department | In Patient Manager | Financial risk | Risk of financial loss /bad debts to the hospital because<br>1) Money not deposited by the patients who are admitted through accident and emergency<br>2) Patient transfers to critical care areas from wards but not willing to pay the higher prices associated with it. | **Actual** | 1) Advance amount taken at the time of admission.<br>2) Patient signs a Guarantee Of Payment Form.<br>3) The patient's relatives /friends/ employer are contacted in order to settle the outstanding amount.<br>4) Such cases where patient doesn't pay the bill are forwarded to the legal team for necessary actions. | 2 | 4 | **8** | Nil |

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| 2 | In Patient Department | In Patient Manager | Patient care and safety | Risk of delay in patient care(admission) because -<br>patients do not carry the ID proof/documents required for the admission process. | **Actual** | 1) The Emirates ID is scanned in the OPD and made available to the In-patient department at the time of admission.<br>2) Correct information about the admission procedure is communicated by the nursing staff to the patients(in case the patient bye passes the IPD during admission). | 3 | 5 | **15** | LED display screens informing the patient to bring their ID at the time of admission |
| 3 | In Patient Department | In Patient Manager | Staff safety | Risk of harm to the safety of employees because of violence/abuse by the patients because of<br>-Lack of room availability/delay in admission and discharge.<br>-Mis-communication.<br>-Lapses in the clinical and support services. | **Actual** | 1) Patient counseling on various issues arising during the patient's stay in the hospital.<br>2) Code white is activated in case of physical threat by patients/Visitors.<br>3) Four level of Patient complaint handling mechanism in order to address the patients' complaints in an effective and timely manner. | 4 | 3 | **12** | To practice AIDET while communicating with patients. |

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| 4 | In Patient Department | In Patient Manager | Integrity risk | Risk of harm to the hospital reputation due to negative media coverage/negative word-of-mouth publicity which can be due to dissatisfaction of patients. | **Actual** | 1) Restricting people to take photos or videos<br>2) Four levels of Patient complaint handling mechanism in order to address the patients' complaints in an effective and timely manner.<br>3) VOC (Voice of customer) initiative- As a part of this, patients who do not wish to revisit the hospital/recommend the hospital to others are contacted by the PRO and their grievances are attended to. | 3 | 3 | **9** | Regular monitoring and supervision of existing controls |
| 1 | Insurance | Insurance HOD | Financial risk | Risk of incomplete and Improper Document submission, eventually leading to rejection | **Actual** | Staff are trained to submit complete and appropriate documents | 4 | 5 | **20** | Training shall be provided to the new joiners and existing staff |
| 2 | Insurance | Insurance HOD | Patient care and safety | Delay in submission of approval requests for emergency cases. | **Potential** | Color coding of emergency cases to differentiate from routine cases | 1 | 4 | **4** | Nil |

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| 3 | Insurance | Insurance HOD | Financial risk | Risk of mismatch of procedure done with initial request & approval taken (Cpt mismatch) &/or additional procedure done ( Related to doctors and nurses ) | **Actual** | Justification letter has to be filled for the requested procedures and according to hospital protocols procedure shall not be performed unless approved by insurance company | 4 | 4 | **16** | The doctors and nurses shall be reinforced to make sure the procedures are approved in advance |
| 4 | Insurance | Insurance HOD | Financial risk | Risk of wrong billing ( E.g.- Wrong billing of 2nd procedure done to insurance company. ) | **Actual** | Bill is verified before sending it to the insurance company | 4 | 4 | **16** | Refresher Training for all related staff |
| 5 | Insurance | Insurance HOD | Financial risk | Risk of ultimate rejection of approval requests as a result of verbal approvals taken initially by the front office. | **Actual** | Auditing of approvals by front desk option in the system to attach the approval copy | 3 | 4 | **12** | Nil |
| 6 | Insurance | Insurance HOD | Financial risk | Risk of a wrong update by approval team because of untrained staff, leading to loss of revenue. | **Actual** | Regular training for staff . | 4 | 4 | **16** | Refresher training for Insurance & Front Office staff |
| 7 | Insurance | Insurance HOD | Patient care and safety | Delay in notification regarding approval status to patients( e.g. Non-delivery of message )/Language Of message being English only (which is not understood by Arabic speaking population) | **Actual** | For approved cases, Front desk team contacts the patients once the approval is sought | 3 | 4 | **12** | Approval Message shall be sent in Arabic language |

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| 8 | Insurance | Insurance HOD | Operational risk | Insurance card copy not clearly scanned, resulting in delays in getting approvals and patient dissatisfaction. | **Actual** | 1) New scanner available<br>2) Using online portal | 3 | 2 | **6** | Nil |
| 9 | Insurance | Insurance HOD | Financial risk | Wrong selection of insurance company by the Front desk associate | **Actual** | Regular training for staff .<br>Regular /Daily auditing by Front Desk Team | 3 | 3 | **9** | The files which are cancelled due to error from front desk associate shall be analyzed further and the involved staff shall be re-trained |
| 1 | Marketing | Marketing Head | Financial risk | Risk of curtailing the business due to competition, Failures of rebranding and existence of other players in market and Financial Loss due to Brand Risk | **Actual** | Monthly Corporate outreach programs, Health checkup Campaigns in corporate and Government bodies, ambulance is sent for the sports events for branding for maximum visibility | 3 | 5 | **15** | Highlight the superspecialities and hoardings of the hospitals to be placed in major localities of the emirates |
| 2 | Marketing | Marketing Head | Financial risk | Launch of new product is always having high failure chances and may lead to financial loss on the Investment | **Potential** | Extensive marketing done through social media, SMS, flyers. New products are promoted at discounted rates. | 3 | 3 | **9** | launching the product on a larger scale with involvement of outsourced media |
| 3 | Marketing | Marketing Head | Financial risk | Price war among the Competitors - may lead to less number of footfall and loss of revenue due to pricing | **Actual** | Providing discounts and free consultation | 1 | 4 | **4** | To have a proper market study and do comparison amongst competitors |

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| 4 | Marketing | Marketing Head | Operational risk | Risk of reduced number of patient turn-up due to negative feedback spreading through word-of-mouth in regard to services provided, information given, billing etc, The same is a direct risk and has adverse effect in long term and creates a negative effect in market. | **Actual** | 1) Patients who are not satisfied with Hospital services are called by Patient happiness department on a regular basis to address their concerns and feedback is taken.<br>2) In case of patient complaints, we have an extensive complaint management system to solve Patient gradiences.<br>3) Complaints and feedbacks through website and emails are addressed on a daily basis | 4 | 5 | **20** | To hire Floor coordinators/managers for inpatient and out-patients o interact with patients during their hospital vest |
| 5 | Marketing | Marketing Head | Financial risk | Risk of not being able to achieve the annual targets, leading to Financial loss to organization | **Potential** | 1) Monthly sales meeting to make sure target have been achieved on monthly basis and to make monthly marketing plans.<br>2) Various marketing actives to meet the targets | 3 | 3 | **9** | More manpower needed in the department |

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| 6 | Marketing | Marketing Head | Strategic risk | **Demand and Concentration Risk:** Change in demand due to leaving of star resources, traditional approaches for treatment, or change in the requirement of Patient due to dissatisfaction, pricing , insurance coverage, other external forces such as demographic changes etc. The same shall create a need to cater to the changed demand) | **Actual** | Business development activities- Inviting doctors and introducing our superseniority doctors to get more referrals | 1 | 4 | **4** | 1) To have tie up with more clinics and referral doctors<br>2) To release doctor professional fees on time in order to get more business<br>3) To have a price study to know the change in demand |
| 1 | Medical Records Department | Manager - MRD | Physical resource | Risk of loss /damage to patient records due to fire. | **Potential** | Electronic records for Out Patients | 5 | 1 | **5** | Electronic records to be implemented for In-Patients |
| 2 | Medical Records Department | Manager - MRD | Physical resource | Due to small service window, there is risk of injury to customers while requesting and collecting medical reports & certificates. Customers are complaining to provide proper counter to avoid getting hit to frame of the window. | **Actual** | None | 2 | 2 | **4** | To keep a small stand so that patient doesn't peep inside the department which will prevent hurting their head. |

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| 1 | Patient Happiness Department | In charge - Patient Happiness Office | Patient care and safety | Risk of VIP/corporate/package patient dissatisfaction due to least priority given to them. | **Potential** | 1) Availability of marhaba lounge for fast track patients<br>2) Counselling of patients in case they have to wait for long time | 3 | 3 | **9** | Communicate with doctors & concerned staffs to accommodate VIP/corporate/package patients accordingly on priority basis |
| 2 | Patient Happiness Department | In charge - Patient Happiness Office | Employee safety | Staff health risk of unavoidable encounter with patients who have communicable diseases such as Influenza, TB, and etc. | **Potential** | Global communicable disease Program in place<br>Availability of PPE | 4 | 3 | **12** | Vaccinations or prophylaxis shall be provided to non - clinical staff |
| 3 | Patient Happiness Department | Incharge - Patient Happiness Office | Employee safety | Risk of harm to the safety of employees because of violence/abuse by the patients because of<br>-Lack of room availability/delay in admission and discharge.<br>-Mis-communication.<br>-Lapses in the clinical and support services. | **Actual** | 1.) Patient counselling on various issues arising during the patient's stay in the hospital<br>2.) Code white is activated in case of physical threat by patients.<br>3.) Four level of patient complaint handling mechanism in order to address the patient's complaints in an effective and timely manner | 4 | 3 | **12** | Practice AIDET while communicating with patients. |
| 1 | Public Relations and Medical Affairs Department | Assistant Director Public Relations and Medical | Strategic Risk | Medical cases requiring treatment available in MOH hospitals | **Actual** | MOUs with Ministry of Health Hospitals | 3 | 2 | **6** | NIL |

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| | | Affairs | | | | | | | | |
| 2 | Public Relations and Medical Affairs Department | Assistant Director Public Relations and Medical Affairs | Financial risk | High Medical Liability Compensations : Patients who are unable to pay the bills | **Actual** | Legal actions are in place | 3 | 3 | **9** | To have a bilingual lawyer or contract with an external law firm where such cases will be under their supervision and solved on priority |
| 3 | Public Relations and Medical Affairs Department | Assistant Director Public Relations and Medical Affairs | Reputational risk | Lack of marketing through social media in Arabic language | **Actual** | Nil | 3 | 2 | **6** | 1) Hiring expertise in digital marketing<br>2) Dedicated Arabic staff for social media |
| 4 | Public Relations and Medical Affairs Department | Assistant Director Public Relations and Medical Affairs | Business risk | Decrease in Patient foot falls due to increase in cost of healthcare services | **Actual** | The hospital tariff is competitive and is fixed keeping in mind to cater the patients with lower category as well. Thumbay hospital Ajman is known for providing healthcare at affordable cost. | 3 | 3 | **9** | To make a special price list for cash patient considering the type of our patients |
| 5 | Public Relations and Medical Affairs Department | Assistant Director Public Relations and Medical Affairs | Market risk | Physicians breaching the employment contract | **Actual** | Attractive compensations provided to doctors for their long term retention and various employee engagement activities such as Rewards and Recognitions, | 4 | 4 | **16** | Nil |

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| | | | | | | Appreciation cards, CME programs and workshops conducted in the hospital. | | | | |
| 1 | Human Resources | HR/Treasury | Financial | Risk of Fine due to delay in funds availability related to license and visa renewals within timelines | **Actual** | Cash requests is made well in advance and is followed up constantly. | 3 | 2 | **6** | Monthly monitoring is in place |
| 2 | Human Resources | HR/IT | Integrity | Usage of Personal email Id's for official work. | **Potential** | All the new staff are provided an Official ID within 1st week of their joining. | 1 | 3 | **3** | Official id's should be given on the first day of joining |
| 3 | Human Resources | HR/IT | IT | Data loss due to proper system backup Or closing the email ID's for exiting staff without taking backup. | **Potential** | Clearance is taken from IT department before the last day of the employee in the organization | 3 | 2 | **6** | 1) At the time of staff exit clearance should be ensured by IT department<br>2) System backup and e-mail backup should be taken prior to confirming on clearance |
| 4 | Human Resources | ALL | Employee safety | Gossips at all level weakening the employee morale. | **Actual** | **No** gossips : HR emphasizes on positivity starting from New Employee Orientation all the employees are made aware on not to support gossips to ensure healthy working environment | 2 | 2 | **4** | Hospital shall Enact 'zero-tolerance' policies on workplace gossip. On disclosure of sensitive or confidential information by an employee, strict disciplinary actions or even termination shall be exercised |

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| 5 | Human Resources | HR | Human resource | Risk of losing talented staff to competitors | **Potential** | The following employee engagement activities are in place to retain the employees CME's, Medical benefits, Competitive salaries, group life insurance covered around the globe, Accidental insurance, creche facility, Flexible working hours, Trainings are provided Recognition and rewards are given to the employees as an important and practical way to create positive organization culture. | 3 | 4 | **12** | An ongoing education Program shall be provided by the hospital to benefit and retain High-performers and high potential employees. |
| 6 | Human Resources | HR | Human resource | Risk of getting visa approval for certain nationalities | **Potential** | Nil | 3 | 4 | **12** | To keep competent candidate in pipeline as backup |
| 7 | Human Resources | HR | Legal | Onboarding of staff with incomplete regulatory documentation | **Potential** | 1) Staff are not allowed to onboard without regulatory documents<br>2) Personal file is maintained in HR. | 2 | 3 | **6** | Data to be maintained in Oracle |
| 1 | Training | Assistant Manager-Training and Developme | Operational risk | Risk to employees not been certified as per MOH guidelines | **Potential** | Expiration Pop up appears on the system | 1 | 4 | **4** | Nil |

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| 2 | Training | Assistant Manager-Training and Development | Operational risk | Risk of noncompliance to policies and protocols due to lack of training of the employees on the same. | **Potential** | Proper training is provided. Mandatory trainings every 6 months are conducted where all the employees participate. Also need based trainings are conducted as per the request from HODs/employees<br>All relevant documents are in the employee file. | 2 | 4 | **8** | Regular audits and interviews to maintain the compliance |
| 1 | Creche | Creche In-charge | Operational Risk | Risk of transmission of infection to the children in creche due to:<br>i)Lack of hand washing / hand hygiene practices being observed before and after diaper change<br>ii)Lack of awareness among the staff regarding sources of spread of infection.<br>iii)Lack of awareness on cleaning of biological spill like vomitus.<br>iv)No designated area for breast feeding<br>v)Lack of cleaning | **Actual** | i)Regular facility audits are done.<br>ii) Focussed training sessions on spread of infection, biological spills like vomitus etc. to be organized for the creche staff.<br>iii)Objects which can be a source of infection like drawings pasted on walls should be removed. | 3 | 3 | **9** | i) Focussed training sessions on spread of infection, Biological spills like vomitus etc. to be organized for the creche staff.<br>ii)A separate area shall be identified for Breast feeding.<br>iii) Regular housekeeping schedule to be followed. |

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| | | | | schedule for the objects kept in the creche which can be a potential source of infection. | | | | | | |
| 1 | CSSD | CSSD supervisor | Employee safety | Risk of needle stick injury to the staff which is due to<br>-Improper handling of the instruments while receiving them for decontamination.<br>-Improperly segregating the instruments before the process of sterilization starts. | **Actual** | i)PPE<br>ii)Collection conatiners that are used are pucture resistant ,leak resistant<br>iii)Awareness amongst the staff members to be cautious while segregating and packing unsterile instruments. | 2 | 3 | **6** | i)Training to all CSSD staff and nurses<br>ii)Vaccination of CSSD staff |
| 2 | CSSD | CSSD supervisor | Employee safety | Risk of chemical hazards to the staff due to<br>-splash or spillage which may occur due to improper handling of the chemicals while diluting them . | **Potential** | (A)PPE are made available and used.<br>(B)MSDS guidelines being followed | 3 | 3 | **9** | i)Training for all CSSD employees about handling and dilution of chemicals. |
| 3 | CSSD | CSSD supervisor | Physical resource | Risk of hazard due to<br>-bursting of valves of the equipment (as a result of voltage fluctuation)<br>-Frayed cables of the instruments. | **Potential** | Periodic Preventive maintenance by biomedical department | 4 | 1 | **4** | Periodic preventive maintenance, Regular and timely documentations |

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| 4 | CSSD | CSSD supervisor | Patient care and safety | Risk of harm to the patient safety<br>-due to improper sterilization which may occur as a result of failure of quality indicators. | **Actual** | System Recall policy: Biological and chemical indicator policies to be followed and documented. | 4 | 4 | **16** | Strict monitoring of expiry dates of quality indicators |
| 5 | CSSD | CSSD supervisor | Patient care and safety | Risk of harm to patient safety due to improper sterlization in dental department | **Actual** | All the dental equipments to be sent to CSSD department for sterlization | 4 | 2 | **8** | Not to release the sterile instruments unless it passes the quality control for Biological and chemical indicators |

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| 1 | Disasters | Medical Director and COO | Financial risk | Risk of financial loss to the hospital in the form of<br>-Cost to the hospital to replace the lost property<br>-Cost to repair the damaged property<br>-Cost to set up temporary replacements.<br>due to natural disasters like sandstorms ,internal floods etc . | **Potential** | i)For Employee Safety<br>Training to the staff given.<br>Use of PPE<br>Co-ordination with the Department of Preventive Medicine, MoH(UAE)<br>Co-ordination with govt., local authorities.<br>(ii)For patient safety<br>Provision of distribution of masks to all the employees, patients and the visitors in case of occurrence of sandstorm.<br>Co-ordination with local and govt. authorities(civil defense) | 3 | 3 | **9** | |
| 2 | Disasters | Medical Director and COO | Patient care and safety | Risk of injury / harm to the patient care and safety due to natural hazards like epidemics, sandstorms & internal floods etc | **Potential** | | 3 | 3 | **9** | |

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| 3 | Disasters | Medical Director and COO | Employee safety | Risk of injury/harm to the employee safety due to natural hazards like epidemics,sandstorms &internal disasters etc. | Potentia l | | 3 | 3 | **9** | |
| 1 | Ethics committee | Chairperso n -Ethics committee | Patient care and safety | Risk of ethical dilemma | **Potenti al** | Ethics committee Reporting of ethical issues form available on HIMS | 3 | 3 | **9** | Nil |
| 2 | Ethics committee | All hospital staff | Patient care and safety | Risk of unathourized release of medical information | **Potenti al** | Limited access of medical records Ethics Committee in place to deal with such issues | 3 | 2 | **6** | Additional educational informations for all visitors, staffs, on patients privacy and confidentiality displayed in public areas like lift, waiting area etc |

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| 1 | Housekeeping | HK Manager | Operational risk | Risk of not maintaining required standards of cleanliness and hygiene<br>• Inexperienced staff<br>• Insufficient training for staff<br>• Usage of improper cleaning chemicals<br>• Improper Equipment used | **Actual** | i. Establish recruiting guidelines and job description<br>ii. Provide training to staff on cleaning procedures,chemical usage and equipment operation<br>iii. Procure industrially accepted chemicals<br>iv. Conduct random check to ensure that the right chemicals are used on the right surface and the right cleaning practices are applied<br>v. Display instructions on equipment operation on the notice board<br>vi. Recognize good performers<br>vii. Recruit experienced staff with the required skills | 2 | 4 | **8** | Regular monitoring and supervision of existing controls |

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| 2 | Housekeeping | HK Manager | Operational risk | Risk of poor general or clincal waste management<br>• Improper segregation of waste<br>• Insufficient training for staff | **Actual** | i. Establish color code for different catergories of waste<br>ii. Provide training to staff on waste management | 2 | 4 | **8** | |
| 3 | Housekeeping | Asst. HK Manager | Operational risk | Risk of injury to patient and staff<br>• Needle prick<br>• Slipping on spillages that have not been cleaned<br>• Tools and equipment not returned to their assigned storage location after use | **Actual** | i. Provide training to the staff on proper disposals of sharps<br>ii. Provide training to staff on proper cleaning of spillages<br>iii. Station one staff in every department<br>iv. Ensue proper signage is used during cleaning process | 2 | 4 | **8** | |

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| 4 | Housekeeping | Asst. HK Manager | Operational risk | Risk of healthcare associated infection (HAI) to patient or staff<br>•Low staff awareness<br>• Improper sanitization of infected areas<br>• Inadequate Personal Protective Equipment (PPE) | **Actual** | i. Provide regular training to all staff on proper waste segregation, infection control protocol<br>ii. Implement proper waste segregation system with color code<br>iii. Ensure waste is collected on a timely basis from the point og generation and is documented<br>iv. Provide regular training to staff on functions of different sanitizing chemicals<br>v. Ensure sufficient and appropriate PPE is available for all housekeeping staff. | 2 | 4 | **8** | |
| 5 | Housekeeping | Asst. HK Manager | Operational risk | Risk of injuries on staff when handling equipment due to:<br>• Faulty/detective electrical appliances or equipments<br>• Mishandling of machinery by housekeeping staff<br>• Unauthorized parts are being used in the equipment<br>• No proper grounding system is installed in | **Actual** | i. Conduct planned preventive maintenance as per schedule to ensure equipment used is in good working condition<br>ii. Inform supervisor on malfunction equipment without delay<br>iii. Respond at the site or take the equipment for repair | 1 | 4 | **4** | |

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| | | | | the equipment<br>• Tools and equipment not returned to their assigned storage location after use | | in the workshop immediately<br>iv. Train housekeeping staff proper method of handling machines (e.g not exposing motor/cable to water )<br>v. Ensure appropriate PPE (e.g. designated shoes, gloves, etc.)is being used during wet processses<br>vi. Ensure only standard equipment parts are being used and ensure proper grounding system is installed<br>vii. Conduct random check to ensure tools and equipment are stored in their respective places. | | | | |
| 1 | Information Technology Department | Incharge - Information Technology Department | Integrity risk | Risk of loss of information due to failure of Server resulting from:<br>1) Hard disk crash<br>2) Power | **Potential** | VMware installed, VMware Backup solution available, UPS available for Power | 1 | 1 | **1** | |

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| 2 | Information Technology Department | Incharge - Information Technology Department | Integrity risk | Risk of breach of confidentiality of hospital information resulting from Cyber Attack | **Potential** | Firefall and Antivirus in place | 2 | 1 | **2** | IPS (Intrusion Prevention System) recommended |
| 3 | Information Technology Department | Incharge - Information Technology Department | Integrity risk | Risk of Data Loss due to:<br>1) Unauthorised access<br>2) Cyber Attack | **Potential** | Firewall and Antivirus in place | 2 | 1 | **2** | IPS (Intrusion Prevention System) recommended |
| 4 | Information Technology Department | Incharge - Information Technology Department | Integrity risk | Risk of failure of Desk Top systems due to Hard-Disk Crash | **Potential** | Application Data is being saved in server. | 1 | 3 | **3** | |
| 5 | Information Technology Department | Incharge - Information Technology Department | Integrity risk | Risk of disruption in communication channels and loss of connectivity due to<br>1) failure of Network Device<br>2) Network Cable Damage | **Potential** | Redundancy available for network devices | 3 | 3 | **9** | |
| 6 | Information Technology Department | Incharge - Information Technology Department | Integrity risk | Internet Protocol/IP address conflict for Billing Counters resulting in disruption in the corresponding application. | **Potential** | Maintaining proper Document. DHCP configured. | 1 | 2 | **2** | |
| 7 | Information Technology Department | Incharge - Information Technology Department | Integrity risk | Software Patch updates without testing on In-House Applications which might lead to the respective software crash. | **Potential** | Test Server in place | 1 | 2 | **2** | |
| 8 | Information Technology Department | Incharge - Information Technology | Integrity risk | Risk to data security due to sharing of User Credentials. | **Potential** | IT Training provided for End user | 4 | 1 | **4** | |

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| | | Department | | | | | | | | |
| 9 | Information Technology Department | Incharge - Information Technology Department | Patient care and safety | Security related risk due to "Door access controller" failure in Critical Areas | **Potential** | Manual control in place. | 1 | 1 | **1** | |
| 10 | Information Technology Department | Incharge - Information Technology Department | Patient care and safety | Failure of calling device for Code Blue system resulting in delayed response time in case of emergencies. | **Potential** | Speed Dial facility available for all Physicians and Key members | 1 | 1 | **1** | |
| 1 | FMS | Facility supervisors | Patient care and safety | Possibilities of patient trying to abscond; as we have many emergency exits, he/she may use any of the exits to go to the parking area and drive out of the hospital with his/her vehicle. | **Actual** | Facility supervisors are manned in various areas of the hospital, but not all exits are covered by the supervisors. | 2 | 4 | **8** | Security manpower should be increased |
| 2 | FMS | Facility supervisors | Patient care and safety | Possiblity of new born going missing due to hugs and kisses system failure | **Potential** | Code pink drill is conducted regularly, facility supervisors are manned in various areas of the hospital. | 2 | 1 | **2** | |
| 3 | FMS | Safety Officer | Operational risk | Electricity failure due to unavailability of diesel. | **Actual** | OPD block and admin block is currently running on generator as there is no electricity supply for these areas, diesel payment is done on cdc basis but system not in place. | 4 | 5 | **20** | Extra storage of diesel should be maintained. |

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| 4 | FMS | Safety Officer | Physical resource | Risk due to inadequate firefighting mechanisms in place, if the temperature goes beyond 45°c during summer, there are high possibilities where a car can catch fire due to overheating of the car engine. | **Potential** | • Adequate Fire extinguishers in place to control the fire.<br>• All security staffs are trained in using fire extinguishers during induction, mandatory training and training by the civil defense team.<br>• Emergency fire contact numbers are in place. | 4 | 2 | **8** | |
| 5 | Maintenance | Facility supervisors | Financial risk | Risk of financial loss to the hospital due to<br>• Thefts/pilferage of hospital possessions.<br>• Mishandling /Misuse of hospital assets. | **Actual** | • All the exits are guarded.<br>• CCTV surveillance throughout the hospital<br>• Comprehensive occurrence and variance reporting system (OVR)in place and corrective measures taken for missing items reported.<br>• Well-developed inventory management system in place. | 1 | 2 | **2** | |
| 6 | Maintenance | Safety Officer | Patient care and safety | Risk of harm to patients while renovation/maintenance activities are being carried out in the hospital. | **Potential** | Prior to renovation procedures , infection control team gives its recommendations which are mandatory | 3 | 2 | **6** | Audits by infection control department during renovation. |

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| | | | | | | to be followed. | | | | |
| 7 | Maintenance | Safety Officer | Physical resource/Employee safety/Patient care and safety | Risk of injury to patients/staff and harm to the physical infrastructure due to fire resulting from:<br>• Human negligence<br>• Defects in Hospital equipment | **Potential** | • Periodical drills<br>• Routine checklists(to monitor the performance of fire alarm systems)<br>• Preventive maintenance- done on a quarterly basis by external service provider<br>• All staffs are trained on handling of equipments | 4 | 2 | **8** | Regular audits by Facility team. |
| 8 | Maintenance | Safety Officer | Physical resource | Risk of interruption in continuity of hospital services due to prolonged disruption of electric supply due to<br>• Shortage of supply from local authorities<br>• Construction work may cause damage to the cables | **Actual** | • Periodical check of the backup sources(once every month)<br>• Routine preventive maintenance being carried out.<br>• 3 generators have been installed (another generator takes over immediately when one stops functioning) | 3 | 2 | **6** | |

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| 9 | Maintenance | Safety Officer | Patient care and safety | Risk of interruption in providing patient care (especially in dialysis) due to failure of RO Plant System. | **Actual** | • 2 RO plants - one as a back-up<br>• Routine preventive maintenance.<br>• Periodical certification by the external agency(for samples collected from the hospital)<br>• Regular checks on main joints and tanks. | 4 | 2 | **8** | |
| 10 | Maintenance | Safety Officer | Employee safety | Risk of injury/harm to employees due to mishandling of hazardous material<br>• Improper storage<br>• Lack of personal protective equipment<br>• Inadequate training | **Actual** | • Hazardous materials stored separately<br>• MSDS guidelines being followed for all chemical usage in the hospital<br>• Staff are trained on handling of hazardous materials during induction and mandatory training. | 3 | 3 | **9** | Regular audits and interviews to maintain the compliance |
| 11 | Maintenance | Safety Officer | Physical resource | Risk of interruption of water supply due to shortage by the Local Authority | **Actual** | Existing storage capacity enough to maintain water supply for 36 hours (in case of non-availability ) | 3 | 3 | **9** | Contract should be signed with water supply company in case of emergencies |
| 12 | Maintenance | Safety Officer | Physical resource | Risk of patient dissatisfaction due to maintenance of the rooms being compromised because of high occupancy rate. | **Actual** | Rooms are blocked for maintenance after the discharge of patient | 2 | 3 | **6** | Annual maintenance planner to be strictly implemented |

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| 1 | Nutrition | HOD - Nutrition | Patient care and safety | Risk of wrong diet being served to the patient due to:<br>• Insufficient information in the patient assessment records.<br>• Due to incomplete information provided prior to preparation of food.<br>• Mix up at the time of serving due to unlabeled food trays. | **Actual** | • Nutritional assessment of every patient<br>• Maintain proper communication at all stages of care<br>• Training of the staff (for labeling etc.) | 3 | 3 | **9** | Diet entries should be double checked for completeness by nurses and dietetics staff. |
| 2 | Nutrition | HOD - Nutrition | Patient care and safety | Risk of food allergy reactions in the patients because of serving him/her food items to which he/she is allergic. | **Actual** | • Evaluation of all relevant food and other allergies during initial assessment of the patients.<br>• Proper training to all staff | 3 | 3 | **9** | **Diet entries should be double checked for completeness by nurses and dietetics staff.** |
| 3 | Nutrition | HOD - Nutrition | Patient care and safety | Risk of harm to patients due to cross-contamination of raw/cooked food items resulting from improper handling during and after preparation of food items. | **Potential** | • Maintain compliance to hand hygiene<br>• Training to the staff<br>• Monitoring by the supervisor | 3 | 5 | **15** | Holding temperature of the food items to be monitored regularly. Supervision of food service personnel- which shall include work habits , personal hygiene and health. |

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| 4 | Nutrition | HOD - Nutrition | Patient care and safety | Risk of inadequate patient care due to temperature alteration of the food because of:<br>• Delay in delivery of food<br>• Inappropriate temperature settings of the food trolley<br>• Inadequate temperature control(holding temperature)after receiving the food from the kitchen | **Potential** | • Regular monitoring of temperature settings of food trolleys<br>• Temperature check prior to serving food | 3 | 5 | **15** | Protected Meal Timings(PTM) to be followed. |
| 5 | Nutrition | HOD - Nutrition | Patient care and safety | Risk of not serving diet to the patient at appropriate time due to lack of co-ordination between the staff. | **Actual** | Diet Requisition Slip | 2 | 5 | **10** | Communication to be maintained at all stages of patient care. |
| 1 | Pharmacy | Pharmacy Manager | Patient care and safety | Risk of delayed patient care due to stock out of essential /critical drugs and other supplies like nebulizing kits/ oxygen cylinders etc. | **Actual** | • Identifying the list of critical items and maintaining their adequate buffer stock.<br>• Monthly audit of stock | 3 | 4 | **12** | Should be checked twice by the pharmacy manager by monthly audits |

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| 2 | Pharmacy | Pharmacy Manager | Patient care and safety | Risk of patient harm due to dispensing of wrong drug to wrong patients(esp. high alert medication). | **Actual** | • Cross matching/Verification of patients' details with prescription while dispensing<br>• High Alert drugs sent separately to the nursing station and not along with other drugs.<br>• "Yellow Dot" on high alert and "Red Dot" on high risk medication. | 3 | 4 | **12** | Verification should be done by the nurse who received the medicine |
| 3 | Pharmacy | Pharmacy Manager | Patient care and safety | Risk of delayed patient care due to bounced prescriptions. | **Potential** | • List of Out of stock drugs is displayed on HIMS and is updated regularly.<br>• Any critical prescribed drug, if out of stock is arranged from the other branches of Thumbay pharmacy or other external pharmacies. | 1 | 1 | **1** | Out of stock drug list will be updated on HIMS as per the availability of drugs in pharmacy. |
| 4 | Pharmacy | Pharmacy Manager | Financial Risk | Risk of harm to the patient as well financial risk to the hospital because of loss of potency of drugs due to improper storage | **Potential** | • Proper temperature control of refrigeration for drugs that require cold storage.<br>• Medicines stored as per manufacturers' recommendations.<br>• Regular monitoring of temperature | 1 | 1 | **1** | Regular audits on storage of drugs/refrigerator Audit |

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| 5 | Pharmacy | Pharmacy Manager | Medicatio n Risk | Risk of medication discrepancies due to delayed medical reconciliation | **Actual** | Medical Reconciliation done during the admission (Beginning of the episode of care) | 2 | 3 | **6** | When performing medication reconciliation, multiple sources of information should be used to obtain accurate and complete medication histories (e.g., electronic medical records, pharmacy records, and patient/family history ) |
| 6 | Pharmacy | Pharmacy Manager | Medicatio n Risk | Risk of discharge medicines not counselled to the patients/ Nebulization technique, Use of inhaler, insulin administration, use of chronic medicines | **Actual** | Clinical pharmacist explains medicine during discharge | 3 | 3 | **9** | in case of any allergic reactions events occurred needs to be reported to the Drug information center |
| 7 | Pharmacy | Pharmacy Manager | Financial Risk | Risk of financial loss to the hospital due to expiry of drugs . | **Actual** | Regular audit on storage of medication by nursing/pharmacist. | 3 | 4 | **12** | Return to the central store , variation should be notified to the specific area. |
| 1 | Store Manageme nt Department | Store Manager | Physical resource | Free movement of personnel as storage room is not access control | **Actual** | Nil | 5 | 4 | **20** | Entrance and exit doors of the warehouse should be guarded with a physical access control system to ensure the highest protection standard. |
| 2 | Store Manageme nt Department | Store Manager | Financial risk | Dripping of water from Ceiling can damage the store material | **Actual** | Preventative maintenance is done as per the scheduled time. | 2 | 2 | **4** | |

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| 3 | Store Management Department | Store Manager | Physical resource | Risk of error due to Manual checking for the expiration of the store materials. | **Actual** | Nil | 4 | 3 | **12** | Digital checking and updating of material will help in minimizing the error. |
| 4 | Store Management Department | Store Manager | Physical resource | Risk of falling off materials as there is not enough space in store. | **Actual** | Nil | 4 | 3 | **12** | More space should be given for storing material. |
| 5 | Store Management Department | Store Manager | Financial | Risk of fire due to storing pattern of material ( boxes and hazardous material are kept in close proximity ) | **Potential** | • Hazardous materials stored separately along with MSDS<br>• Adequate Fire extinguishers in place.<br>• Fire detection and alarm system in place.<br>• Fire evacuation procedures displayed at each fire alarm point.<br>• Maintenance contracts for extinguishers and detection/alarm system.<br>• Periodical drills<br>• Smoking prohibited in the warehouse.<br>• All staffs are trained in using fire extinguishers during induction and mandatory training.<br>• Fire exits marked and kept clear | 5 | 3 | **15** | Infrastructure designed with fire-resisting materials. |

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| 6 | Store Management Department | Store Manager | Physical resource | Evacuation could be a problem at the time of any hazard as there is only one entry and exit door . | **Potential** | | 4 | 3 | **12** | •Separate spaces with physical partitions for receiving and dispatching goods.<br>•Separate entry and exit should be present |

Supplementary

Appendix 1

Have you Identified any Risk in your department?

Are the identified risks actual or potential?

What are the existing controls you are using to mitigate the risk?

What would be the likelihood and consequence of the identified risk?

What additional risk reduction strategies you want to incorporate to reduce the risk?

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