

Dissertation / Internship from Bhagat Chandra Hospital, Dwarka, New Delhi

QUALITY BASED PERFORMANCE EVALUATION OF A HEALTH CARE FACILITY: PERSPECTIVE STUDY

POST GRADUATE DIPLOMA IN HOSPITAL AND HEALTH MANAGEMENT 2015-17



**INTERNATIONAL INSTITUTE
OF HEALTH MANAGEMENT
RESEARCH NEW DELHI**

By Dr. Renu Sharma ,
Enroll no. PG/2015-17/067
under the guidance of
Dr. Pankaj thalreja

Introduction

- The healthcare sector like other sectors are also suffering from poor monitoring & inappropriate data, that too housed at multiple sources thus lacks quality. Therefore KPIs are the means through which quality managers evaluate & enhance further improvement.
- The report explains in detail about the KPIs, linking of KPIs to strategy, using KPIs in the healthcare sector, using health information systems to manage KPI data, etc.
- Establishing baseline information (i.e. the current state of performance).
- Setting up performance standards and targets to facilitate and encourage continuous improvement;
- Measuring and reporting improvements over a recurring intervals.
- Allowing stakeholders to independently judge the performance of the healthcare centre or hospital.
- Service initiative impact on quality is monitored on an ongoing basis.

Organizational profile

- Bhagat Hospital Established in 1993.
- Established another 85 bedded Hospital at Dwarka in year 2009.
- Bhagat Hospital is an ISO 9001:2008 certified unit since the year 2005.
- Bhagat Chandra Hospital is a NABH accredited hospital since 2014.
- The team of experienced and dedicated Medical specialists supported by qualified and trained Para- medical staff at the Hospitals is patronized by a million of enlightened citizens of Delhi & NCR.
- Bhagat Chandra Hospital is the first hospital in the Dwarka region of Delhi to acquire this proved accreditation.



Vision

To create a comprehensive setup for the neighborhood area which is economical and affordable having high standards of health care. We aim to inculcate values of patient care in the minds of every individual working for the hospital. We keep in mind our duty to be Eco friendly, create social awareness, educate & train the society on health issues. To develop a system to provide healthcare for prevention diagnosis, treatment and Rehabilitation, the four basics of healthcare. To create tertiary care units by collaborating with other technical institutes to provide best of health care.

Mission

To provide immediate, comprehensive health care to the neighborhood area in an economical way. To achieve standards of care depending on the resources and improving with time.

Quality Policy

Bhagat Chandra Hospital is committed to consistently achieve a high level of patient satisfaction by providing the highest standard of medical & surgical treatment, through adherence to medical, ethical, hygiene standards, courteous staff behavior.



Project participated and organized by Bhagat Chandra hospital

- **CAHOCON 2017** is an annual international conference to engage with all stakeholders in healthcare delivery system. Theme of this conference is **"Monitor, Measure and Improve."** It was an opportunity to be part of this programme.
- 3rd International Conference of Consortium of Accredited Healthcare Organizations (CAHO) which was held on April 14 - 15, 2017 at Vivanta by Taj, Dwarka, New Delhi.

Department visited / worked

I worked with BHAGAT CHANDRA HOSPITAL, Dwarka Specifically in Quality department and visited all the departments for data collection and validation of KPIs to enhance performance of hospital system.

Worked in major departments:

- Obstetrics & Gynecology
- General Ward, Private Ward
- ICU, CCU and OPD
- Casualty



Objectives & Key Research

- The aim of the present study is to identify and to select key hospitals performance indicators.
- Hospitals performance indicators will help monitoring, evaluation and decision making and therefore must be selected and ranked accurately.
- Quality based performance evaluation of a health care facility: perspective study.
- Regular monitoring & evaluation to improve the outcome and efficiency.

Methodology

- The study is based on cross-sectional descriptive study method.
- Statistical techniques were adopted to analyze the data from the survey.
- Structured checklist is designed for data collection.
- The population of this study comprised of 300 IPD patients from ICU & General ward and Gynae Ward for three months w.e.f. **01/02/2017 to 30/04/2017** in Bhagat Chandra Hospital, Dwarka, New Delhi.
- Qualitative and quantitative data was collected based on KPIs for 3 months .

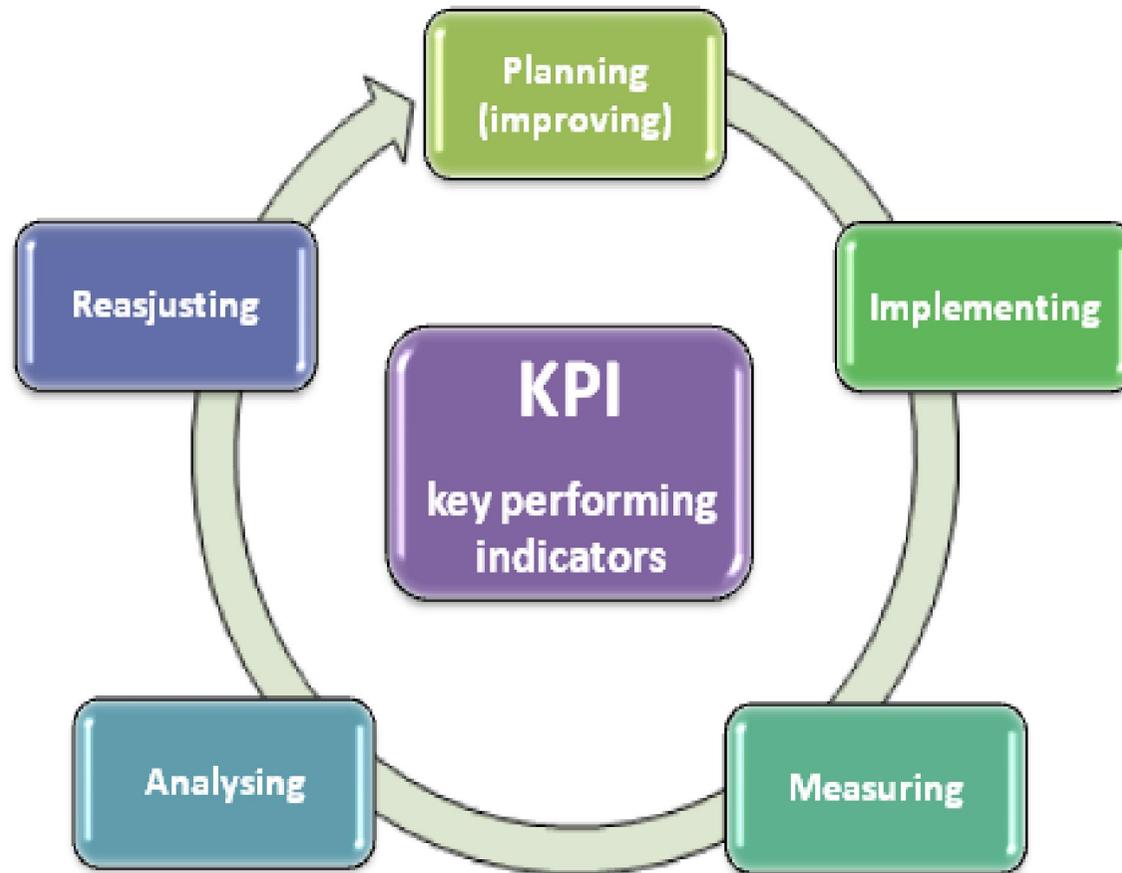


Principal Methods

The principal methods of measuring hospital performance are :

- Regulatory inspection
- Public satisfaction surveys
- Third-party assessment
- Statistical indicators
- Evidence of their relative effectiveness comes mostly from descriptive studies rather than from controlled trials.
- The effectiveness of measurement strategies depends on many variables including their purpose, the organizational culture, how they are applied and how the results are used.

Methodology



Service initiative impact on quality is monitored on an ongoing basis.

Quality Indicator Pyramid

Monthly Measures

Patient Experience

How would you rate the care you received?

Patient Safety

Serious Incidents Requiring Investigation (SIRI)

Patient Outcomes

Unadjusted Mortality Rate

Clinical Effectiveness

Readmission Rate

Staff Experience

Sickness Absence

Clinical Efficiency

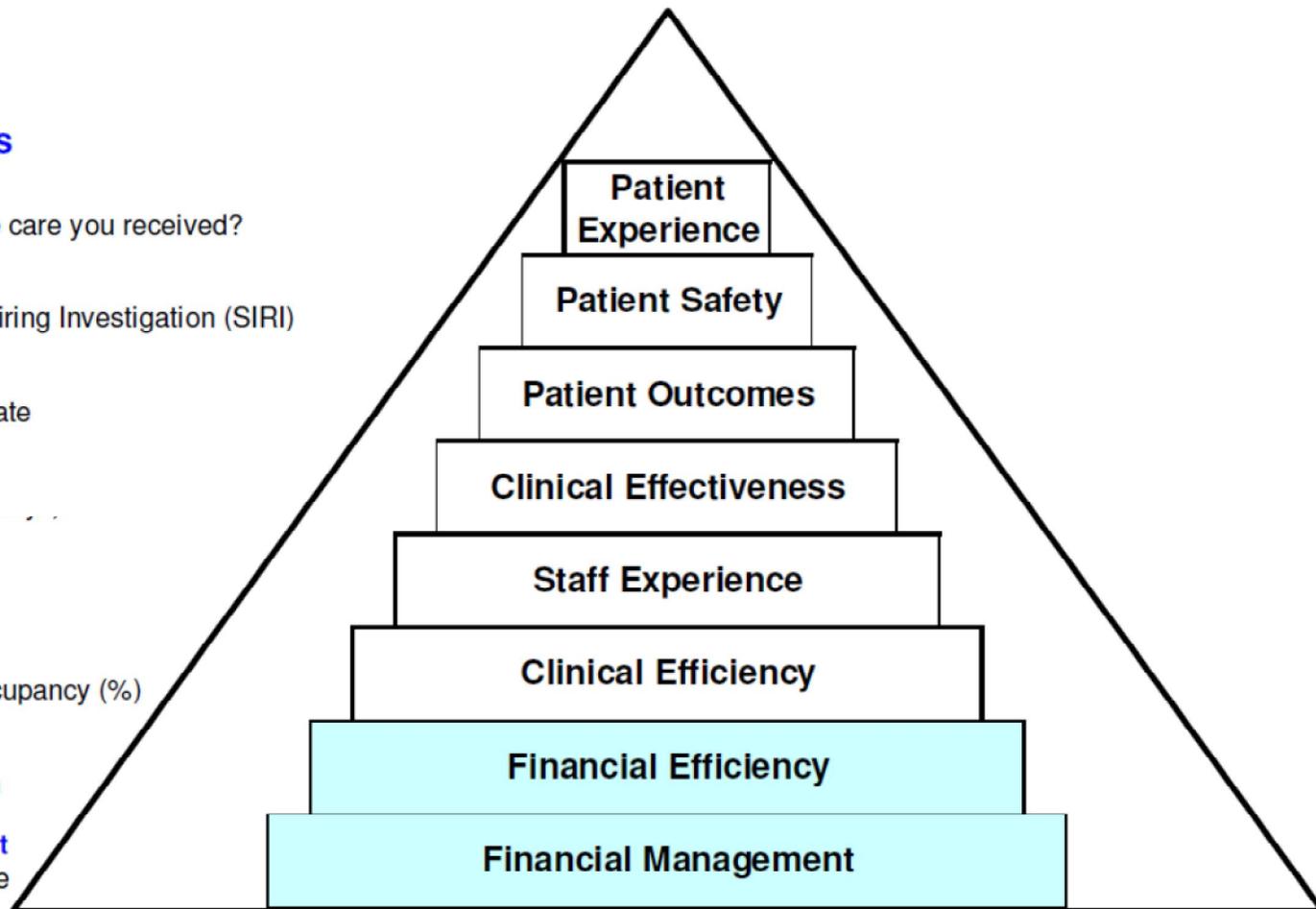
Trust Inpatient Bed Occupancy (%)

Financial Efficiency

Cost Improvement Plan

Financial Management

Income and Expenditure





The Internal Key Performance Indicators (KPIs)

chosen for study are:

- Patient satisfaction
- Average length of stay in the hospital
- Hospital acquired infection
- Nursing care assessment

Checklist forms

		BCH/QM/F-23/R-03
Frequency : Monthly		Sample Size:
Nursing Care Audit Sheet Yes/No		Duration : 30days
S.No	Day 1 8/2/17	patient name
	Doctor Incharge	
Nursing Care Parameters		
DIAGNOSIS		description
1	Admission & facility check	0/5/10 ranking
2	Psychological assessment	0/5/10 ranking
3	fall risk assessment	0/5/10 ranking
4	Pressure sore risk assessment	0/5/10 ranking
5	Detailed Nursing care plan	0/5/10 ranking
6	Reassessment of plan of care	0/5/10 ranking
7	Discharge planned	yes/no
8	Discharge checklist follow up	yes/no
9	Patient Identification (UHID/ details)	yes/no
10	Drug allergy mentioned	yes/no
11	Drugs name and strength (CAPS)	0/5/10 ranking
12	Route and frequency	0/5/10 ranking
13	Time and signature on administered drugs	0/5/10 ranking
14	Medication chart signed by doctor	0/5/10 ranking
15	Intake / Output chart with timing of IV Fluids	0/5/10 ranking
16	Investigation report information to doctor	0/5/10 ranking
17	Diet instruction	0/5/10 ranking
18	Vital Sign recorded correctly	0/5/10 ranking
19	Pain score Monitoring	0/5/10 ranking
20	Sedation Monitoring	0/5/10 ranking
21	Back Care	0/5/10 ranking
22	Shift report by nurse	0/5/10 ranking
Signature of Auditor		Signature Audit Incharge :

		Bhagat chanadra Hospital report			
Bed occupancy rate					
		Month			
Description	JAN	FEB	MARCH	APRIL	
total no. of inpatient					
total no. of Discharge					
total no. Bed available					
total bed occupied by patient for month in %	59.92	69	71.8	81.96	
Average length of Stay					
Description	Month				
	JAN	FEB	MARCH	APRIL	
Toal Inpatient days X 100					
total no. of death					
ALOS days					



GOALS TO ACHIEVE

Achievement of these goals is more critical for the healthcare sector facilities as:

- Enhance patient satisfaction
- Improve Operational Effectiveness
- Improve the quality of services in a time bound manner
- Reduce medication Errors
- Improve clinical effectiveness
- Improve financial and administrative performance
- Reduce readmissions
- Reduce hospital acquired infection rate

Expected Outcome

- The Project aims at improving the quality performance of the hospital using primary and secondary Data Analytics to evaluate identified KPIs (Key Performance Indicators) of its various functions.
- Using computer software tool-IBHAR serves as an interactive and dynamic tool for various stakeholders, which helps in optimizing performance of various functions and more so maximize the performance of the hospital.
- The Project entails improving performance of patient servicing, operations and OPD departments thus effecting finance function, procurement function, HR function, etc.
- Project is aimed at KPIs and efficacy of KPIs for various functions and assisted in designing and developing dynamic charts.



Key Performance Indicators for hospital

- **What are KPIs?**
- KPIs measure the performance and progress of an individual employee or the sector.
- Defining KPIs is also crucial as KPIs are in essence reflects a specific goals in the form of activities that need to be performed to achieve the specific goals.
- The KPIs should be Specific, Measurable, Achievable, Relevant and Time Bound. (SMART)

Challenges in operations

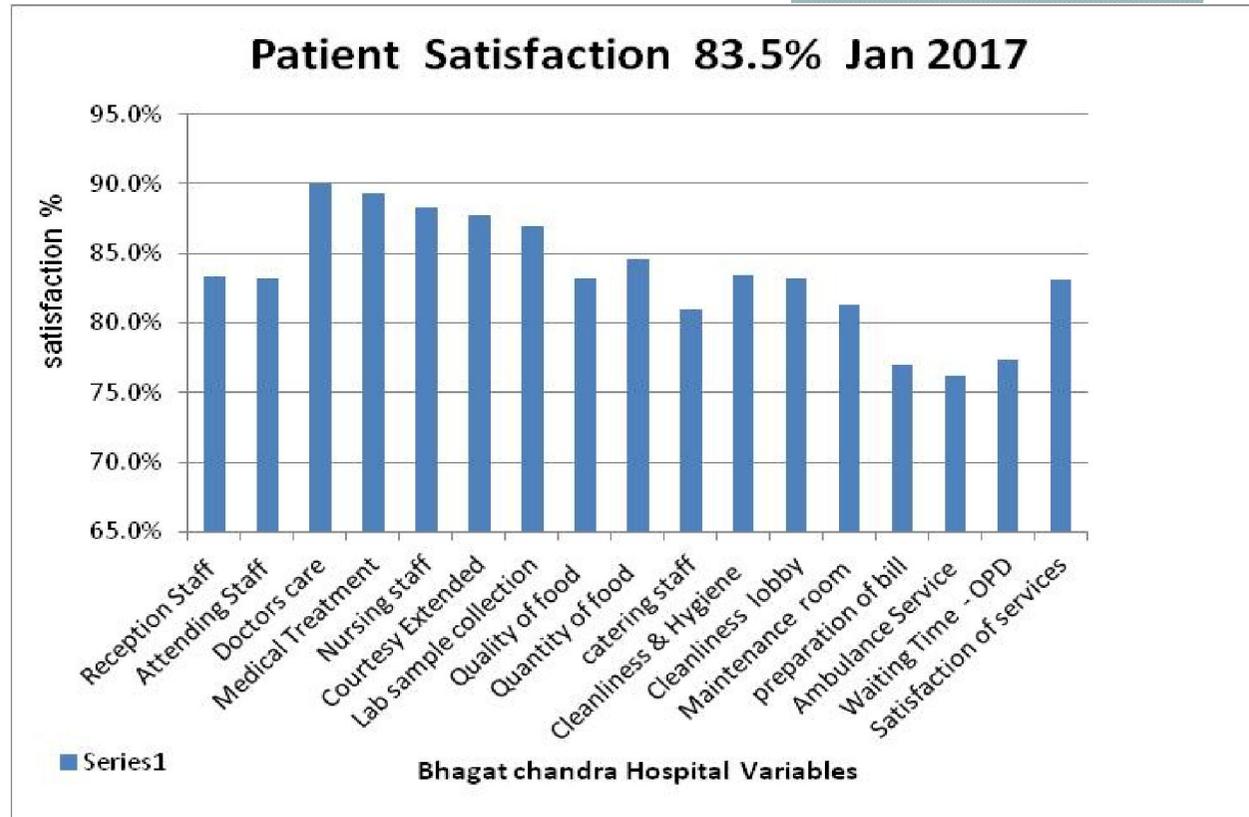
Challenges have a high impact on the productivity, employee morale and patient satisfaction. Following are some of the operational challenges that need to be addressed on a priority basis.

- Improve and optimise planning and scheduling.
- Optimisation of bed management and usage of hospital facilities.
- Understanding of Inpatient diagnosis and procedures with their cost.
- Streamlining and optimising utilisation of operation theatre.
- Streamlining and optimising utilisation of various assets including high-tech equipment.eg.(USG)
- Wait time for patients at various departments and processes.
- Medication error.
- Average length of Stay and cost for the patient

Challenges in Quality

Most of the hospitals face challenges on quality front and providing quality services is a very crucial aspect in the competitive environment. These aspects have significant bearing on the outcome of the services and satisfaction of the patients. Following are some of the quality challenges that need to be addressed on a priority basis.

- Drug safety and efficacy.
- Maintaining a safe, clean, hygienic and healthy environment.
- Quality of overall healthcare.
- Improved and efficient processes for sustainability.
- Laboratory Accreditation.
- Continuous improvement of doctors, nurses, supporting staff.



Observation

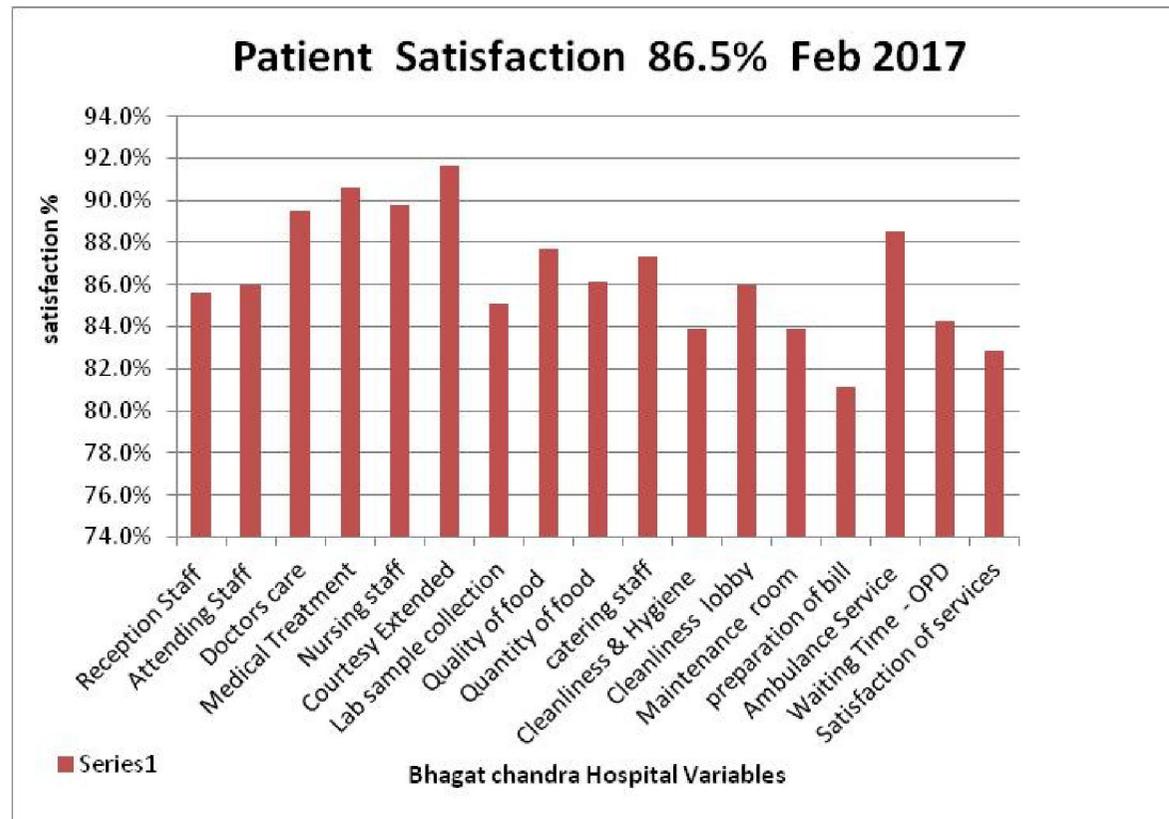
83.5% of Patients satisfaction.

Contribution : Doctor care, treatment and nursing care.

Poor quality performance contributor : Billing, Ambulance, Housekeeping and OPD.

Analysis: The major problem in above said areas was waiting time for the patient .

- **Root Cause Analysis:** The major problem in above said areas was waiting time for the patient and eliminating avoidable wait times is the ultimate goal. When we think about value from a patient's perspective, waiting is waste. The idea would be to get the patient to the care — whether it's the provider, the bed or the procedure — in the shortest amount of time possible. It's great to get rid of the wait.
- The average patient spends about 22 minutes waiting to see a doctor at a clinic, and more than four hours from entrance to discharge in the ED. As wait times balloon, the patient's experience worsens, and so does the risk of infection. One study by the firm found that those who waited five minutes or less expressed 95% satisfaction with their experience; that dropped to 80 percent when the wait swelled above 30 minutes. About 63% of patients believe the amount of time spent in a waiting room is "very" or "extremely" important. ." In days past, consumers may have been willing to sit in a waiting room for 22 minutes to see a trusted doctor, but now they're walking out.
- **Corrective measures:** BCH has started using PRACTO software in OPD or installing kiosks for speedier check-in for eliminating avoidable wait times is the ultimate goal. Thus reducing wait and saving patients valuable time.
- **Conclusion :** Quality corrective action taken Getting to that ideal state starts by figuring out what's causing the bottlenecks that lead to longer wait times. So, hospitals are mining data to pinpoint the root causes of downtime, utilizing such manufacturing methods of continuous improvement as the Japanese kaizen, and providing patients on ways to improve the health care experience.

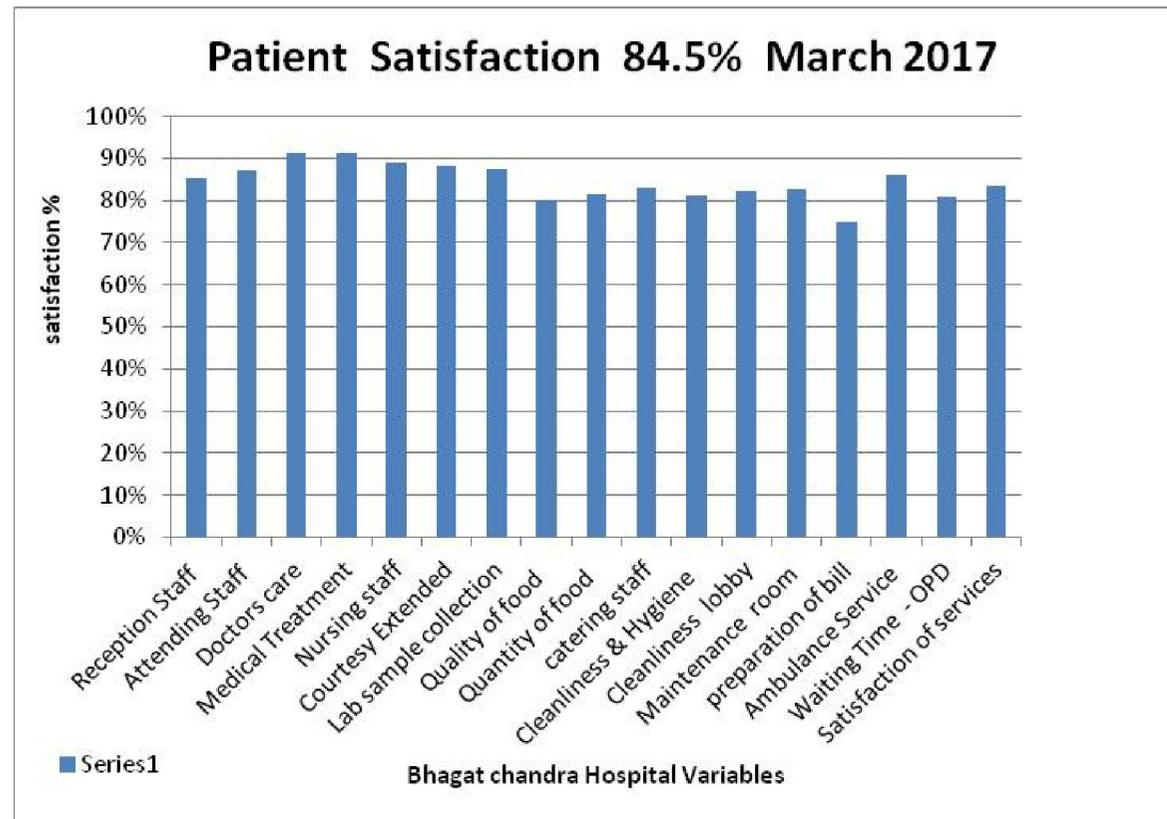


Observation

- 86.5% of Patients satisfaction.
- contribution : Doctor care, treatment and nursing care
- Poor quality performance Contributor : billing Section, Ambulance & OPD

Conclusion :

Poor performing Service areas need quality corrective action and improvement was registered after reporting i.e. Ambulance, housekeeping and OPD.

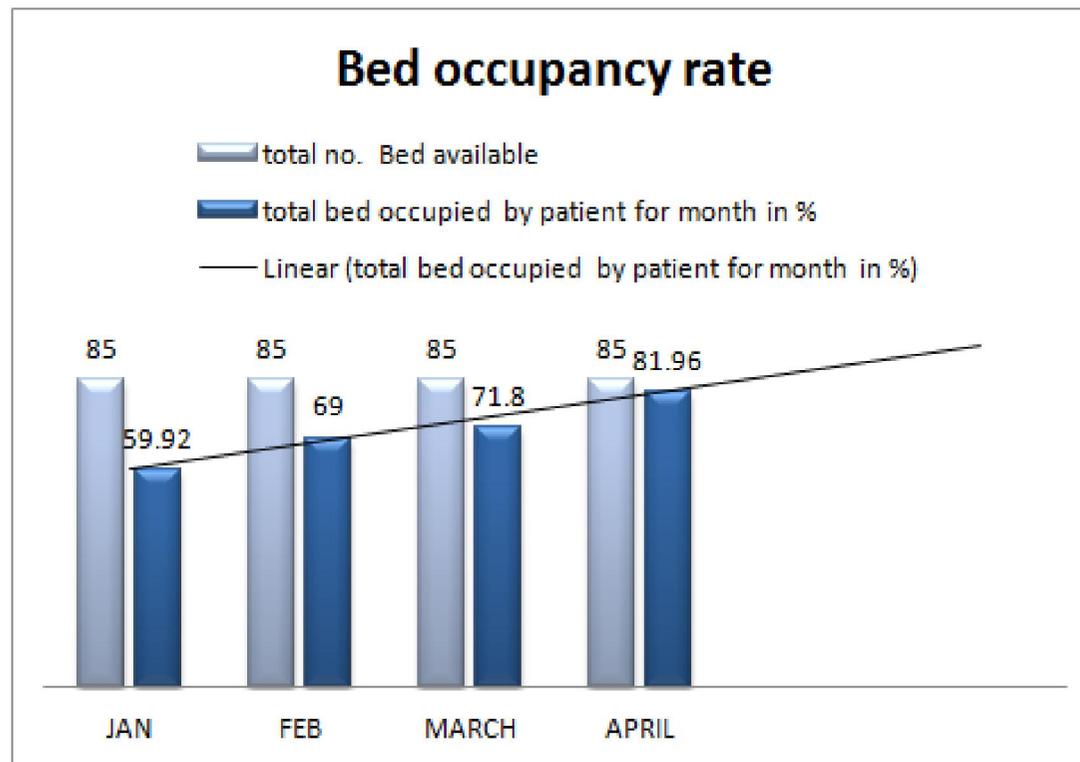


Observation

- 84.5% of Patients satisfaction.
- contribution : Doctor care, treatment and nursing care
- Poor quality performance Contributor : billing Section

Conclusion :

performing Service areas improved overall after quality corrective actions and reporting.

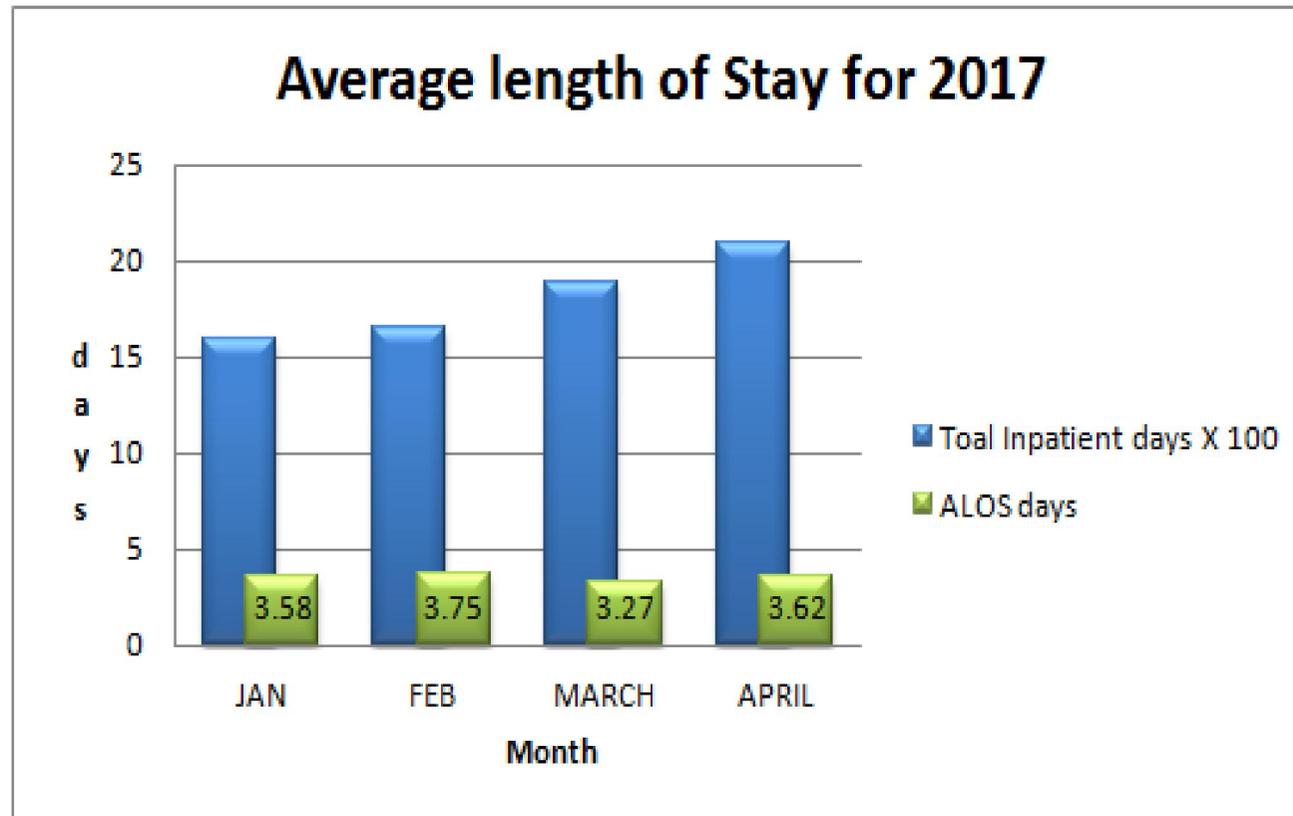


Observation

- The Bed occupancy ratio reflects the popularity & reliability of the hospitals in terms of Inpatients and has two major variables bed occupancy rate and average length of stay , for the months Jan, Feb, March and April 2017, data for bed occupancy has increasing trend hence good performing KPI

Conclusion :

- Good performing KPI reflects the popularity & reliability of Bhagat Chandra Hospital.

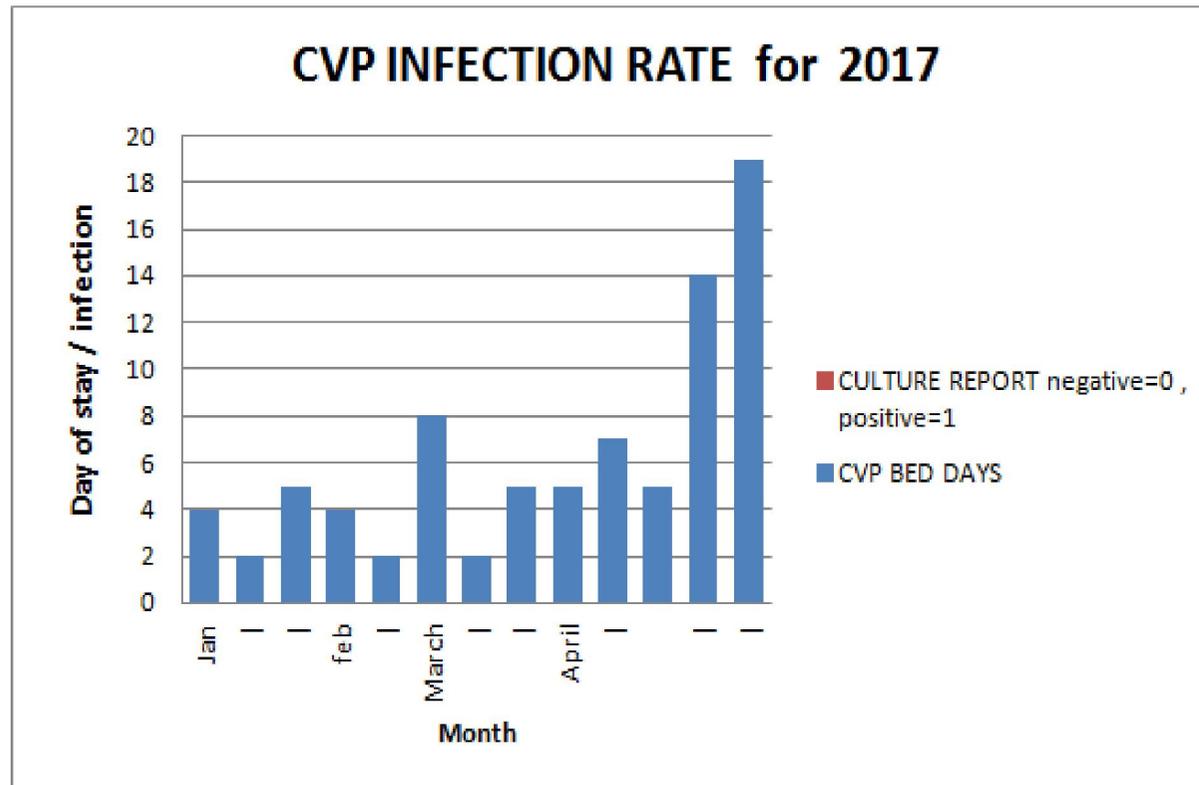


Observation

- The average length of stay as the name suggests represents the time the patient is retained in the hospital. As this is single most important component in the consumption of hospital resources. It is evident from the graph that Average length of stay is 3.55 days and indicate reasonable good turn over rate and costing can be based on the proportion of patient's average stay.

Conclusion :

- Good performing KPI reflects the popularity of Bhagat Chandra Hospital.

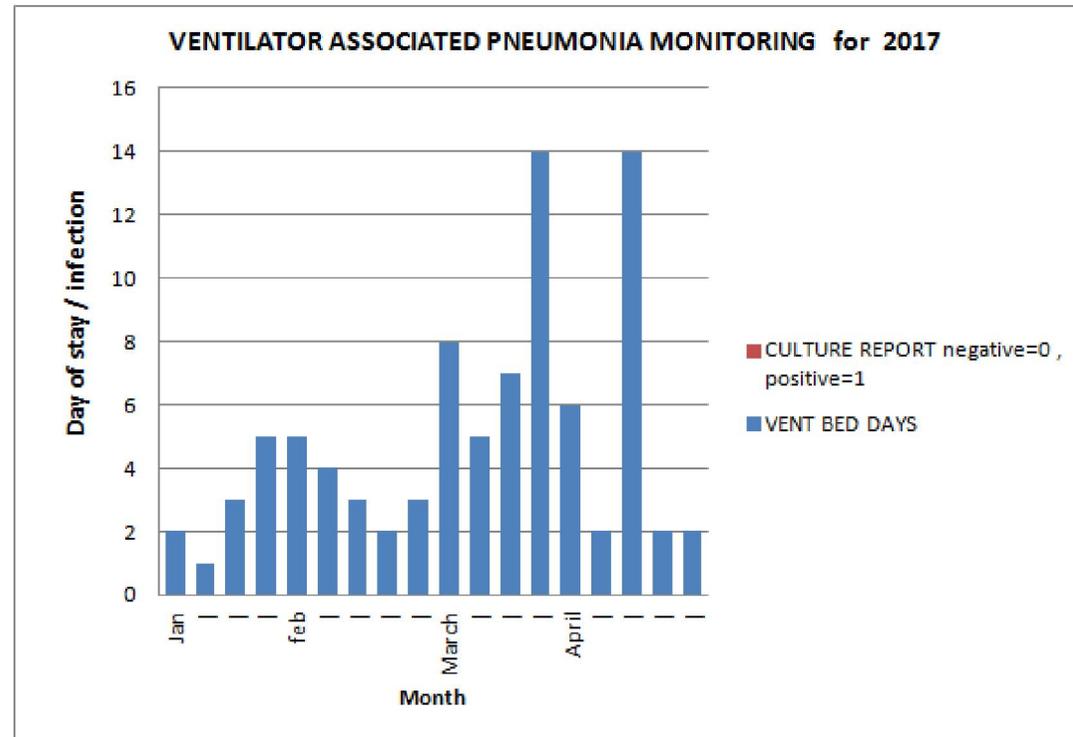


Observation

- It was noted that there was no infection in the months of JAN, FEB, MARCH and APRIL . The culture for CVP was noted to 0% rate .

Conclusion :

- Hospital Staff are following the aseptic technique and sterile (germ-free) protocol laid by hospital properly
- This KPI reflects good performance in quality of Bhagat Chandra Hospital.

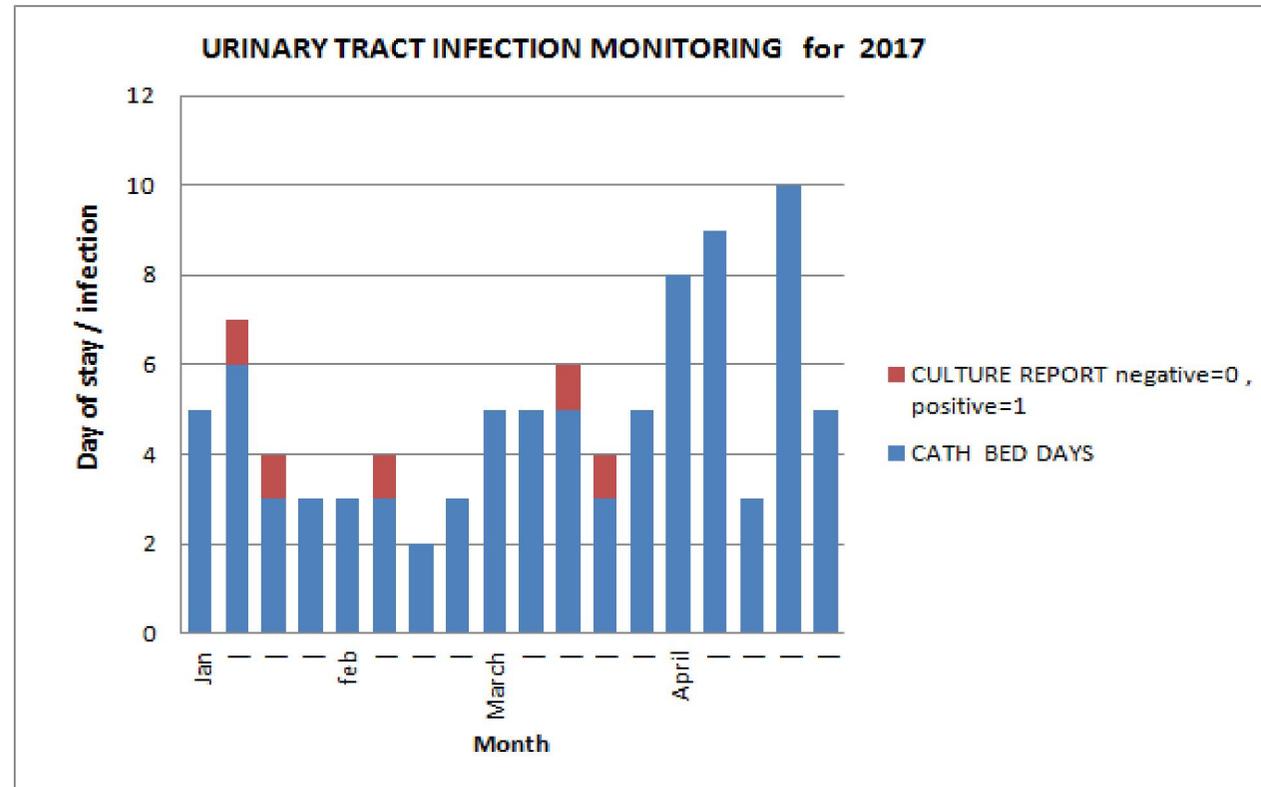


Observation

- There was no nosocomial infection in the months of JAN, FEB, MARCH & APRIL there was no positive culture report. Ventilator-associated pneumonia (VAP) is a type of lung infection that occurs in people who are on breathing machines in hospitals. As such, VAP typically affects critically ill persons that are in an intensive care unit (ICU). VAP is a major source of increased illness and death.

Conclusion :

- This KPI reflects good performance in quality of Bhagat Chandra Hospital.
- Decline in ICU adverse events, nosocomial infections and cost, through a quality improvement initiative is taken by BCH.



- **Observation**

- The overall prevalence of UTI was 1.2%. The prevalence of UTI was higher in intensive care units (ICUs) with 0.77% versus 0.33% outside ICUs the risk factors increasing the likelihood of infection in urine culture were being female, history of urinary tract operation, no use of antibiotics in the preceding three months and infection outside the urinary tract. There were 6 patients with *E. coli* or *Klebsiella*. positive in culture.

RCA: It is seen that there are various reasons for UTI & they can be any of the following reasons:

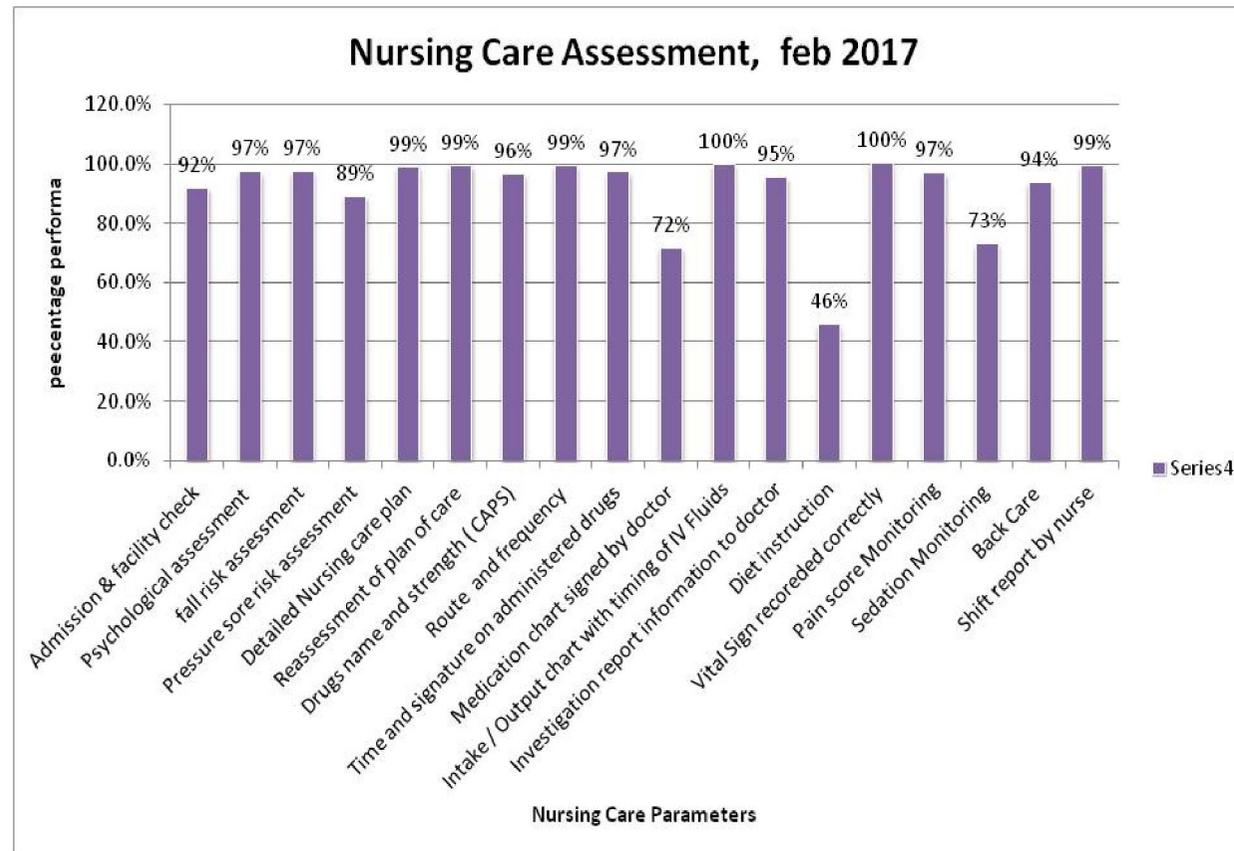
- When blood sugar is high, the excess sugar is removed through the urine; this makes a favorable environment for bacterial infection.
- Catheter-related urinary tract infection (UTI) occurs because urethral catheters inoculate organisms into the bladder and promote colonization by providing a surface for bacterial adhesion and causing mucosal irritation.
- The presence of a urinary catheter already in outside the hospital is the most important risk factor for bacteriuria.
- Non adherence to aseptic indwelling catheter during insertion.
- Enteric pathogens (e.g. *Escherichia coli*) are most commonly responsible bacteria, *Staphylococcus aureus* and yeast are also known to be the cause of UTI.

Preventive Action:

- Aseptic indwelling catheter insertion, a properly maintained closed-drainage system (with ports in the distal catheter for needle aspiration of urine), and unobstructed urine flow are essential for prevention of UTI.
- Because many of these infections occur in clusters, good hand washing before and after catheter care is essential.
- Urinary catheters coated with silver alloy also reduce the risk of infection. An alternative is to use the Lubricath, which has a hydrophilic coating that decreases tissue irritation and nosocomial UTIs.
- Using antibiotics prior to catheter insertion.

Conclusion

- UTIs are the most common type of healthcare-associated infection looking at the patient's Safety. Among UTIs acquired in the hospital, approximately 75% are associated with a urinary catheter, which is a tube inserted into the bladder through the

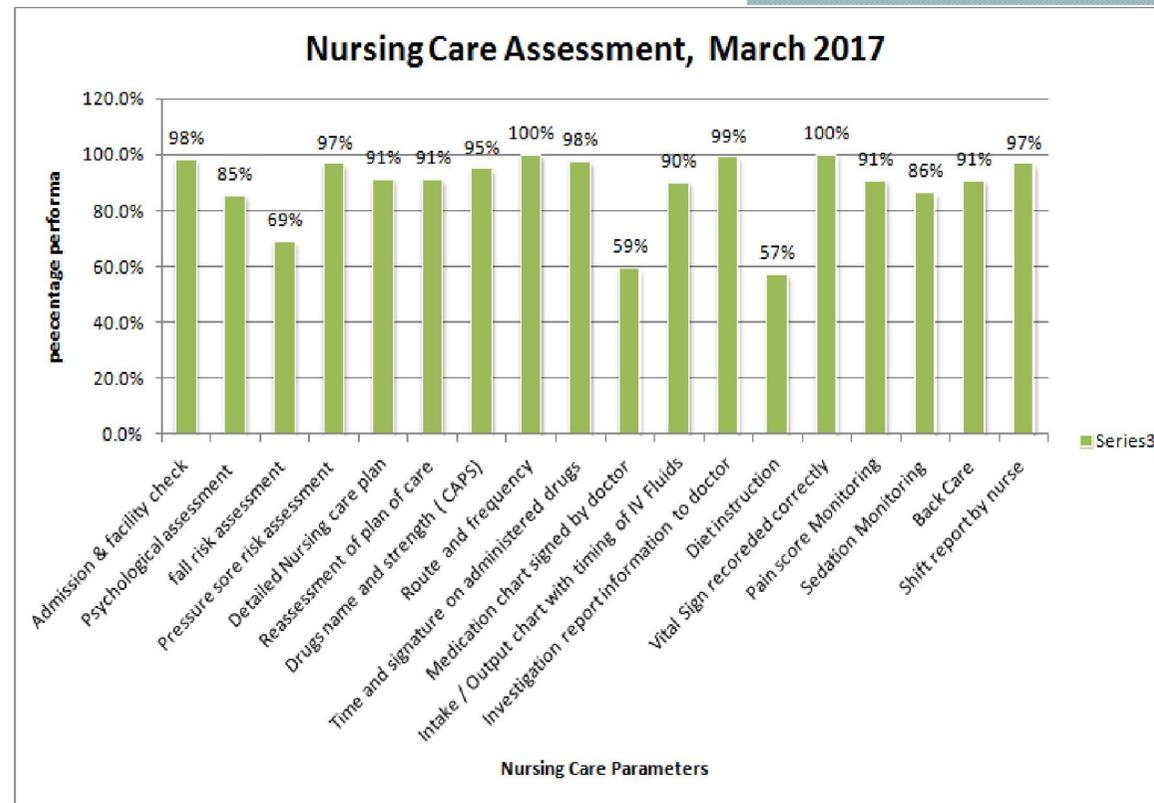


Observation

- While looking at this performance indicator it was noted that nursing & medical care of Bhagat hospital is marvelous as we can see in the graph scoring 99%. On the other hand diet instruction & medication charts were not signed by doctors , these indicators are to be improved.

Conclusion :

- Good performing KPI reflects the better skills & services provided by staff of Bhagat Chandra Hospital.

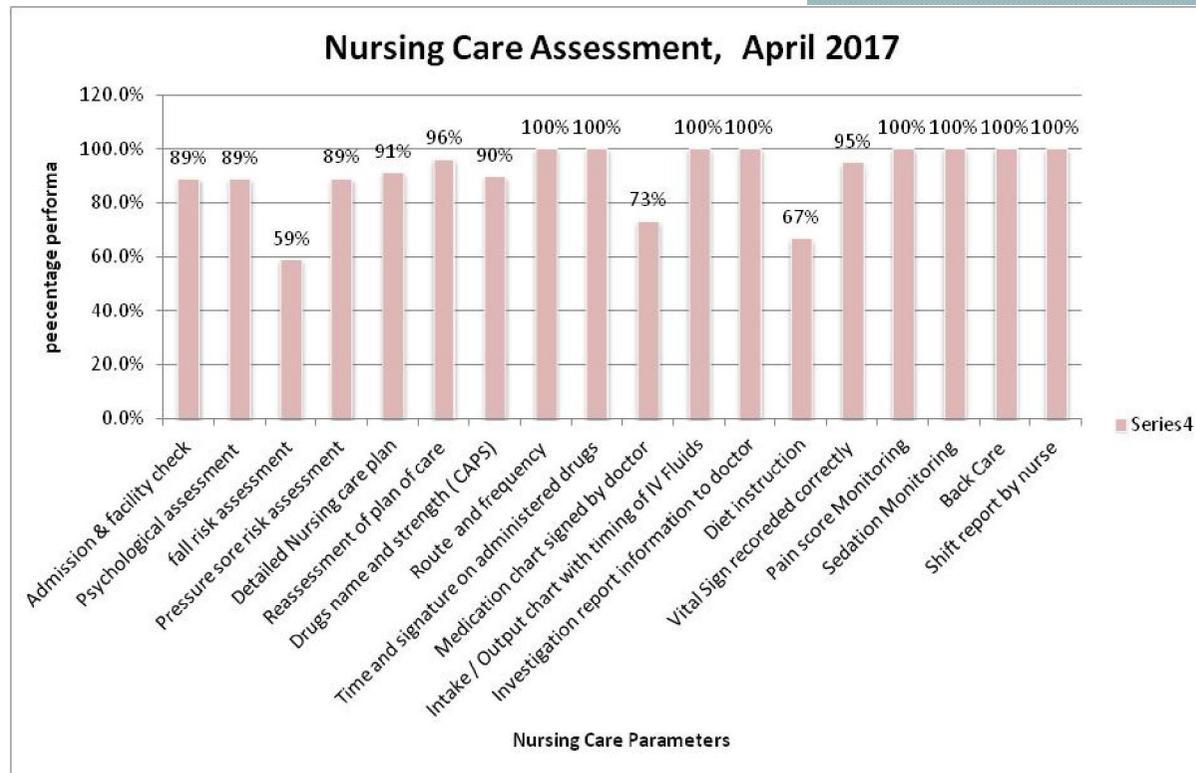


Observation

- Nursing care assessment is an essential nursing function which provides foundation for quality. This graph describes the basics of a head-to-toe assessment which is a vital aspect of nursing. Lacking area can easily be seen i.e. diet instruction & medication chart signed by doctor. It was reported and further action was taken to have improvement.

Conclusion

- Good performing KPI reflects the popularity & service quality of the medical professionals of Bhagat Chandra Hospital.



Observation

- There is tremendous improvement in all the parameters of nursing care assessment, but the continuity of improvement is still needed in certain spheres specially fall risk assessment ,which is also one of the important parameters in patients safety.

Conclusion

- Good performing KPI reflects the efficiency & regular monitoring and evaluation leads to better performance of Bhagat Chandra Hospital.

Main Conclusion for all KPIs

- Poor performing Service areas need quality corrective action, and improvement was registered after reporting i.e. Ambulance, housekeeping and OPD waiting time.
- KPI- Bed occupancy 92% Good Performance indicator.
- KPI-Hospital acquired infection 0.1/% average Performance indicator need to be improved
- KPI-Nursing care assessment 99.1% Very Good Performance indicator.

Corrective measures

- BCH has started using PRACTO software in OPD or installing kiosks for speedier check-in for eliminating avoidable wait times.
- Using computer technology--IBHAR serves as an interactive and dynamic tool for various stakeholders, which helps in optimizing performance & resources of various functions and more so maximize the performance of the hospital.
- Hospital Staff are following the aseptic technique and sterile (germ-free) protocol laid by hospital properly , and installation of automatic Hand sanitizers in every ward .

Conclusion

- **Bhagat Chandra Hospital management** was updated to note the Key Performance Indicators Report and consider whether there is appropriate assurance regarding current and future performance
- The validation of the performance model in health services has been accomplished based on tracking a set of 4 indicators in the Bhagat Chandra Hospital as sample.
- The functionality of the study has been proved by validating the interpreting possibilities of the collected data using the indicators included contextually in such a system, as well as by validating the connections between the different values of the indicators and their implications.
- In order to complete the static vision of performance reports; maintaining and improving performance systematically, through the suggested regulating mechanism; and last, but not least, using the model multi-dimensionally, in medical functionality matters as well as the economic or administrative matters within a hospital.

REFERENCES

- Baroudi, Rachad. 2010. *KPI Mega Library*, Create Space. Accessed at <http://www.kpimegalibrary.com>.
- Health Information and Quality Authority. 2013. *Guidance on Developing Key Performance Indicators and Minimum Data Sets to Monitor Healthcare Quality*. Government of Ireland (February 2013)
- Health Systems 20/20. 2012. *The health system assessment approach: A how-to manual*. Version 2.0. Abt Associates.
- Robinson, Marc, and Duncan Last. International Monetary Fund (IMF). 2009. *A Basic Model of Performance-Based Budgeting. Technical notes and manuals*, September 1, 2009.
- Ministry of Health Malaysia. 2012. *Technical Specification: Performance Indicators for Medical Programme (Key Performance Indicator & National Indicator Approach)*.
- McGill, Ronald, ed. 2006. *Achieving results: Performance budgeting in the least developed countries*. United Nations Capital Development Fund (UNCDF).



QUALITY
means doing it
right when
no one is looking.

Henry Ford

Thank you