

**ASSESSMENT OF QUALITY INDICATORS FOR NABH
ACCREDITATION IN
SANKARA EYE HOSPITAL, COIMBATORE**

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

by

Dr. Nikhita Bhalla

Under the Supervision and Guidance of

Dr. Susmit Jain

2021

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled 'Assessment of Quality Indicators for NABH Accreditation in Sankara Eye Hospital, Coimbatore' is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Name of Student: Dr. Nikhita Bhalla

Date: June 22nd, 2021.

CERTIFICATE

This is to certify that Dr. Nikhita Bhalla in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur has successfully completed her internship at Sankara Eye Hospital, Coimbatore during March 22, 2021 to June 22nd, 2021.

Place: Coimbatore
Date: June 22nd, 2021.

Shri Bharat Balasubramanian
President
Sankara Eye Hospital

CERTIFICATE FROM FACULTY GUIDE

This is to certify that dissertation titled ‘Assessment of Quality Indicators for NABH Accreditation in Sankara Eye Hospital, Coimbatore’ is a record of the research work undertaken by Dr. Nikhita Bhalla in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific and analytical.

Faculty Guide: Dr.Susmit Jain
{Associate Professor and Guide}
IIHMR University, Jaipur
Date: June 22nd, 2021.

School Dean: Dr.Dhinder Kumar
(Dean)
IIHMR University, Jaipur
Date: June 22nd, 2021.

ABSTRACT – Assessment of Quality Indicators for NABH Accreditation in Sankara Eye Hospital, Coimbatore

Introduction – The Sankara Eye Foundation, India (SEFI) was established 43 years ago and it has since remained a Not-for-Profit organisation. The primary aim of SEFI is to provide quality eye care services. The services of SEFI is more focused towards the poor and marginalised sections of the society. Quality is an integral part of Sankara Eye Hospital, Coimbatore as it is a Pre NABH accredited hospital. The National Accreditation Board for Healthcare Organizations (NABH) is a constituent board of the Quality Council of India (QCI) as mentioned on the website <https://www.nabh.co/Resources.aspx>. The website further states that NABH was established to create and operate accreditation programmes for healthcare organisations. The NABH was founded with the goal of improving the health-care system and fostering continual quality improvement and patient safety.

The dependence of the masses more towards hospitals, have had the impact, wherein the management are being compelled to re-evaluate their methods of operation and quality assurance procedures, in order to meet rising expectations of the people for enhanced quality of care and services, along with latest advancements and cheaper costs. The aim of this study is to know in depth the quality indicators in Sankara Eye Hospital and to assess their compliance, so that 100% quality care can be achieved in IPD, Patient care, HRD, Ophthalmic and Laboratory department. These departments were taken into consideration as they are the main departments of the hospital and they provide the maximum number of services to the patients and maintaining high quality of care in them is mandatory.

Study Objectives –

- To study the quality indicators for Sankara Eye Hospital, Coimbatore by NABH.
- To assess the compliance of quality indicators in various departments i.e. IPD, Patient care, HRD, Ophthalmic and Laboratory.
- To suggest interventions to eliminate any deviations from quality indicators issued by NABH

Methodology – A descriptive study was carried out including observations of the quality indicators and the reasons for its deviation. The analysis includes the collection of the

data for a period of seven months i.e. November 2020 to May 2021. The NABH ratified 'standards of quality indicator', was followed and the deviation in the targets was analysed. The departments which were included are IPD, Patient care, HRD, Ophthalmic specific indicator and Laboratory. A checklist with 26 parameters related to the quality indicators of all the 5 departments were studied in depth to know the adherence of each indicator in the Hospital.

The research approach was quantitative and it help to identify the average trend being followed by each indicator and any deviation in it. The data was taken from the capture sheets of quality indicators maintained by the hospital. The data for the Month of May was analysed by observations so that exact compliance can be analysed.

Key Results - During this study and analysis of the data, it can be concluded that the major five departments i.e. IPD, Patients care, HRD, Ophthalmic and Laboratory adhere and follow the guidelines to achieve the quality standards, as set by NABH guidelines. It can be said they are compliant towards these indicators. However, it was also seen that there are few areas where the organization can improve and that was discussed with the various heads to achieve a 100% quality care.

Conclusion – All the quality indicators were studied in depth and a basic understanding of them was established on how they are measured and implemented. While studying the various quality indicators of the various departments it was seen that the staff in the hospital are aware of the required standards and they firmly follow the standards set by NABH. Few of the shortcomings which emerged during the study, were discussed and reported to the hospital management. Accordingly a plan was formulated to address the issues and overcome the shortfalls so as to achieve 100% of quality care in all the areas of the hospital.

Key words – Compliance, Indicator, Quality, Observations, Departments, Internal targets.

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Dr. Nikhita Bhalla (0948)

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ABBREVIATIONS

CQI	–	Continuous Quality Improvement
NABH	–	National Accreditation Board for Hospitals and Healthcare providers.
HRD	–	Human Resource Department
IPD	–	In patient Department
MRM	–	Monitoring and Review Mechanism
TQM	–	Total Quality Management
TPA	–	Third Party Administrator
OT	–	Operations Theatre

Chapter 1: Introduction

The primary objective of 'Quality Management' is that, it seeks to boost effectiveness of treatment meted out to the sufferers and in turn increase patient's satisfaction with the services rendered. The advancement made in medical sciences has resulted in increase in life expectancy of people, and hence, there is rise of the aging population. The latest techniques and sophisticated gadgets have added to the rising costs of availing health care facilities. Therefore, 'Quality Management' in the health care is sought after and is gaining more focused attention. The health care system encompasses many small, mediocre and enormous establishments like the pharmacies, independent clinics, medical laboratories and facilities, hospitals and super specialist wellbeing centers. Each component of the health care structure must provide quality and efficient services for the system to function properly. Essential and functional steps taken towards quality management in health care, is based on the welfare and needs of the patients, because it is them who would experience and therefore judge the effectiveness of treatments rendered as well as the appropriateness of the services provided.

The health care sector of today could be a dynamic and exciting sector for the administrators, with many opportunities as well as challenges, which need to be addressed in quick time. With the increasing demands imposed by the masses, as they desire value for their time and money from the hospitals, the hospitals are left with no choice but to keep evaluating their methods of operations and quality assurance programs, for improved services and lower costs. One of the most important aspects of a hospital's ability to offer proper and high-quality care to patients can be measured by the standard of safety available for the patients. The standardization of measurable parameters, by Government recognized institutes or regulatory groups are instrumental for the accreditation of most of the health care organization. Any health-care organization on its accreditation, strives to meet up with the prevalent parameters of the quality, as defined by the group or institutes. In order to match with the set guidelines, the workforce gets stimulated to continuously improve and thus it enables the organization in demonstrating commitment to quality care.

The primary goal of this research is to determine whether various departments are complying with quality indicators and to provide solutions to achieve the best level of care. Quality indicators are standardised, evidence-based measurements of health-care quality, which can easily be combined, with hospital inpatient administrative data to assess clinical performance and outcomes.

Organizations like National Accreditation Board for Hospitals (NABH) and health care providers have formulated an elaborate guidelines or benchmarks for healthcare standards for hospitals and health care providers. Quality systems are the tools for department managers and quality coordinators of healthcare departments, to master it and utilise it during the challenges for achieving top quality of care in an exceedingly complex ever changing environment.

NABH as mentioned in the website <https://www.nabh.co/Resources.aspx> is a constituent board of Quality Council of India, founded to determine and operate accreditation programme for healthcare organization. The quality indicators are the measurements of health-care quality that are based on easily and widely available administrative data available at the hospitals about the inpatients and outpatients. Regular monitoring of quality and steps taken for improvement is not just to attain a quality state for once and acquire its certification, but it's a relentless and continuous efforts towards upliftment of the quality of practices in all the areas and processes of the hospital for they are interrelated and it has to be sustained forever.

THE CYCLE OF CONTINUOUS QUALITY IMPROVEMENT (CQI) FUNCTIONS ARE WORKED OUT STEP BY STEP AS GIVEN BELOW:

- A data collection has to be built to gather data.
- The sample size and frequency of data collection is specified by NABH.
- On a monthly basis, data for numerous metrics must be captured across all departments or functions. Each department's target is defined based on national/international benchmarks/data that is available. If the hospital is far behind the National/International Benchmarks/Targets, the target can be set for three months to begin with.

- Non-performances/underperformances departments that fall short of stated goals are detected.
- The effectiveness of corrective action is assessed.
- If necessary, corrective action will be modified.
- The effectiveness of preventive measures is assessed.
- If there is consistency in accomplishing established targets in a specific department or procedure.
- The goal has been raised a few notches.
- Kano model is being explored and quick review of departmental activities through MRM, TPA is being carried out.
- The productivity and quality of each department/process improves as a result of this cycle.
- For comparisons and analysis, many variables are adjusted and data is collected on a monthly basis.

Benchmarks are used to compare these indications to previously defined targets. These benchmarks assess the process' effectiveness against a set of NABH standards. Benchmarking may improve hospital processes, however as a strategy, it is not well characterized and may not be too well developed as yet, for improving the quality in hospitals according to Van Lent et al. Finding relevant recordable data that can measure the quality of treatment in all of its entirety still remains a difficult goal to achieve.

The study's goal is to determine the importance of all quality indicators for ongoing quality improvement at Sankara Eye Hospital in Coimbatore, as well as the level of adherence to various indicators across numerous departments. Sankara Eye Hospital, Coimbatore is a **Pre NABH** accredited hospital.

In this study, the following indicators were calculated and compared to the NABH guidelines:

- INPATIENT DEPARTMENT
 - Surgical site infection rate
 - Bed Occupancy
 - Time taken for initial assessment of inpatients

Time taken for discharge

- PATIENT CARE

Percentage of adverse drug reactions

Incidence of falls

Number of code blue events

OP satisfaction index

IP satisfaction index (paying)

IP satisfaction index (community)

Average waiting time

Total number of near miss events

Total number of adverse events

Total number of sentinel events

Percentage of medication errors

Percentages of needle stick injuries

Compliance of hand hygiene practice

Critical equipment downtime

- HRD INDICATORS

Employee attrition rate

Employee satisfaction index

Employee absenteeism rate

Percentage of staff/employees that are aware of their rights, responsibilities and the welfare schemes available to them

- OPHTHALMOLOGY SPECIFIC INDICATORS

Percentage of severe post-operative inflammation

- LABORATORY

Percentage of the staff/employees those who are adhering to safety precautions while working in diagnostics section of the hospital

Percentage of reporting errors per 1000 investigations

Percentage of Re dos

CHAPTER 2: Review of Literature

Table 2.1: List of Literature Reviewed

Serial No.	Year	Title	Author	Key Learnings
1.	February, 2020	Community based eye care in India – Reconciling quality and quantity – The ACOIN prescription	Samanta, Swapan Kumar	This study gives a perceptive towards community eye care through an Association of Ophthalmologists of India (ACOIN). It highlights the various organizations involved in providing affordable and accessible eye care. It has attracted a lot of people and made them aware of the various eye conditions and ways to prevent the same.
2.	March, 2018	Quality Indicators for Eye Bank	Manisha Acharaya, Saurabh Biswas, Aminesh Das, Umang Mathur, Abhishek Dave, Ashok Singh, Suneeta Dubey	This study helps to identifies the various quality indicators and understand their efficacy. It also gives the understanding on how continuous quality care can be achieved through a period of time.

Table 2.1 Continued

Serial No.	Year	Title	Author	Key Learnings
3.	June, 2017	Accreditation is not a one-time process: Quality assessment of intensive care unit during Post NABH Accreditation Period in a Tertiary Care Hospital	VK Tadia, Monalisa, Suneeta Dubey	This study helps to identify that accreditation is important and has become integral part to attain quality services by the hospital. It also gives an insight on how the hospitals maintain their standards based on the accreditation. It also helps in analyzing standard protocols of NABH
4.	2014	Accreditation of Eye Hospitals – A Review	Nirmala Fredick T, Sunitha Nirmal	This study helps to understand the importance of NABH accreditation and how it helps in achieving the desired quality standards for a hospital. We also get a understanding on the various steps followed by an eye hospital to become accredited
5.	July, 2008	Quality Control methods at a hospital	Cem Canel, Steve Mahar, Drew Rosen, John Taylor	This study helps to understand the statistical process that if implemented can improve the quality of hospital services. We also learn about the process redesign which helps in achieving the total quality management of a hospital.

Table 2.1 Continued

Serial No.	Year	Title	Author	Key Learnings
6.	August. 2005	Quality Improvement in Eye Care	Karl Blanchet, Dr. Maria Hagan, Dr. Felix Ahorsu, Dr. Kenneth Asubonteng, Dr. Seth Wanye, Dr. Peter Osei-Bonsu	This study concludes the importance of quality and the need for its implementation in the hospitals. This article gives an overview of quality dimensions, the monitoring process and the analyzing of the data.

Chapter 3: Methodology

Research Question - What is the relevance and compliance of numerous quality indicators or benchmarks that are being assessed continuously for the sustained quality improvement at Sankara Eye Hospital, Coimbatore?

Objectives

- To study the quality indicators for Sankara Eye hospital issued by NABH.
- To assess the adherence and compliance of quality indicators in various departments i.e. IPD, Patient care, HRD, Ophthalmic and Laboratory.
- To suggest interventions to eliminate any deviations from quality indicators issued by NABH.

Materials and Methods

Study design – Descriptive and observational

Data type – Secondary data based on the capture sheets of quality indicators maintained by the hospital

Research Approach – Quantitative

Period of the Study – 22nd March to 22nd June 2021

Duration of the data to be analyzed – Past 7 months (November 2020 to May 2021)

Inclusion Criteria –

- IPD
- Patient Care
- Laboratory
- Ophthalmology Specific indicators
- HRD

Exclusion Criteria –

- OT indicators
- Stores and Pharmacy
- Ethics/ Research Indicators
- Management related
- Medical Records

Data Collection – Secondary sources for data collection include hospital records, NABH recommendations, capture sheets, and hospital rules and manuals.

Methodology

From the capture sheets, secondary data was gathered from all of the above-mentioned departments. The information gathered was cross-checked to NABH's definitions of the indicators from their original book. The numerator and denominator definitions, as well as the capture method for each indicator, were double-checked to ensure that there was no discrepancy in the back end process.

For the last seven months, from November 2020 to May 2021, the processed data was put in an excel file. The data collected consists of a numerator and denominator that have been validated and evaluated using a formula.

For the month of May, observations were made to examine the indicators and check for compliance with each indicator in order to obtain a precise analysis.

Interaction with individual department heads and coordinators was then conducted in order to determine what was missing behind the occurrence of outliers, as well as to analyze and draw conclusions about the deviation.

Chapter 4: Results and Discussions

IPD INDICATORS

Figure 4.1: Surgical Site Infection Rate

The bar graph in figure 4.1 depicts the month wise surgical site infection rate at Sankara Eye Hospital. Months are marked on 'X' axis and infection rate is marked on 'Y' axis of the graph. The blue line marked on the graph is the benchmark or the NABH's desired indicators. It is to be aimed by the hospital to maintain surgical site infection rate at or below the benchmark. In the above graph, the benchmark rate of surgical infection is placed at zero (0) for each month. The red colored bar line is the actual rate of surgical infection per month. The rate is calculated as a percentage of positive cases of surgical infection out of total number of surgeries performed in that month. The formulae used for calculation is as follows:-

$$\frac{\text{No. of cases positive with surgical site infection} * 100}{\text{Total no. of surgeries performed in that month}}$$

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for six of the seven months as depicted on the graph. During these six months there were zero cases of surgical site infection, which is as desired according to benchmark set. However, the surgical site infection cases saw a sudden spike during the month of April 2021. The rate of surgical site infection during the month of April 2021 stands at 0.09%.

The unusual case was investigated, analyzed and discussed in the hospital and it was attributed to post-operative complications. The hospital did maintain zero rate of surgical infection for considerable period of time, however the only deviation in the month of April was due to an isolated case of complication post-surgery in the non-paying ward. The hospital took measures to address reasons for post-operative complication. In the month of May 2021, after the case of April 2021, the rate again was maintained at zero, which is the desired benchmark.

Figure 4.2: Bed Occupancy

The bar graph in figure 4.2 depicts the month wise bed occupancy rate at Sankara Eye Hospital. Months are marked on 'X' axis and bed occupancy rate is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. It is aimed by the hospital to attain desired bed occupancy rate or more as set by the benchmark. In the above graph, the benchmark rate of bed occupancy is placed at 70% for each month. The blue colored bar line is the actual rate of bed occupancy per month. The rate is calculated as a percentage of beds occupied out of total number of beds available in that month. The formulae used for calculation is as follows:-

$$\frac{\text{No. of bed occupied in a month} * 100}{\text{Total no. of beds}}$$

On observing the above graph, it can be interpreted that the hospital was not able to ensure the desired benchmark for all the seven months as depicted on the graph. Thus the target was not achieved within the organization due the uncertainties and lockdowns due to COVID 19.

The total number of beds in the paying section is 1550. The bed occupancy rate was 6% in the month of Nov 2020 and it increased every month till maximum bed occupancy rate of 18% was reached in the month of Mar 2021. The bed occupancy rate in the month of Apr 2021 was 7% and it was 1.5% in May 2021. The occupancy of the beds has been significantly poor when compared to the internal target set at 70%.

Figure 4.3: Time Taken for Initial Assessment (Paying IP)

The bar graph in figure 4.3 depicts the month wise time taken for the initial assessment (paying IP) at Sankara Eye Hospital. Months are marked on 'X' axis and time taken for the initial assessment in days is marked on 'Y' axis of the graph. The blue bars marked on the graph are the benchmark. It is aimed by the hospital to attain lesser time taken for the initial assessment as set by the benchmark. In the above graph, the benchmark time taken for the initial assessment (paying IP) is set at twenty (20) minutes for each month. The red-coloured line depicts the average actual time taken for the initial assessment (paying IP) per month. The average time for assessment in a month is calculated by dividing the sum of initial assessment time taken for each patient (paying IP) in that

month by the total number of patients (paying IP) who visited in that particular month. The formulae used for calculation is as follows:-

$$\frac{\text{Sum of assessment time taken for each patient}}{\text{Total no. of patients}}$$

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for all the seven months as depicted on the graph. The hospital achieved initial assessment time ranging from 10 to 12 minutes per patient against the target of maximum 20 minutes for each patient. Thus, the organization was able to achieve the set targets. This also indicates efficient functioning of the hospital.

Figure 4.4: Time Taken for Initial Assessment (Community IP)

The bar graph in figure 4.4 depicts the month wise time taken for initial assessment (community IP) at Sankara Eye Hospital. Months are marked on 'X' axis and time taken for assessment in minutes is marked on 'Y' axis of the graph. The blue bars marked on the graph are the benchmark. It is aimed by the hospital to attain lesser time taken for the initial assessment as set by the benchmark. In the above graph, the benchmark time taken for the initial assessment (community IP) is set at ninety (90) minutes for each month. The red-colored line depicts the average actual time taken for the initial assessment (community IP) per month. The average time for assessment in a month is calculated by dividing the sum of initial assessment time taken for each patient (community IP) in that month by the total number of patients (community IP) who visited in that particular month. The formulae used for calculation is as follows:-

$$\frac{\text{Sum of assessment time taken for each patient}}{\text{Total no. of patients}}$$

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for all the seven months as depicted on the graph. The hospital achieved initial assessment time of 5 minutes or less per patient against the

target of maximum 90 minutes for each patient. Thus, the organization was able to achieve the set targets.

Figure 4.5: Time Taken for Discharge (Paying IP)

The bar graph in figure 4.5 depicts the month wise time taken for discharge (paying IP) at Sankara Eye Hospital. Months are marked on 'X' axis and time taken for assessment in minutes is marked on 'Y' axis of the graph. The blue bars marked on the graph are the benchmark. It is aimed by the hospital to attain lesser time taken for discharge as set by the benchmark. In the above graph, the benchmark time taken for discharge (paying IP) is set at 45 minutes for each month. The red-coloured line depicts the average actual time taken for the discharge (paying IP) per month. The average time for discharge in a month is calculated by dividing the sum of discharge time taken for each patient (paying IP) in that month by the total number of patients (paying IP) who visited in that particular month. The formulae used for calculation is as follows:-

$$\frac{\text{Sum of discharge time taken for each patient}}{\text{Total no. of patients}}$$

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for all the seven months as depicted on the graph. The hospital achieved average discharge time between 12 to 18 minutes per patient against the target of maximum 45 minutes for each patient. Thus, the organization was able to achieve the set targets, which indicates that, their discharge procedures are compliant to the guidelines and are handled efficiently.

Figure 4.6: Time Taken for Discharge (Community IP)

The bar graph in figure 4.6 depicts the month wise time taken for discharge (community IP) at Sankara Eye Hospital. Months are marked on 'X' axis and time taken for discharge in minutes is marked on 'Y' axis of the graph. The blue bars marked on the graph are the benchmark. The aim of the hospital is to attain lesser time taken for discharge (community IP) as set by the benchmark. In the above graph, the benchmark time taken for discharge (community IP) is set at 240 minutes for each month. The red-

coloured line depicts the average actual time taken for the discharge (community IP) per month. The average time for discharge in a month is calculated by dividing the sum of discharge time taken for each patient (community IP) in that month by the total number of patients (community IP) who visited in that particular month. The formulae used for calculation is as follows:-

$$\frac{\text{Sum of discharge time taken for each patient}}{\text{Total no. of patients}}$$

It can be claimed on observing and interpreting the above graph that, the hospital was able to ensure the desired benchmark was met for all the seven months as depicted. The discharge target was achieved in average time of less than 30 minutes per patient in the month of Nov 2020, Dec 2020 and Jan 2021. For the subsequent months, the discharge target for each patient was achieved in average time of less than 20 minutes. Thus, the discharge target achieved by the organization is well within the set standards.

PATIENT CARE

Figure 4.7: Adverse Drug Reactions

The bar graph in figure 4.7 depicts the month wise percentage for adverse drug reactions at Sankara Eye Hospital. Months are marked on 'X' axis and percentage of adverse drug reactions marked on 'Y' axis of the graph. The red colored line marked on the graph is the benchmark line. In the above graph, the benchmark percentage of adverse drug reactions is set at 0.00%. It is aimed by the hospital to attain minimal percentage of adverse drug reactions as set by the benchmark. The blue bars is the actual percentage of the reaction of adverse drugs per month. The percentage of adverse drug reactions was 0.11% for the month of Nov 2020, 0.12% for the month of Jan 2021 and was 0.00% for the rest of the months, as depicted on the graph. The rate is calculated as a percentage of cases of adverse drug reaction out of total number of patients treated in that month. The formulae used for calculation is as follows:-

$$\frac{\text{No. of cases with adverse drug reaction} * 100}{\text{Total no. of patient's discharges}}$$

On observing the above graph, it is interpreted that the hospital did take steps to achieve the set target of zero adverse drug reaction for five months out of the seven months. In the months of Nov 2020 and Jan 2021 there had been cases of adverse drug reaction. The case was near the set benchmark as the percentage of adverse drug reaction was less than 0.15% in both these months. This was reported post-surgery and on investigation, it was found to be due to allergic reaction of compound in the drug administered during surgery. However, the hospital was able to ensure the desired benchmark was met for most of the seven months as depicted on the graph.

Figure 4.8: Incidence Falls

The bar graph in figure 4.8 depicts the month wise incidence of falls at Sankara Eye Hospital. Months are marked on 'X' axis and the number of incidence of falls is marked on 'Y' axis of the graph. The blue line marked on the graph is the benchmark set. The aim of the hospital is to ensure zero incidence of falls and it is set as the benchmark. In the above graph, the benchmark for incidence of falls is set at 0 line of the graph, as depicted. The red-coloured bar is the actual number of incidence of falls per month. The formulae used for calculation is as follows:-

$$\frac{\text{Total no. of falls} * 100}{\text{Total no. of patient's discharges}}$$

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for six out of the seven months as depicted on the graph. There was one isolated incident of the fall in the month of Mar 2021. The only case was of one of the patient had a fall in washroom. Thus, the hospital was able to maintain the target of zero fall for the entire period of seven month, except for one day.

Figure 4.9: Code Blue Events

Code blue events are those events in which a hospital requires to carry out immediate action for patient's resuscitation.

The bar graph in figure 4.9 depicts the number of code blue events per month at Sankara Eye Hospital. Months are marked on 'X' axis and total occurrence of code blue events per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. It is aimed by the hospital to have zero code blue event cases as set by the benchmark. In the above graph, the benchmark taken is 0 for each month but there were two cases reported over the specified period. The blue-coloured bars are the number of code blue event cases per month.

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for five out of the seven months as depicted on the graph. There was one code blue event in the month of Dec 2020 and another one in the month of Mar 2021.

Figure 4.10: OP Satisfaction Index

The bar graph in figure 4.10 depicts the percentage of OP satisfaction event per month at Sankara Eye Hospital. Months are marked on 'X' axis and percentage of OP satisfaction event per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark is set at 97% for each of the months. It is the aim of the hospital to have as high OP satisfaction percentage as is set by the benchmark. The blue-colored bars depict the percentage of OP satisfaction as reported by the patients each month.

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for six out of the seven months as depicted on the graph. The highest OP satisfaction percentage got reported by the patients in the months of Nov 2020 and Dec 2020 and it was 99.70% and 99.50% respectively. Only in the month of Mar 2021, there was a dip in the OP satisfactory index, which was recovered in the following months. In the month of Mar 2021 lowest OP satisfaction percentage was reported and it was 91%, however in subsequent months it was 98%. Thus, the organization was able to achieve the set targets most of the time.

Figure 4.11: IP Satisfaction Index (Paying)

The bar graph in figure 4.11 depicts the percentage of IP satisfaction index (paying) per month at Sankara Eye Hospital. Months are marked on 'X' axis and percentage of IP satisfaction index (paying) per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark is set at 100% for each month. It is aimed by the hospital to have maximum IP satisfaction index (paying) as set by the benchmark. The blue-colored bars depict the percentage of IP satisfaction index (paying) per month.

On observing the above graph, it can be interpreted that the hospital was consistently close to the target levels as set by the benchmark. Though the target set by the hospital is 100% satisfaction of IP, but the IP rated the hospital with satisfaction of 97% to 98% for all the months.

Figure 4.12: IP Satisfaction Index (Community)

The bar graph in figure 4.11 depicts the percentage of IP satisfaction index (community) per month at Sankara Eye Hospital. Months are marked on 'X' axis and percentage of IP satisfaction index (community) per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is 100% for each month. It is aimed by the hospital to have maximum IP satisfaction index (community) as set by the benchmark. The blue-coloured bars depict the percentage of IP satisfaction index (community) per month.

On observing the above graph, it can be interpreted that the hospital was consistently close to the target levels as set by the benchmark. Though the target set by the hospital is 100% satisfaction of IP, but the IP rated the hospital ranging with satisfaction percentage of 97% to 99% each months. The IP satisfaction of 99% was achieved by the hospital in three consecutive months and 98% satisfaction of IP was achieved by the hospital in two months. The data is absent for the month of May as it could not be recorded due to lockdown in the area, because of COVID-19 pandemic.

Figure 4.13: Average Waiting Time

The bar graph in figure 4.13 depicts the month wise average waiting time at Sankara Eye Hospital. Months are marked on 'X' axis and the average waiting time, in minutes, is marked on 'Y' axis of the graph. The blue bars marked on the graph are the benchmark. In the above graph, the benchmark time taken for waiting is placed at ninety (90) minutes for each month. It is aimed by the hospital to attain lesser average waiting time as set by the benchmark. The total time for each patient is calculated and recorded as shown in the table below

Registration to refraction	
Refraction to I consultation	
I consultation to dilation	
Dilation to II consultation	
TOTAL WAITING TIME	

The red-coloured line is the average actual time taken for waiting per month. The average waiting time in a month is calculated by dividing the sum of waiting time taken by each patient in that month by the total number of patients who visited in that particular month. The formulae used for calculation is as follows:-

$$\frac{\text{Sum of waiting time taken by each patient}}{\text{Total no. of patients}}$$

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for six out of the seven months as depicted on the graph. The average waiting time is seen to be within the set internal targets expect for the month of Dec 2020. Thus, the target is well achieved within the organization.

Figure 4.14: Near Miss Events

The bar graph in figure 4.14 depicts the figures of near miss events per month at Sankara Eye Hospital. Months are marked on 'X' axis and count of near miss events per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark is set at zero for each month. It is aimed by the hospital to have minimal number of near miss events as set by the benchmark. The blue-coloured bars depicts the count of near miss events per month.

On observing the above graph, it can be interpreted that in the hospital, the target of zero near miss event was achieved only in three out of the seven months. In other four

months values are higher than the internal target levels. There have been one near miss event case each, in the months of Nov 2020, Dec 2020, Jan 2021 and Mar 2021.

The near miss events were investigated and analyzed, by the hospital and the reasons are found to be different for each event, the reasons are listed below.

- (a) Medication error though no harm was caused.
- (b) Plaster falling from ceiling with no injuries to anyone in the hospital.
- (c) Short circuit detected, sudden equipment failure but no damage done, fire prevented.
- (d) Wrong patient posted for surgery, but detected in time.

Figure 4.15: Adverse Events

The bar graph in figure 4.15 depicts the number of adverse events per month at Sankara Eye Hospital. Months are marked on 'X' axis and total number of adverse events per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is zero for each month. It is aimed by the hospital to have minimal number of adverse events as set by the benchmark. The blue coloured bars depicts the number of adverse events per month.

On observing the above graph, it can be interpreted that in the hospital, the target of zero adverse event was achieved only in three out of the seven months. In other four months values of adverse events are higher than the internal target levels. There have been cases of adverse events, one each in the months of Nov 2020, Feb 2021 and Mar 2021 and two in the month of Dec 2020.

The adverse events were investigated and analyzed, by the hospital and the reasons are found to be different for each event, the reasons are listed below.

- (a) Medication error causing minor allergies to the patient.
- (b) Plaster from ceiling falling on the patient causing minor injuries.
- (c) The fall of the patient from bed causing minor injuries.
- (d) Theft of patient property.

Figure 4.16: Sentinel Events

The bar graph in figure 4.16 depicts the number of sentinel events per month at Sankara Eye Hospital. Months are marked on 'X' axis and total number of sentinel events per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is zero for each month. It is aimed by the hospital to have minimal number of sentinel events as set by the benchmark. The blue colored dots depicts the number of sentinel events per month.

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for all the seven months as depicted on the graph. Thus, the target is well achieved within the organization.

Figure 4.17: Medication Errors

The bar graph in figure 4.17 depicts the percentage of medication errors per month at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of medication errors per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark is set at zero for each month. It is aimed by the hospital to have minimal percentage of medication errors per month as set by the benchmark. The blue colored bars depicts the percentage of medication errors per month. The rate is calculated as a percentage of cases of medication errors in a month out of total number of patients treated in that particular month. The formulae used for calculation is as follows:-

$$\frac{\text{No. of patients with cases of medication errors} * 100}{\text{Total no. of patients treated}}$$

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for six out of seven months as depicted on the graph. There is a deviation from target in Mar 2021 and the medication error percentage is depicted on the graph at 0.07%. This was one isolated case in nonpaying patient and the aberration was due to the wrong medical history given by the patient.

Figure 4.18: Needle Stick Injuries

The bar graph in figure 4.18 depicts the percentage of needle stick injuries per month at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of needle stick injuries per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is zero for each month. It is aimed by the hospital to have minimal percentage of needle stick injuries per month as set by the benchmark. The blue-coloured bars depicts the percentage of needle stick injuries per month. The rate is calculated as a percentage of cases of needle stick injuries in a month out of total number of patients treated in that particular month. The formulae used for calculation is as follows:-

$$\frac{\text{No. of patients with cases of needle stick injuries} * 100}{\text{Total no. of patients treated}}$$

On observing the above graph, it can be interpreted that in the hospital the needle stick injuries values have been recorded during four months out of seven months. The percentage of needle stick injuries has been recorded as maximum value of 0.31% in the month of Dec 2020. The needle stick injury is caused sometimes by accidental prick or hypodermic syringes. The recorded values though less than 0.5% is still slightly higher than the internal target set at zero.

Figure 4.19: Hand Hygiene Practice

The bar graph in figure 4.19 depicts the percentage of compliance to hand hygiene practices per month at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of compliance to hand hygiene practices per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is 100% for each month. It is aimed by the hospital to have maximum percentage of compliance to hand hygiene practices per month as set by the benchmark. The blue colored bars depict the percentage of compliance to hand hygiene practices per month. The formulae used for calculation is as follows:-

$$\frac{\text{Total no. of hand hygiene missed opportunities} * 100}{\text{Total no. of hand hygiene opportunities}}$$

On observing the above graph, it can be interpreted that in the hospital, the hand hygiene compliance has been above 80% for each of the month, but it is below the

benchmark of 100%. The hand hygiene practices did see steadily increasing trend in between, but more efforts are required to meet up with the internal targets.

Figure 4.20: Critical Equipment Downtime

The bar graph in figure 4.20 depicts the time taken for critical equipment downtime per month in hours at Sankara Eye Hospital. Months are marked on 'X' axis and the time taken for critical equipment downtime per month in hours is marked on 'Y' axis of the graph. The blue line marked on the graph is the benchmark. In the above graph, the benchmark taken is zero for each month. It is aimed by the hospital to have the minimal time taken for critical equipment downtime per month in hours as set by the benchmark. The red colored bars depicts the time taken for critical equipment downtime per month in hours.

On observing the above graph, it can be interpreted that the hospital was able to ensure the desired benchmark was met for five out of seven months. There is an increase in the downtime of critical equipment, measured in number of hours, during the months of Mar 2021 and May 2021. The increase in critical equipment downtime was due to the unavailability of the service person during lockdown imposed by the State Govt. because of COVID-19 pandemic.

HRD INDICATORS

Figure 4.21: Employee Attrition Rate

The bar graph in figure 4.21 depicts the percentage of employee attrition rate at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of employee attrition rate per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark for employee attrition rate is set at 2.00% for each month. It is aimed by the hospital to have a low percentage of employee

attrition rate per month as set by the benchmark. The blue colored bars depicts the percentage of employee attrition rate per month. This indicator is calculated by-

$$\frac{\text{No. of Employees who have left the hospital} * 100}{\text{No. of Employees at the Beginning of the Month}}$$

On observing the above graph, it can be interpreted that in the hospital, variation is seen in the employee attrition rate. The employee attrition rate has been below the benchmark of 2% during six months out of seven months, however, a sudden spike is seen in the month of Mar 2021 and a sudden downfall to zero in the month of May 2021. Employee attrition rate has been within the set internal targets, except during the month of Mar 2021 where there is a slight increase. The reason for increase in employee attrition rate in the month of Mar 2021 is due to the financial closing year and also due to the retirement month for some employee in the organization.

Figure 4.22: Employee Satisfaction Index (ESI)

The bar graph in figure 4.22 depicts the percentage of employee satisfaction index at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of employee satisfaction index per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken for employee satisfaction index is 95.00% for each month. This indicator is measured once in every six months. It is aimed by the hospital to have a high percentage of employee satisfaction index per month as set by the benchmark. The blue colored bars depicts the percentage of employee satisfaction index per month.

On observing the above graph, it can be interpreted that majority of the employees are satisfied within the organization. Though the target is set at 95%, even 90% satisfaction amongst employees can be considered good for the organization.

Figure 4.23: Employee Absenteeism

The bar graph in figure 4.23 depicts the percentage of employee absenteeism rate at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of employee absenteeism rate per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. It is aimed by the hospital to have a low percentage of employee absenteeism rate per month as set by the benchmark. In the above graph, the benchmark taken is at 2.00% for each month. The blue-coloured bars depicts the percentage of employee absenteeism rate per month. This indicator is calculated by-

$$\frac{\text{No. of Employees who are on Unauthorized Absence} * 100}{\text{No. of Employees}}$$

On observing the above graph, it can be interpreted that during most of the months, there have been zero cases of unauthorized absence by the employees. The increase in employee absenteeism during the month of Jan 2021 and Mar 2021 is seen, though it is within the internal target. These few cases were attributed to holiday season, which coincided with festival season. The total number of employees in the organization are 205 and the number of unauthorized absent employees is one each in those months. Thus, the target is well achieved within the organization.

Figure 4.24: Employee Welfare

The bar graph in figure 4.22 depicts the percentage of staff/employees those who are aware of the welfare schemes, rights of employee and responsibilities at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of employee welfare index per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. It is aimed by the hospital to have a high percentage of employee welfare index per month as set by the benchmark. In the above graph, the benchmark taken is at 98.00% for each month. The blue-coloured bars depicts the percentage of employee welfare index per month. This indicator is calculated by-

$$\frac{\text{No. of Employees aware of their rights, responsibilities and welfare schemes} * 100}{\text{No. of Employees interviewed}}$$

On observing the above graph, it can be interpreted that majority of the employees are satisfied within the organization and the employees are very much aware of the welfare

schemes and also about their rights and responsibilities. Thus, the target is well achieved within the organization.

OPHTHALMIC INDICATORS

Figure 4.25: Post-Operative Inflammation

The bar graph in figure 4.25 depicts the percentage of post-operative inflammation rate at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of post-operative inflammation rate per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is at 0.00% for each month. It is aimed by the hospital to have minimal percentage of post-operative inflammation rate per month as set by the benchmark. The blue coloured bars depicts the percentage of post-operative inflammation rate per month. This indicator is calculated by-

$$\frac{\text{Percentage of Severe Post-Operative Inflammation Cases} * 100}{\text{Total Number of Surgeries Performed in a Month}}$$

On observing the above graph, it can be interpreted that no deviation is seen from the internal target during six of the seven months, but there is a sudden increase from the set target in the month of Apr 2021. The possible reason for this case of inflammation reported is due to post-operative complication that occurred in the non-paying ward of the hospital.

LABORATORY INDICATORS

Figure 4.26: Safety Precautions

The bar graph in figure 4.26 depicts the percentage of adherence to safety precautions by employees working in diagnostic at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of adherence to safety precautions by employees per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is at 100% for each month. It is aimed by the hospital to have maximum percentage of adherence to safety precautions by employees per month as set by the benchmark. The blue-coloured bars depicts month wise, the percentage of adherence to safety precautions by employees working in diagnostic. This indicator is calculated by-

$$\frac{\text{Number of Employees Adhering to Safety Precautions} * 100}{\text{Total Number of Employees Sampled}}$$

On observing the above graph, it can be interpreted that the target is being followed according to the internal target due to the constant reinforcement and awareness among the staff members. This indicator is compliant to the set internal targets as there are only four employees working in the laboratory, they all are well aware of all the safety precautions to be followed in the lab, and the charts have been displayed for the reference. Thus, the target is well achieved within the organization.

Figure 4.27: Reporting Errors

The bar graph in figure 4.27 depicts the percentage of reporting errors per thousand investigations at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of reporting errors per month is marked on 'Y' axis of the graph. The red line marked on the graph is the benchmark. In the above graph, the benchmark taken is at 0.00% for each month. It is aimed by the hospital to have minimal percentage of reporting errors per month as set by the benchmark. The blue colored bars depicts the percentage of reporting errors per month. This indicator is calculated by-

$$\frac{\text{Total Number of Reporting Errors per Thousand Investigations} * 100}{\text{Total Number of Investigations}}$$

Total Number of Procedures Done for a Month

On observing the above graph, it can be interpreted that there is no deviation from the internal target as the staff in charge is well aware of their rights as well as responsibilities. The staff of laboratory department are knowledgably aware of their responsibilities and there are constant reinforcement meetings conducted to help them adhere to all the safety guidelines while achieving high quality care.

Figure 4.28: Re Dos

The bar graph in figure 4.28 depicts the percentage of re-dos at Sankara Eye Hospital. Months are marked on 'X' axis and the percentage of re-dos per month is marked on 'Y' axis of the graph. The blue line marked on the graph is the benchmark. In the above graph, the benchmark taken is at 0.00% for each month. It is aimed by the hospital to have minimal percentage of re-dos per month as set by the benchmark. The red colored bars depicts the percentage of re-dos done per month. This indicator is calculated by-

$$\frac{\text{Total Number of Re Dos} * 100}{\text{Total Number of Procedures Done for a Month}}$$

On observing the above graph, it can be interpreted that there are a number of deviation every month from the internal target set. These are due to the increase rate of infection cases being detected like HIV, HBs AG. The graph shows that there is an increase in the number of re dos in the month of Nov 2020 and it stands at 1% for the laboratory department. In other months too, the re dos percentage range from 0.04% to 0.16%. The deviation from the set internal target is due to the suspected infection cases like HIV, HBs AG or incorrect diagnosis or sometimes research to understand the pathophysiology of a particular disease.

Chapter 5: Recommendations

The quality indicators were studied for its relevance and the benchmark set was evaluated for its achievability. The actual data was compared with the benchmark indicators and based on the understanding of goals, the following is recommended:-

1. Regular training or refresher should be organized by each department, if feasible on a monthly basis for awareness of quality indicators and NABH guidelines. This would help the existing as well as many new staff who join the organization, as some may not be aware or may have to be reminded of the set standards.
2. The bed occupancy being low in the paying section of the In Patient (IP) department of the Sankara Eye Hospital can be improved by increasing the footfall of the patients which can happen only after the COVID and lockdown situation. As discussed with the Unit head it can also be increased by increasing the patient turnover rate and conversion rate of the hospital.
3. The monthly meetings for all departments should be held to examine the trend of ongoing indicators and what improvements may be done in order to achieve 100% quality care.
4. It is equally important to have just like department wise programs, a quarterly collective joint meeting amongst the staff of all departments. This would help all the employees measuring the quality indicators to be aware of all indicators and not specifically of those which they measure for their department. The jointers would help build better synergy within the organization.
5. If the trend shows continuous deviation from the desired standards, then frequent and random audits can be conducted to monitor the level of compliance and timely take corrective and preventive actions to address all the discrepancies found.
6. If certain indicators are not being measured according to the set targets or not able to meet up to the required standards, then the benchmarks set guidelines should be revised and followed according to the practicable process.
7. There, can be certain critical activities whose desired standards if missed or not achieved is likely to have larger impact. These activities should be identified and

the employees to be made aware of them by various methods like posters, daily briefings, debriefs, discussing instances or past records along with lessons learnt, etc. The steps or procedures of these activities should be made as SOP (standard operating procedures) and monitoring of these should be made more robust

8. The use of latest technology can be implemented, like a software can be developed to measure the accurate timings. Say for example the waiting time, initial assessment time and discharge time for patients can be displayed in real time, instead of taking records to calculate an average. The software may give warnings if it senses that delays are being caused in real time.
9. The most important resource for any organization is the human force handling various activities. Therefore, the HRD should ensure that, the employees remain constantly motivated. An elaborate employee motivation feedback form should be drafted to periodically check about the correct percentage of employee motivation. The employees can be encouraged to frankly talk about the issues concerning them and how do they see the organization addressing them.
10. The HRD department can plan some group activities to increase bonding in the employees of different departments and thus motivate the employees. The activities can be like art of living programs, sports and games, skill development, motivational talks etc.
11. There are some measurement discrepancies in the recording of certain indicators which need to be corrected. E.g – Average length of stay, as the benchmark is set in days and the indicator is measured in percentage, which needs to correct so that we can adhere to the proper quality standards for this indicator also.
12. The management can analyze the areas where shortfalls are significant and think of out of the box solutions too in case required to ensure achievement of benchmarks.

Chapter 6: Conclusion

The efficiency and effectiveness of any process not only has a direct impact on the satisfaction of the users, but also gives a sense of achievement to the providers. The health care is essential for the population and an efficient and effective health care system greatly reduces the sufferings of not only the patients but also for the accompanying members. Therefore, it is imperative that the health care organisations carry out periodic assessment to evaluate their processes and check how they impact the welfare and satisfaction of the patients. One of the ways of evaluation is to follow standards set by recognised institutes. The National Accreditation Board for Hospitals (NABH) and health care providers has given guidelines for the organisations dealing in health care. These guidelines or standards are measurable and comparable.

This study was carried out for assessment of quality indicators for NABH accreditation in Sankara Eye Hospital, Coimbatore. During the study, it was learnt that there are various quality indicators in Sankara Eye Hospital and how these indicators help in assessing and achieving high quality of care. Five major departments were taken into consideration while undertaking this study and the permeants set by the NABH guidelines were studied in detail. The study was more focused on criteria set for In-Patient Department, Patient's care, Ophthalmology specific indicators, HRD and Laboratory. The functioning of the department, maintenance of records, monitoring for assessment, steps to address the gaps, the direct impact of actions and other processes were understood during the study. The interaction with functionaries of the hospital helped in gaining insight into the processes of various departments in the hospital. The evaluation of the available records as well as daily observation helped in assimilation of the standard procedures followed by the hospital staff. The available data within the hospital was analysed for seven months from November 2020 to May 2021. Various data and further process to evaluate averages or percentages by standard formula was checked, calculated and represented in graphical form. The benchmark for various criteria set by the organisation and the actual observations were compared. The deviation were observed from the desired benchmarks in few of the criteria studied.

During the comparison of quality indicators set by various departments, it was observed that in most of the cases the deviations were isolated cases or not within the control of the organisation because of state imposed lockdown due to COVID-19 pandemic. However, there were few departments or processes where the deviation from the set benchmark was regular and not meeting the desired goals. The steps taken by the department where isolated cases of deviation was recorded was studied for the efficacy. The deviation observed were discussed with the staff of the respective departments for better understanding of the shortfalls and check on the steps taken to analyse and mitigate the reoccurrences. It emerged that the staff thrives to maintain high standards and achieve the targets of benchmark set by the organisation. The indicators recorded are also complaint to the set benchmark for each department. The few recurring short comings which emerged during the study, were discussed and reported to the hospital management. Accordingly, a recommendation list of plan was also formulated to look into the indicators and overcome the short comings so that 100% quality care can be achieved in all the departments and hence overall the hospital stands to gain.

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Annexure 1: Quality Checklist for Sankara Eye Hospital by NABH

QUALITY INDICATORS CHECKLIST

INPATIENT DEPARTMENT

1. Surgical site infection rate

No. of cases positive with surgical site infection	Total No. of surgeries performed	Formula	Result
----	---	No. of cases positive with surgical site infection / Total No. of surgeries performed x 100	---

2. Bed Occupancy

Area	No. of beds occupied	Total no. of beds	Formula	Result
Paying IP	---	---	No. of bed occupied in a month/ Total no. of beds * 100	----

3. Time taken for Initial Assessment of the Inpatients

Area	Total time taken for initial assessment (in min)	Total number of patients	Formula	Result
Paying IP	----	----	Total time taken for initial assessment / Total number of inpatients 12788/1270	----

Area	Total time taken for initial	Total number of patients	Formula	Result
------	------------------------------	--------------------------	---------	--------

	assessment (in min)			
Community IP	----	----	Total time taken for initial assessment / Total number of inpatients 360/110	----

4. Time taken for discharge

Area	Total time taken for discharge (in min)	Total number of patients	Formula	Result
Paying IP	----	-----	Total time taken for discharge / Total number of patients 15988/1270	-----

Area	Total time taken for discharge (in min)	Total number of patients	Formula	Result
Community IP	----	----	Total time taken for discharge / Total number of patients 3875/189	----

PATIENT CARE

5. Percentage of Adverse drug reactions

No. of adverse drug reactions	Total No. of discharges	Formula	Result
---	---	No. of adverse drug reactions / Total No. of discharges x 100	---

6. Incidences of Falls (Number of falls without injury only) (If patient has received injury, it shall be a sentinel / adverse event accordingly)

No. of falls	Total No. of discharges	Formula	Result
--	---	Total no. of falls / Total No. of discharges x 100	---

7. Number of code blue events: ---

(In case of any code blue events, detailed code blue report to be attached)

8. OP satisfaction index: ---

9. IP satisfaction index (paying): ---

10. IP satisfaction index (community): ---

11. Average waiting time (In minutes)

Registration to refraction	
Refraction to I consultation	
I consultation to dilation	
Dilation to II consultation	
AVERAGE TOTAL WAITING TIME	

12. Total number of Near miss events: ---

13. Total number of adverse events: ---

14. Total number of Sentinel events: ---

(P.S. In case of any events, details of the event to be mentioned in incident reporting form)

15. Percentage of Medication errors

No. of medication error	No. of inpatient days	Formula	Result
---	---	No. of medication error / Total Inpatient days x 100	----

16. Percentage of Needle stick injuries

Total no. of needle stick injuries	No. of inpatient days	Formula	Result
---	---	Total no. of needle stick injuries / No of inpatient days x 100 4/1270*100	---

17. Compliance to hand hygiene practice: ----

Total no. of hand hygiene missed opportunities	Total no. of hand hygiene opportunities	Formula	Result
----	-----	Total no. of hand hygiene missed opportunities / Total no. of hand hygiene opportunities x 100	-----

18. Critical equipment downtime**Sum of downtime for all critical equipment's in hours:**

Area	Equipment	Date & Time of Complaint	Date & time of repair	Total hrs the equipment was not working	Sum of downtime for all critical equipment's in hours

(Critical Equipments List : Anesthesia Workstation/Boyle's Apparatus , Defibrillator , Autoclaves, ETO machine, Vitrectomy machine, Phaco Emulsifier machine, ECG Recorder, BP Apparatus, Operating Microscope, Non-Contact Tonometer, Tonopen)

HRD INDICATORS

19. Employee attrition rate

Number of employees who have left	Number of employees at the beginning of month + newly joined staff	Formula	Result
----	----	Number of employees who have left / Number of employees at the beginning of month (+ newly joined) staff x 100	----

20. Employee satisfaction index (once in 6 months): ---

21. Employee absenteeism rate

Number of employees who are on unauthorized absence	Total number of employees	Formula	Result
---	---	Number of employees who are on unauthorized absence / Number of employees x 100	-----

22. Percentage of employees who are aware of Employee rights, responsibilities and welfare schemes

No. of employees who are aware of Employee rights, responsibilities and welfare schemes	Number of employees interviewed	Formula	Result
----	---	No. of employees who are aware of Employee rights, responsibilities and welfare schemes / Number of employees interviewed x 100	---

OPHTHALMOLOGY SPECIFIC INDICATORS

23. Percentage of severe post-operative inflammation

Total no. of post-operative inflammation cases	Total no. of surgeries performed	Formula	Result
----	----	Total no. of post-operative inflammation cases / Total no. of surgeries performed x 100	-----

LABORATORY

24. Percentage of adherence to safety precautions by employees working in diagnostics (LAB)

Department	Number of employees adhering to safety precautions	Number of employees Sampled	Formula	Result
Lab	----	-----	Number of employees adhering to safety precautions / Number of employees sampled x 100	-----

25. Percentage of reporting errors per 1000 investigations

Department	Total No. of reporting errors	Total No. of procedures done for the month	Formula	Result
Lab	----	----	Total No. of reporting errors per 1000/ Total No. of tests performed for the month x 100	----

26. Percentage of Re-do's

Department	Total No. of Re-dos	Total No. of procedures done for month	Formula	Result
Lab	----	----	Total No. of Re-do's / Total No. of tests performed for the month x 100 2/4583*100	-----