**DISSERTATION TRAINING**

**AT**

**BLK-MAX SUPER SPECIALITY HOSPITAL**

**NEW DELHI**

**By**

**Dr.Lipika Singh**

**PG/21/051**

**UNDER THE GUIDANCE OF**

**DR.PUNIT YADAV**

**PGDM (Hospital and Health Management)**

**2021-2023**


**International Institute of Health Management Research**

**New Delhi**

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**New Delhi**

## (Completion of Dissertation from respective organization)

The certificate is awarded to

Name Dr. Lipika Singh

in recognition of having successfully completed his/her Internship in the department of

Title IT

and has successfully completed his/her Project on

Title of the Project – "Perception of end users about CPRS at BLK-MAX".

Date 12.05.2023

Organisation BLK-MAX SUPER SPECIALITY HOSPITAL.

He/She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning.

We wish him/her all the best for future endeavors.

Anusha

Training & Development

Zonal Head-Human Resources

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that Dr.Lipika Singh student of PGDM (Hospital & Health Management) from International Institute of Health Management Research, New Delhi has undergone internship training at BLK-Max Super Speciality Hospital from 10th February to 12th May 2023.

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

The Internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.

Dr. Sumesh Kumar
Associate Dean, Academic and Student Affairs
IIHMR, New Delhi

Dr. Punit Yadav
Professor
IIHMR, New Delhi

## Certificate of Approval

The following dissertation titled **"PERCEPTION OF END USERS AFTER PROVIDING HANDS ON TRAINING ON DUMMY COMPUTERIZED PATIENT RECORD SYSTEM (CPRS) PRIOR TO ITS IMPLEMENTATION"** at **"BLK-MAX SUPER SPECIALITY HOSPITAL, NEW DELHI"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

| Name | Signature |
| --- | --- |
| PRAVEEN KUMAR | |
| VINAY | |
| SUKESH BHARDWAJ | |

## Certificate from Dissertation Advisory Committee

This is to certify that **Dr.LIPIKA SINGH,** a graduate student of the **PGDM (Hospital & Health Management)** has worked under our guidance and supervision. He/ She is submitting this dissertation titled "PERCEPTION OF END-USERS AFTER PROVIDING THEM TRAINING ON DEMO CPRS PRIOR TO ITS IMPLEMENTATION" at "BLK-MAX SUPER SPECIALITY HOSPITAL" in partial fulfilment of the requirements for the award of the **PGDM (Hospital & Health Management).**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr.Punit Yadav,
Professor,
IIHMR, Delhi

Mr.Azad Kumar
IT- Unit Head
BLK-Max Super Speciality Hospital

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

## CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "**Perception of end-users after providing them training on demo CPRS prior to its implementation at BLK-Max**" and submitted by **Dr.Lipika Singh** Enrolment No. **PG/21/051** under the supervision of **Dr.Punit Yadav** for award of PGDM (Hospital and Health Management) of the institute carried out during the period from 10th February 2023 to 12th May 2023 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Annexure F

# FEEDBACK FORM

**Name of the Student:** Dr. Lipika Singh

**Name of the Organisation in Which Dissertation Has Been Completed:** BLK-MAX Super Speciality hospital

**Area of Dissertation:** IT Department

**Attendance:** OK

**Objectives achieved:** Handled CPOS Project well very well

**Deliverables:** User ID Creation, configuration, mapping and provided training to endusers

**Strengths:** Positive Attitude

**Suggestions for Improvement:**

**Suggestions for Institute (course curriculum, industry interaction, placement, alumni):**

12/5/23

**Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)**

**Date:** 12.05.2023
**Place:** BLK-MAX, New Delhi

BLK-MAX
Super Speciality Hospital

Dated: 12-05-2023

**TO WHOMSOEVER IT MAY CONCERN**

**Sub: Internship Completion Letter**

This is to certify that **Dr. Lipika Singh** has completed Internship at BLK-Max Super Speciality Hospital from **10th February 2023 till 12th May 2023** in the Department of **IT.**

During her tenure, her conduct was found to be excellent. She has been very dedicated in all her assignments.

We wish her all the best for her future

**Yours Sincerely,**
**For Dr. B.L. Kapur Memorial Hospital,**
**A Unit of Lahore Hospital Society**

**Dr. Anisha Sonal**
**Deputy Manager- L&D**
**Human Resource**

**Dr. B. L. Kapur Memorial Hospital**
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E: info@blkhospital.com
www.blkmaxhospital.com

# Lipika Singh report

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## CERTIFICATE ON PLAGIARISM CHECK

| | | | |
|---|---|---|---|
| **Name of Student (in block letter)** | **Dr/Mr./Ms.:** Dr.Lipika Singh | | |
| **Enrolment/Roll No.** | PG/21/051 | **Batch Year** | 2021-2023 |
| **Course Specialization (Choose one)** | Hospital Management | Health Management | **Healthcare IT** |
| **Name of Guide/Supervisor** | Dr/ Prof.: Dr.Punit Yadav | | |
| **Title of the Dissertation/Summer Assignment** | "Perception of end-users after providing them training on demo CPRS prior to its implementation at BLK-Max Super Speciality Hospital" | | |
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Name: Dr.Punit Yadav

Signature:

**Student**

Name: Dr.Lipika Singh

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**Date:**

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## ACKNOWLEDGMENT

A Dissertation is a golden opportunity for learning and self-development. I consider myself fortunate to have been provided with this opportunity to learn and grow in a hospital Sector.

I would like to take this opportunity to express my deepest gratitude and appreciation to all those who have supported me throughout my dissertation journey.

First and foremost, I am immensely grateful to Mr.Azad Kumar (Unit Head of IT department, BLK-Max Hospital) for providing me with this opportunity for their guidance, expertise, and unwavering support throughout the entire research process. Their invaluable advice, insightful feedback, and encouragement have been instrumental in shaping this dissertation.

I would like to express my gratitude to Dr. Punit Yadav (Dissertation, Mentor IIHMR Delhi) willingness to share their time, knowledge, and experiences has contributed significantly to the quality and depth of this study.

I would like to express my gratitude to my family and friends for their unwavering support, love, and understanding throughout this challenging journey.

# TABLE OF CONTENTS:

# PART A

ORGANIZATIONAL PROFILE

# BLK-MAX SUPER SPECIALITY HOSPITAL


BLK-Max Super Specialty Hospital is a member of one of India's major healthcare networks, with a diverse variety of services that make it a force to be reckoned with in the field of Super Specialty Tertiary Healthcare. There are 650 beds, including 125 critical care beds, 17 operating theatres, and specialty-specific OPD blocks.
BLK-Max has constantly been recognized among Delhi NCR's Top 10 Multi Super Specialty Hospitals.

TomoTherapy (Next Generation Image-guided Intensity-modulated Radiation Therapy for Cancer Treatment); Robotic Surgical System; India's First Computer Navigation for Joint Replacement; South Asia's First Signa Artist MRI; Revolution Frontier CT; Flat Panel Combo Cath Lab with 3D reconstruction; Ultrasound with 3D and 4D imaging; Dual Head Spect CT with variable angle BLK-Advanced Max's Centers of Excellence, cutting-edge facilities, and patient-centered services form the foundation for a holistic, comprehensive, and cutting-edge treatment strategy.

A passion for healing...
We are committed to providing the greatest quality healthcare at BLK-Max. Whether it's the best doctors, cutting-edge medicine, cutting-edge infrastructure, or smiling nursing. Nothing is too large or small to ignore when you are enthusiastic about restoring the lives that have been entrusted to us.

LEGACY:

In 1930, Dr. B L Kapur, a renowned obstetrician and gynaecologist, established a Charitable Hospital in Lahore. He migrated to post-partition India in 1947 and established a Maternity Hospital in Ludhiana. Dr. B L Kapur, on the invitation of the then-Prime Minister, began the effort to build a 200-bed hospital in Delhi in 1956. On the 2nd of January, 1959, Prime Minister Pt. Jawahar Lal Nehru opened the hospital.

The hospital become Delhi's leading multispecialty institute by 1984, when it celebrated its Silver Jubilee. Apart from mother and child care, the hospital provided general surgery, ophthalmology, ENT, dentistry, pulmonology, Intensive Care, and Orthopedics.
The community's health was an important consideration for the facility. To enhance the state of community health in the area, enthusiastic doctors organized camps and public health speeches.

The Lahore Hospital Society was formed, in 1942. The Lahore Hospital Society was founded by some of the most well-known physicians and benefactors of the day, and they contributed significantly to the development and management of the hospital.

BLK-Max Super Specialty Hospital was redeveloped and re-launched as a Multi Super Specialty facility with 650 beds, including 125 beds dedicated to critical care and 17 operation theatres, providing patients with a seamless integrated healthcare experience. The prestigious NABH and NABL accreditations were given to it as the first hospital in India.

Vision

- To be the best-rated healthcare organization in India, committed to the highest levels of clinical excellence and patient care, and supported by cutting-edge research and technology.

Mission

- Achieve Professional Excellence in Quality Care Delivery.
- Ensure that care is delivered with honesty and integrity.
- Through research and education, push the boundaries of care.
- Adhere to national and international healthcare standards.
- Ensure that all members of society have access to high-quality healthcare.

QUALITY & ACCREDITATION:


Joint Commission International


NABH


ilac - MRA

Quality Policy

- Meeting the evolving requirements and expectations of patients, as well as the hospital's vision and goal
- Incorporate quality into all of its services and maintain it through national and international accreditations.

Specialties:

- Surgical Gastroenterology, Advance Laparoscopic & Bariatric Surgery
- Dental & Maxillofacial Surgery
- Dermatology
- Emergency & Acute Care Medicine
- Diabetes, Thyroid, Obesity, and Endocrinology Centre
- ENT & Cochlear Implant Centre

- Centre for Women's Health
- Hepato Pancreatic Biliary Surgery
- Internal Medicine
- Interventional Radiology
- IVF & Infertility Treatment
- Liver Transplantation
- Nuclear Medicine
- Nutrition & Health
- Ophthalmology
- Pain Management
- Laboratory Services
- Physiotherapy & Rehabilitation
- Psychiatry
- Radiology & Imaging
- Rheumatology
- Podiatry (Foot Care) & Wound Care

Centers of Excellence:

- Cancer Centre
- Bone Marrow Transplant Centre
- Heart Centre
- Centre For Neurosciences
- Institute For Digestive & Liver Diseases
- Centre For Renal Sciences & Kidney Transplant
- Institute For Bone, Joint Replacement, Orthopaedics Spine & Sports Medicine
- Centre For Chest & Respiratory Diseases
- Centre For Plastic & Cosmetic Surgery
- Centre For Child Health

State-of-the-art equipment**:**

- Endoscopy Suites
- MRI
- CT Scan
- Nuclear Medicine
- Tomotherapy System
- Robotic Surgery System
- Computer Navigation System

| FLOORS | DEPARTMENTS |
|---|---|
| **BASEMENT** | Physiotherapy<br>(neuro rehabilitation, sports medicine)<br>Radiation oncology<br>Inpatient billing<br>Medical Record Department<br>LT room<br>Parking |
| **GROUND FLOOR** | Reception<br>Admission & discharge<br>OPD Pharmacy<br>Emergency<br>Transfusion medicine<br>Pre-Anesthesia Chek-up clinic<br>Interventional Radiology<br>Waiting lounge<br>**OPD 1**: ENT & Cochlear implant, internal medicine, pediatric & pediatric surgery, general & minimal access surgery, orthopedics, rheumatology, Podiatry, psychiatry & psychology, dermatology<br>**OPD 2:** Gynecology & obstetrics<br>Diagnostic: Mammography, Radiology, Nuclear medicine, sample collection<br>Financial counseling<br>Cafeteria |
| **1st Floor** | International patient lounge<br>Laboratory services<br>Dental science<br>OPD 3: cardiology & cardiac surgery, vascular surgery, non-invasive cardiology, nephrology & kidney transplant, urology, endocrinology, diabetes & thyroid, respiratory medicine, executive health check-up, ophthalmology, Ayurvedic medicine,<br>OPD 5: Gastroenterology, hepatology, GI surgery, HPV surgery & liver transplant<br>OPD 6: dialysis |

| | |
|---|---|
| | OPD 7: medical & surgical oncology, BMT & HEMATO ONCOLOGY, radiation oncology<br>OPD 8: neurology & neurosurgery neuro electrophysiology |
| **2nd FLOOR** | OT<br>Cathlab<br>MICU<br>SICU<br>CTVS ICU<br>ICCU<br>OT-ICU<br>NSICU<br>KT-ICU<br>Pre & post operative area |
| **3RD FLOOR** | In patient rooms<br>Surgical onco HDU<br>Neuro HDU<br>Bronchoscopy<br>ECP<br>Sleep lab<br>Dialysis unit 2 |
| **4th FLOOR** | In-patient room / MBU<br>PICU<br>NICU & HDU<br>Birthing suites<br>LR, Labour OT, Nursery |
| **5TH FLOOR** | In patient rooms<br>Chemotherapy & daycare |
| **6th floor** | In patient rooms<br>GL-ICU & GL-HDU<br>Bone marrow transplant unit |
| **7TH FLOOR** | In-patient rooms<br>OT<br>Plastic & cosmetic surgery<br>Bone marrow transplant unit |

| | |
|---|---|
| | Administration area |

# PART B

PROJECT REPORT

**TITLE OF THE STUDY:**

A STUDY TO ACCESS END USERS PERCEPTION AFTER GIVING THEM TRAINING ON DEMO CPRS (COMPUTERIZED PATIENT RECORD SYSTEM) PRIOR TO ITS IMPLEMENTATION.

**INTRODUCTION:**

When we talk about perception it is nothing but the way we think or interpret the environment. Whatever we think or see we make our own observations regarding that. When it comes to CPRS people in this world have different opinions regarding this system. Some think it is very useful some think it is not that useful for the environment because CPRS has its own advantages and disadvantages which will be discussed later below. CPRS is a computerized patient record system that helps the organization store patients' data securely on the cloud. It is totally a cloud-based system. All the relevant information regarding the patient will be available which can be accessed by the staff members who will be given access to the CPRS. Access code and verification code will be needed to access the platform which will help the organization to keep the data safe. To train the hospital staff training sessions were organized so that they can get the relevant information before its implementation. All the doctors, nurses, pharmacists, executives, and coordinators were trained during this process and they were informed about their specific roles as well. During the training sessions, trainees were allowed to ask their doubts so that CPRS could be improved and a better platform can be provided to the end users.

**BACKGROUND LITERATURE:**

**PERCEPTION:**

The process through which we interpret and make meaning of sensory data from our surroundings is referred to as perception. It provides us with a way to become aware of and comprehend the world around us. The process of perception involves the brain's reception, organization, and interpretation of sensory information such as sounds, sights, touches, tastes, and smells.

Sensory receptors in our eyes, ears, skin, tongue, and nose collect data from the environment and send it to the brain when we sense something. Our perception of reality is then formed by the brain's processing and integration of this data together with our knowledge, expectations, and prior experiences.

Sensory input, attention, memory, cultural context, and individual differences are just a few of the many variables that can affect perception. Perception is a complicated and comprehensive process. Subjective biases, such as our views, attitudes, and emotions, may have an impact on how we interpret and comprehend sensory data.

Our daily lives are fundamentally impacted by perception. It enables us to move around our environment, identify things and people, comprehend speech, and decipher social clues. It aids in decision-making, problem-solving, and environmental adaptation. Our aesthetic experiences are also influenced by perception, which affects how much we like music, art, and other sensory stimuli.

For industries like human-computer interaction, design, marketing, and communication, an understanding of perception is essential since it enables the creation of user-friendly interfaces. Researchers and practitioners may develop fields like virtual reality, augmented reality, and user interface design by understanding how people perceive and interact with the world through the study of perception.

## WHAT IS POSITIVE PERCEPTION?

The cognitive process of positively processing and assessing information is referred to as positive perception. It entails viewing and comprehending the world, things, people, and circumstances with an emphasis on what's good, what's strong, and what the future holds.

Personal ideas, values, attitudes, prior experiences, and societal influences are just a few examples of the things that affect how positively we perceive things. Our thoughts, feelings, and behaviours are significantly shaped by it, and it also has an impact on our general well-being and quality of life.

Some key characteristics and effects of positive perception:

1. Optimism: Positive perception and optimism, the propensity to see the best in people, things, and the future, are strongly related. People that are optimistic tend to see the bright side of things, concentrate on opportunities rather than challenges, and keep a positive outlook.

2. Resilience: The capacity to overcome difficulties or adversity is influenced by a positive outlook. When presented with challenges, people with an optimistic outlook are more likely to see obstacles as temporary and manageable. They have faith in their capacity for coping and problem-solving, which strengthens their adaptability and resilience.

3. Emotional Well-Being: A better sense of emotional well-being results from positive perception's impact on emotions. People feel more positive feelings, such as joy, thankfulness, and happiness, when they perceive events or situations favourably. Additionally, positive perception can assist people in controlling their negative emotions, finding meaning in challenging situations, and preserving a happy emotional state overall.

4. Self-Efficacy: A strong sense of self-efficacy—the conviction that one is capable of completing tasks and realizing goals—is enhanced by positive perception. People are more inclined to set challenging objectives, persevere through difficulties, and take proactive measures toward accomplishment when they have a good perception of themselves and their talents.

5. Motivation and Goal Achievement: Motivation and goal achievement are influenced by positive perception. People are more likely to tackle goals and tasks with excitement and perseverance

when they perceive them positively. Positive perception can boost motivation, improve goal clarity, and speed up the process of achieving desired results.

WHAT IS NEGATIVE PERCEPTION?

The cognitive process of reading and interpreting information negatively and unfavourably is referred to as negative perception. It entails emphasizing drawbacks, flaws, and pessimistic possibilities in how one perceives and comprehends the world, things, people, and events.

Personal ideas, values, attitudes, prior experiences, and societal influences, among other things, might affect how negatively someone perceives something. It shapes our ideas, feelings, and behaviours significantly, which can negatively affect our general well-being and quality of life.

Some key characteristics and effects of negative perception:

1. Pessimism: Pessimism, which is the propensity to see things negatively and the future negatively, is strongly related to negative perception. People that are pessimistic frequently view situations negatively, concentrate on challenges rather than opportunities, and predict bad things will happen.

2. Emotional Distress: Negative perception can result in emotional pain and a diminished sense of well-being. People may feel negative emotions like sadness, rage, or worry when they perceive events or situations negatively. A negative emotional state might become more pronounced and pervasive as a result of negative perception.

3. Self-Doubt: A negative outlook might undermine one's self-assurance and self-esteem. People who have a poor perception of themselves and their abilities may doubt their skills, mistrust their values, and feel inadequate. The ability to believe in oneself and achieve goals might be hampered by negative impressions.

4. Bias and Stereotyping: Stereotypes and biases can both be influenced by negative perceptions. People who have a bad opinion of a group or a person may hold prejudiced beliefs or act in ways that are discriminatory. Stereotypes, discrimination, and societal separation can all be exacerbated by negative impressions.

**COMPUTERIZED PATIENT RECORD SYSTEM:**

A computerized Patient Record System (CPRS), often known as an electronic health record (EHR), is a piece of software used in healthcare settings to manage and store patient health data digitally. It swaps out conventional paper-based records for an extensive, centralized electronic

database that includes a patient's medical history, diagnosis, treatments, prescriptions, test results, and other clinical data.

The way patient information is entered, retrieved, and shared among healthcare practitioners has been completely transformed with the introduction of CPRS. Compared to paper-based systems, it has many benefits, including better patient care, increased efficiency, accuracy, and communication.

With CPRS, medical practitioners may immediately access patient data from anywhere in a hospital or remotely, empowering them to decide on the best course of action for diagnosis, treatment, and care. The program offers features for recording clinical contacts, submitting test and treatment orders, managing medication, and producing reports. It frequently consists of decision-support technologies that help medical professionals make decisions based on the best available data and guarantee the safety of their patients.

The smooth interchange of health information between various healthcare providers is made possible by CPRS, enhancing continuity of care and lowering the possibility of mistakes or omissions. Additionally, it enables healthcare organizations to use aggregated data for population health management, quality improvement projects, and research.

Healthcare facilities can enhance operational efficiency by streamlining workflows, reducing paperwork, and implementing CPRS. Through role-based access controls, the system makes sure that patient records are secure, private, and only available to those who are authorized.

By digitizing patient data and giving healthcare practitioners an effective tool to manage and use patient information, CPRS has revolutionized the delivery of healthcare services and improved patient outcomes.

ADVANTAGES OF CPRS:

Some advantages of CPRS are-

1. Better Access to Patient Data: The CPRS enables quick and simple access to patient data for healthcare providers. They can quickly and easily access thorough and current patient information, which includes medical history, test results, prescriptions, and treatment plans. This instantaneous informational access improves clinical decision-making, permits prompt treatments, and fosters continuity of care across various healthcare settings.

2. Improved Efficiency and Workflow: CPRS automates clinical and administrative procedures, saving time on paperwork and manual record-keeping. Healthcare workers are able to concentrate more on patient care thanks to the automation of duties including documentation, order entry, and result review. Shorter wait times, quicker information retrieval, and more efficient workflow within healthcare organisations may result from this increased efficiency.

3. Increased Legibility and Accuracy: Paper-based records are frequently prone to mistakes, illegible handwriting, and missing information. CPRS overcomes these issues. The system helps guarantee that data is comprehensive, accurate, and consistent by utilising structured data entry

and built-in validation tests. Because fewer prescription mistakes, data interpretation errors, and communication blunders are made, patient safety is improved.

4. Improved Communication and Collaboration: The CPRS promotes effective communication and teamwork among healthcare professionals involved in a patient's care. It enables in-the-moment coordination and communication between specialties and healthcare settings by allowing for the electronic sharing of patient records, test findings, and treatment plans. This offers a holistic approach to patient treatment and enhances care coordination while cutting down on redundant testing.

5. Decision Support Tools: CPRS frequently incorporates decision support features like clinical recommendations, alerts for drug interactions, and allergy warnings. These tools help medical practitioners make decisions that are supported by the best available evidence, ensure patient safety, and promote best practices. Clinical outcomes are aided by CPRS, which lowers the chance of medical errors by supplying pertinent and timely information.

6. Data Analysis and Research: CPRS enables healthcare organizations to collect and analyze patient data for research, quality improvement projects, and population health management. The system can produce reports and run data analytics to spot trends, track progress, and back up evidence-based practices. Planning, allocating resources, and measuring outcomes in healthcare are all improved by this data-driven approach.

7. Cost and space savings: Implementing CPRS results in less physical storage space being required for paper records and related administrative duties. Printing, keeping, and shipping paper records are no longer expenses. Additionally, by lowering medical errors, preventing redundant testing, and promoting more effective use of healthcare resources, CPRS can help save money.

DISADVANTAGES OF CPRS:

The implementation and use of CPRS (Computerised Patient Record System) could have some drawbacks in addition to its many benefits. These consist of-

1. Initial Cost and Infrastructure Needed: Setting up CPRS requires a sizable investment up front, including spending money on software, hardware infrastructure, and staff training. It could be difficult for smaller healthcare organizations with little funding to cover the upfront cost and recurring maintenance expenses. The availability of a dependable and secure network infrastructure may also be a need for successful CPRS adoption.

2. Technical Problems and Downtime: Just like any electronic device, CPRS is susceptible to technical problems, software bugs, and network outages. These interruptions may influence access to patient information and may interfere with workflow, which may have an impact on patient care. To reduce these risks, adequate redundancy and backup mechanisms are required, in addition to strong technical assistance.

3. Data Security and Privacy Issues: Because CPRS has access to sensitive patient health information, data security, and privacy are major issues. Strong security measures and adherence to privacy laws are needed to protect patient data from unauthorized access, hacking, or

breaches. To preserve patient confidentiality, organizations must put access controls, audit logs, encryption, and regular security audits into place.

4. The possibility of information overload: CPRS can provide a lot of data, including clinical notes, test results, and other documentation. Without appropriate design and organization, this wealth of information can cause information overload, making it difficult for healthcare practitioners to quickly locate pertinent data. In order to counteract this possible drawback, efficient data administration, user interface design, and search capabilities are required.

5. Interoperability Issues: Integrating the CPRS with other medical systems, like lab or imaging systems, can be a problem for interoperability. Healthcare providers may find it difficult to share information and work together effectively if there are compatibility problems or restricted data exchange capabilities across their systems.

6. Documentation and Time Restraints: Although CPRS strives to increase efficiency, some healthcare professionals could feel that the system adds an extra documentation burden to their workload. The time needed for data entry, navigating the system, and making sure that full documentation is done could be seen as time-consuming, which could have an impact on clinical efficiency and patient-provider interactions.

**TRAINING OF END USERS ON CPRS:**

Training for the Clinical Patient Record System (CPRS) primarily consists of instructing medical staff on how to efficiently maintain patient records and deliver treatment using the system. Users' familiarity with the CPRS's features, functions, and processes is the goal of the training. Depending on the organization or healthcare system using it, the specifics of CPRS training may change.

1. Comprehensive training: Create a thorough training course that includes all CPRS-related topics, including system navigation, data entry, documentation, ordering of tests and drugs, retrieval of patient data, and use of decision assistance tools. The instruction ought to be customized to the obligations of various medical specialists, including doctors, nurses, and medical assistants.

2. Hands-on practice: Give medical personnel lots of chances to practice using CPRS in hypothetical or actual situations. Practical experience increases comfort with the system's features and functionalities, boosts confidence, and improves proficiency in using CPRS successfully.

3. Role-Specific Training: Depending on their responsibilities, different jobs within the healthcare organization may need unique training. For instance, specialized training focusing on the processes, documentation needs, and tasks unique to doctors, nurses, chemists, and other healthcare professionals may be provided.

4. Integration with Clinical Workflows: CPRS training should be integrated with current clinical workflows and procedures. In order to avoid adding to their administrative burden, emphasise how CPRS can improve and streamline their work operations. Draw attention to the advantages and efficiencies that CPRS can add to their regular tasks.

5. Evaluation and Feedback: Conduct regular quizzes, practical evaluations, or role-playing exercises to gauge the knowledge and abilities of medical professionals. To aid in their continual development and increase their level of CPRS competency, offer constructive criticism and point out areas for improvement.

6. Ongoing System Updates and Refresher Training: Inform medical professionals of any System Updates, New Features, or Workflow Changes. To reinforce knowledge and abilities, resolve any gaps or difficulties, and make sure that medical personnel stays up to date with CPRS usage, hold refresher training sessions from time to time.

7. User Engagement and User Groups: Encourage medical professionals to actively interact with the CPRS system, offer suggestions, and take part in user groups or committees. This encourages a sense of ownership, makes it possible to share best practices, and gives CPRS a platform for ongoing improvement.

## RATIONALE OF THE STUDY:

The rationale or need of this study is to access the perception of end users after providing them with hands-on training on demo CPRS prior to the implementation of it. End users are used to manual processes since the opening of this hospital so it will be a big change for them to shift to the CPRS process. This study will help us to understand the level of knowledge and perception of them towards CPRS.

## RESEARCH QUESTION:

What is the perception of end users after giving the hands-on training on demo CPRS prior to its implementation in BLK-Max?

## OBJECTIVES:

- To access the perception of end users after providing hands-on training on demo CPRS prior to its implementation in BLK-Max super specialty hospital.

## METHODOLOGY:

- Study type- Mixed research study with qualitative and quantitative analysis.

- Study design- Observational study.
- Sample size- 310
- Target audience- Doctors, nurses, pharmacists, executives, and coordinators.
- Duration of the study- 3 months. (10.02.2023- 12.05.2023)
- Data collection method- Data was collected from our target audience through google forms by preparing a questionnaire.
- Inclusion criteria- Doctors, nurses, pharmacists, executives, and coordinators.
- Exclusion criteria- Staff outside inclusion criteria.

## RESULTS:

During the period of 3 months, the sample of 310 was collected with the help of a Google form questionnaire. Google form was circulated around the target audience during this period of time and till the last date of my internship responses were collected. After the collection of primary data via google forms, the results were analyzed in the Excel sheet. The questionnaire contained a total of 17 questions which were divided into two major categories namely how user-friendly it is. And the efficiency of CPRS. Each question will be discussed below along with the outcome.

Questions are as follows-

## HOW USER-FRIENDLY IT IS?

1. Do you think implementing CPRS will greatly influence patient satisfaction and will help in delivering quality care?
2. Do you think implementing CPRS will also benefit the hospital staff in case of storing patient data?
3. Are you aware of your role-specific function accessibility in CPRS?
4. Are you aware of your VISTA IDs and their use while accessing patient records?
5. Are you aware of electronic signatures in the context of CPRS?

## EFFICIENCY-

1. Are you aware of the various functions one can perform using CPRS?
2. Do you think that Clinical Reminders are important?
3. Do you think CPRS will give you relevant and useful alerts?
4. Do you think integrating CPRS with CDSS (Clinical Decision Support System- provides healthcare staff with knowledge and person-specific information. It encompasses a variety of tools to enhance decision-making in the clinical workflow.) can ease out the overall work process?
5. Do you think CPRS will make storing patient data easier?
6. Do you think CPRS will increase your workload?
7. Do you think CPRS will make it easier to raise patient-related orders?

8. Do you think CPRS will ease access to patient records?
9. Which process according to you will be better for the management of the hospital?
10. Do you think CPRS will be able to fulfill all the relevant needs of the end users?
11. Do you think relevant and useful information was provided during the training session on CPRS?

Now each question will be discussed with its outcome-

1. **What is your current job role?**

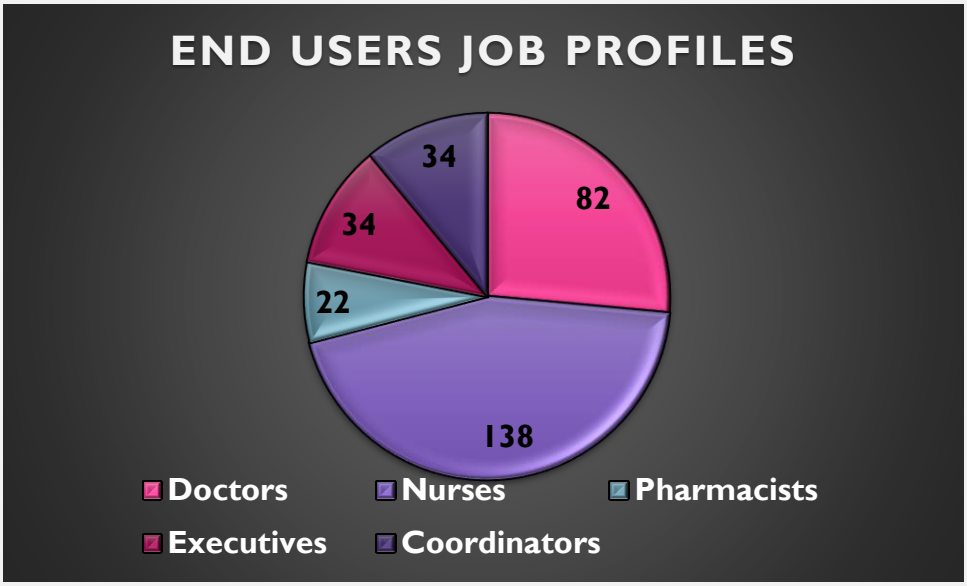


**Figure No. 1- Showing the number of end users according to their job profiles.**

In this, it can be seen that the total participants were 310 of which 82 (26.5%) were doctors, 138 (44.55%) were nurses, 22 (7.1%) were pharmacists, 34 (11%) were executives and 34 (11%) were coordinators.

## HOW USER-FRIENDLY IT IS?

2. **Do you think implementing CPRS will greatly influence patient satisfaction and will help in delivering quality care?**

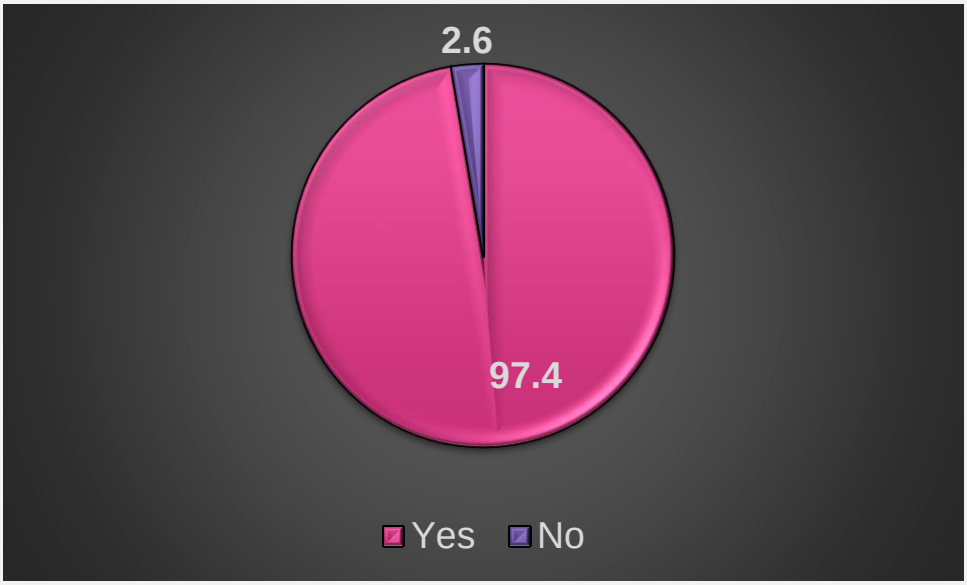


**Figure No. 2- Pie chart showing delivery of quality care after CPRS implementation.**

In this question's results, it was seen that 97.4% of the end users thought it will help the hospital to deliver a good quality of care to the patients whereas on the other hand, 2.6% of end users thought it will not benefit the patients.

3. **Do you think implementing CPRS will also benefit the hospital staff in case of storing patient data?**

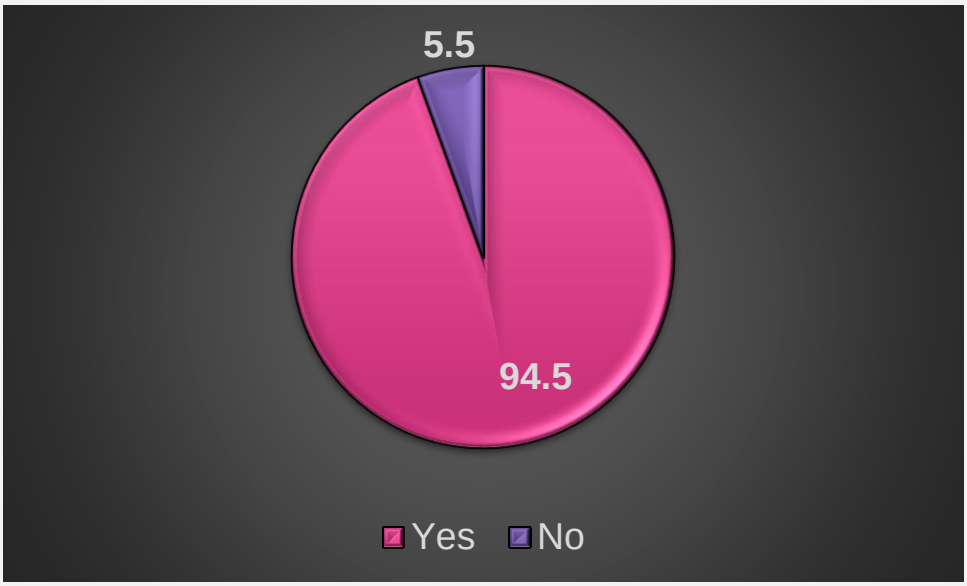


**Figure No. 3- Pie chart showing perception about benefits of CPRS.**

In this question's results, it was seen that 94.5% of the end users thought it will help the hospital staff in storing the data online which will also keep it safe for a longer period of time whereas on the other hand, it can be seen that 5.5% did not agree with the same.

4. **Are you aware of your role-specific function accessibility in CPRS?**

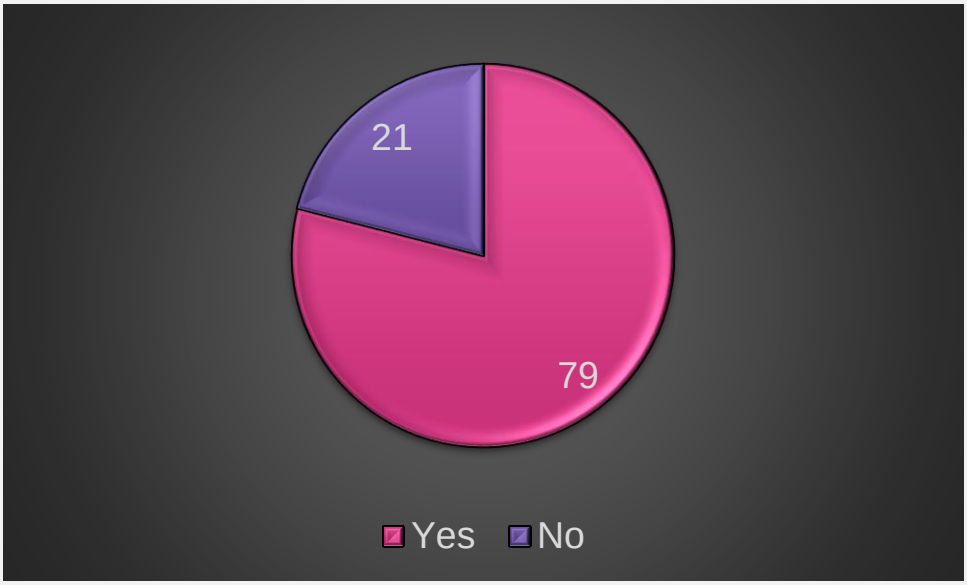


**Figure No. 4- Pie chart showing awareness about specific roles.**

In this question's results, it can be seen only 79% of the total end users were aware of their specific roles which will help them in accessing the CPRS whereas on the other hand, 21% were not aware of their roles.

5. **Are you aware of your VISTA IDs and their use while accessing patient records?**

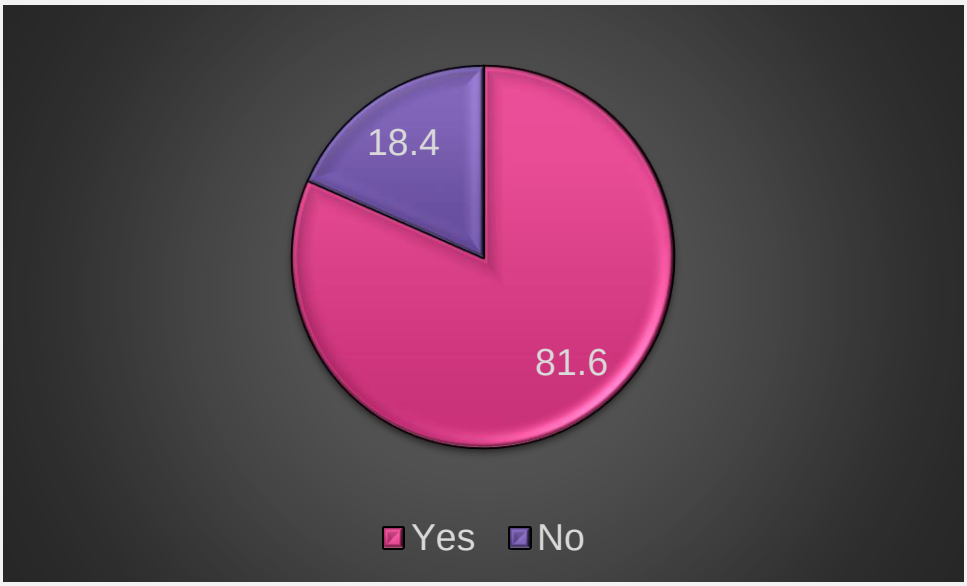


**Figure No. 5- Pie chart showing awareness about Vista IDs.**

In this question's results, it can be seen that 81.6% of users knew about the concept of Vista IDs and where they will be used, and on the other hand, 18.4% did not know the concept of Vista IDs.

6. **Are you aware of electronic signatures in the context of CPRS?**

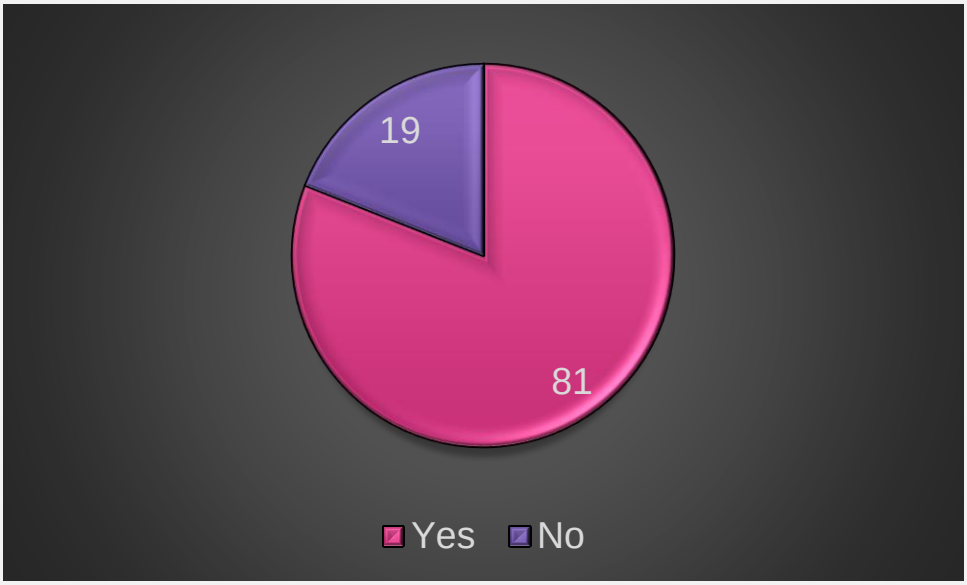


**Figure No. 6- Pie chart showing awareness about electronic signature.**

In this, it can be seen that only 81% of the total users knew what actually electronic signature will do and how useful it is during the use of CPRS other 19% were not aware of the concept of electronic signature.

## EFFICIENCY

7. **Do you know about the various functions one can perform using CPRS?**

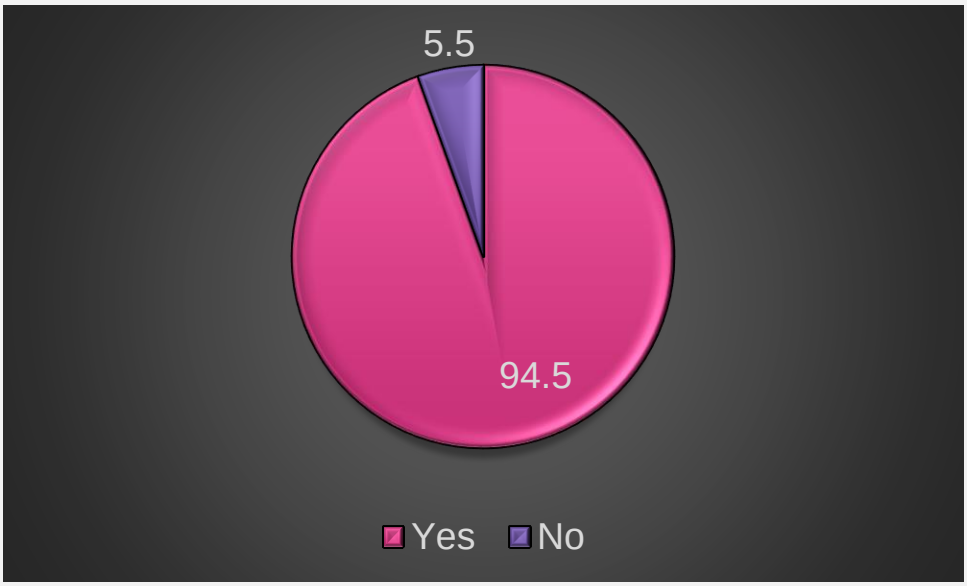


**Figure No. 7- Pie chart showing awareness about CPRS benefits.**

Only 94.5% of the total users knew the functions one can perform using CPRS other 5.5% were not aware of the benefits and functions of CPRS which will totally affect the workflow after it will go live.

8. **Do you think that Clinical Reminders are important?**

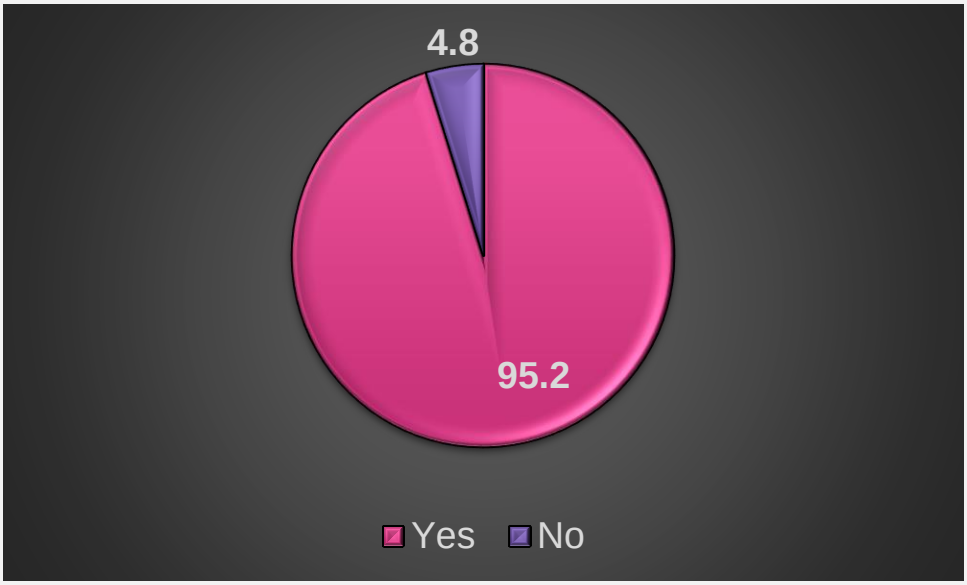


**Figure No. 8- Pie chart showing perception about clinical reminders.**

Clinical reminders are very important when one is using any app. Here it can be seen only 95.2% of the users thought that clinical reminders can bring better changes in the smooth functioning of CPRS whereas 4.8% thought it won't make any difference.

9. **Do you think CPRS will give you relevant and useful alerts?**

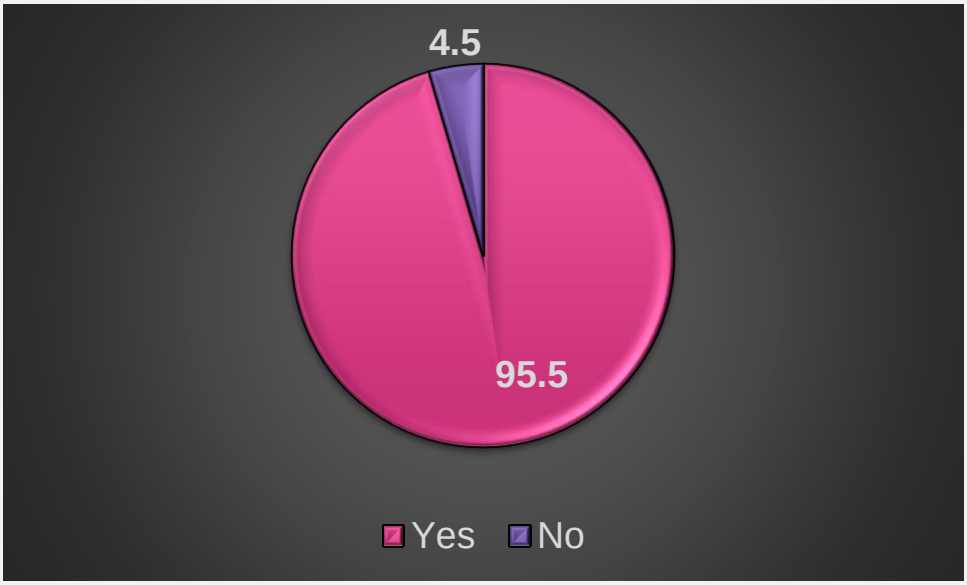


**Figure No. 9- Pie chart showing perception about useful and relevant alerts.**

Getting alerts in between your hectic schedules can ease one's work process. 95.5% of users thought that CPRS is capable of giving those alerts to the staff to make them remind of the important procedures in between their workflow and on the other hand 4.5% thought it was not capable of providing those relevant alerts to them.

10. **Do you think integrating CPRS with CDSS (Clinical Decision Support System- provides healthcare staff with knowledge and person-specific information. It encompasses a variety of tools to enhance decision-making in clinical workflow.) can ease out the overall work process?**

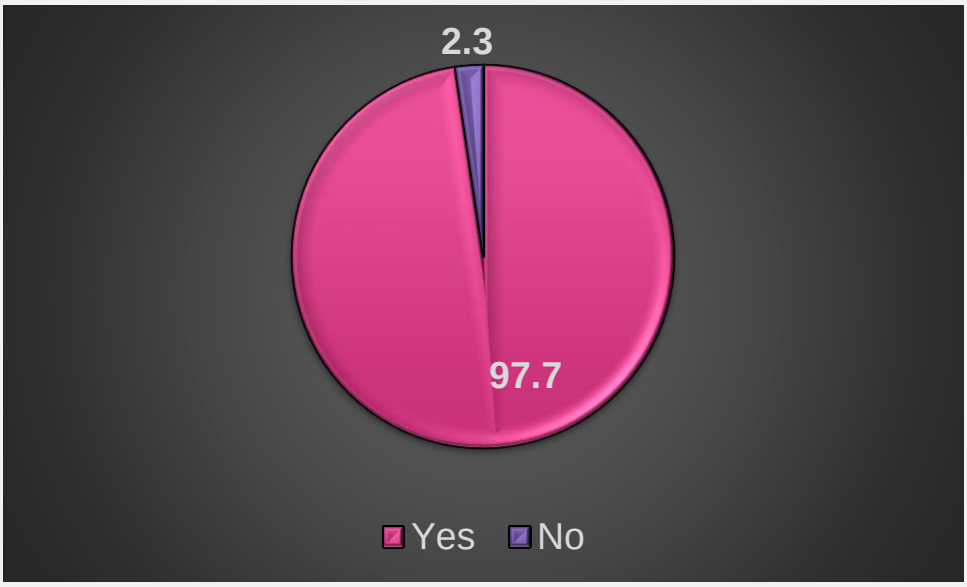


**Figure No. 10- Pie chart showing perception about integrating CPRS with CDSS.**

CDSS helps give important alerts to the staff members who will be going to use the CPRS. 97.7% thought that it was good to integrate both together so that alerts can be seen in between the procedures so that duplication of any procedure can be avoided and other 2.3 thought it was that useful.

11. **Do you think relevant and useful information was provided during the training session on CPRS?**

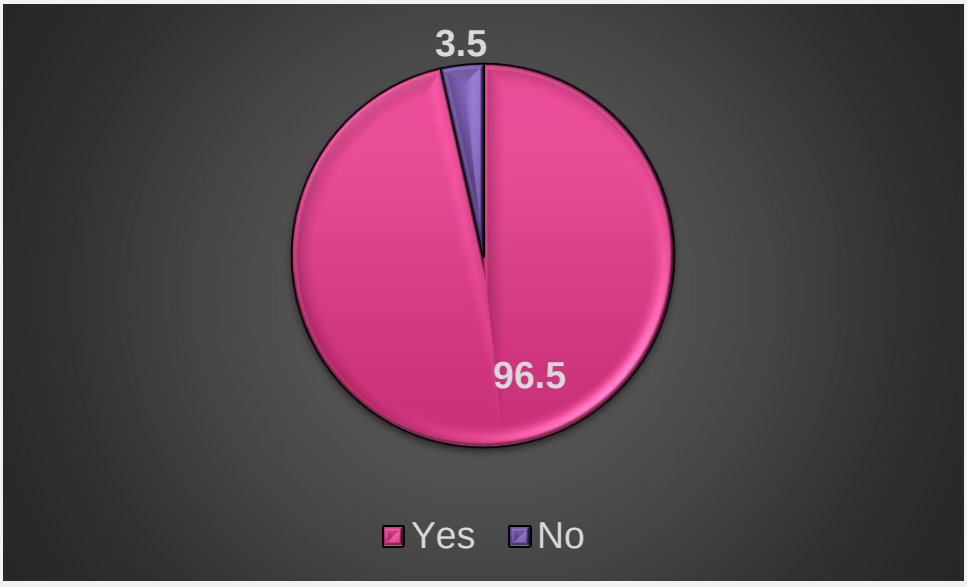


**Figure No.11- Pie chart showing perception about training provided.**

A total of 96.5% of users thought all the relevant information was provided to them by the trainer during the training sessions and it was beneficial for them whereas 3.5% were not totally satisfied by the training sessions.

12. **Do you think CPRS will make storing patient data easier?**

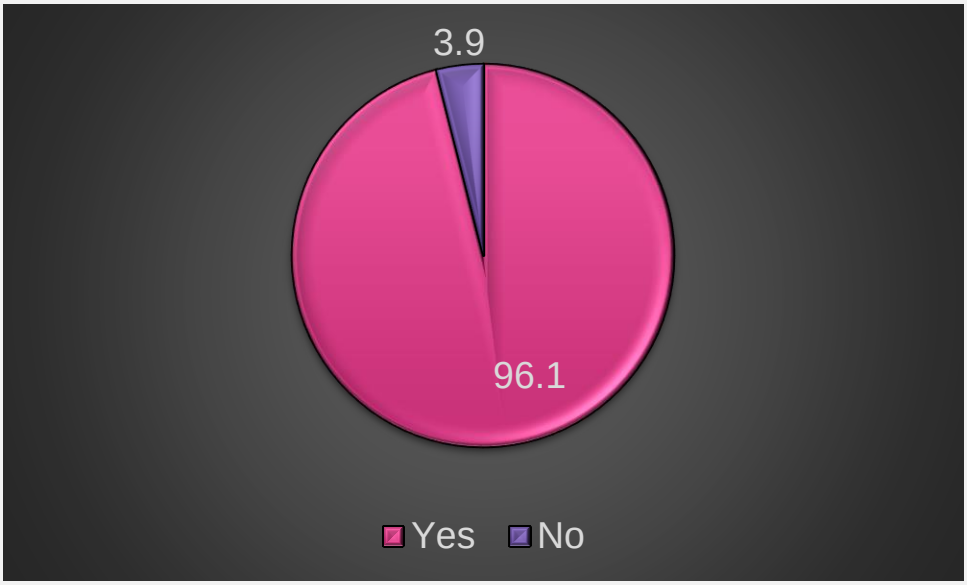


**Figure No. 12- Pie chart showing perception about data storage.**

Storing anything on the cloud makes storing the data very easy and comfortable for the organization because it can easily be accessed by some other person. 96.1% thought that it is a nice way of storing the data while on the other hand, 3.9% thought it was not the best way to store the data like data can be easily erased or can be easily accessed by any of the other person which makes it unsafe for the organization and the patient.

**13. Do you think CPRS will increase your workload?**

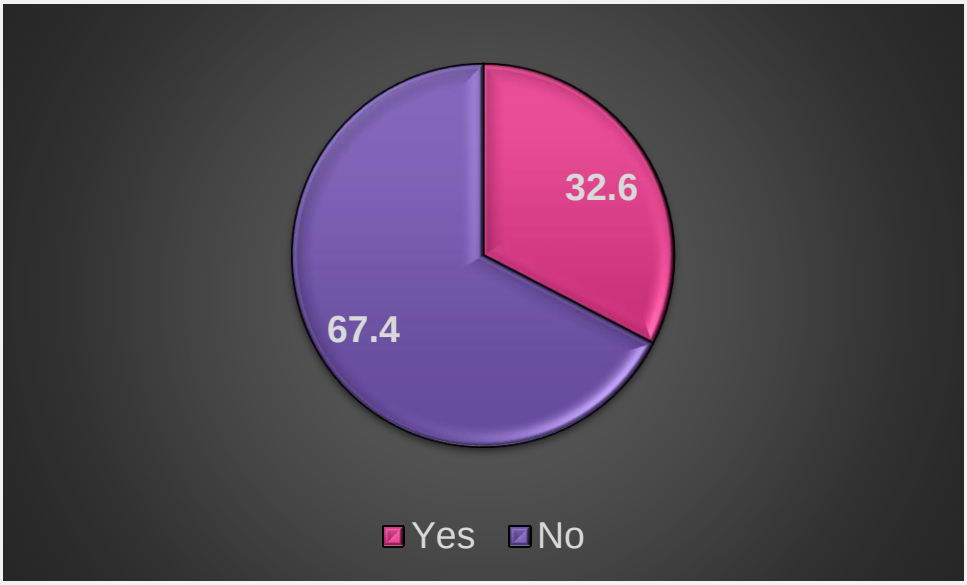


**Figure No. 13- Pie chart showing perception on increased workload.**

It can be seen that 32.6% thought that after implementing CPRS the workload will increase as it will be a completely new process for them and it is not going to be easy for them to change their process suddenly. 67.4% thought that it will be an easier process to continue with.

**14. Do you think CPRS will make it easier to raise patient-related orders?**

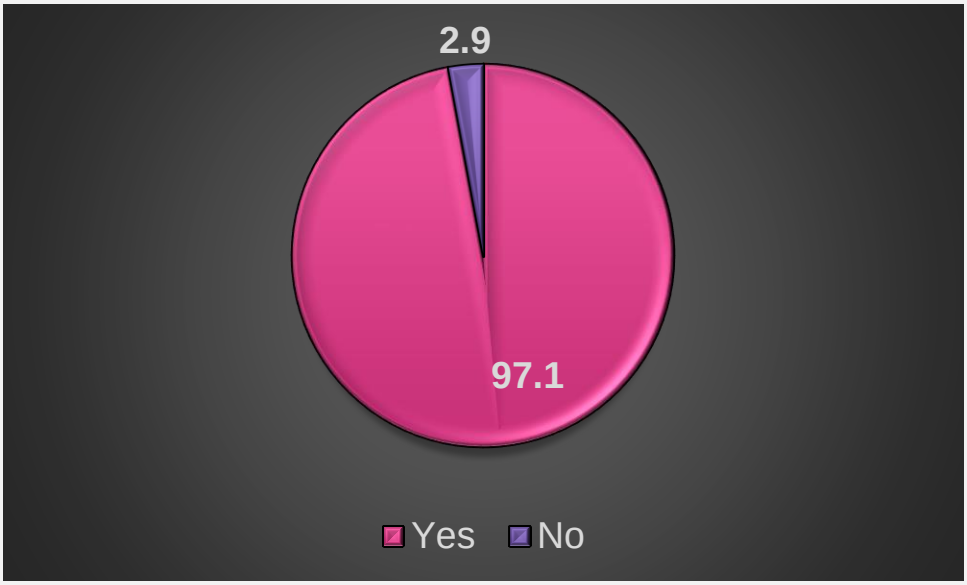


**Figure No. 14- Pie chart showing perception about patient related orders.**

Patient-related orders are the ones where the medication, radiological, and laboratory orders can easily be generated. 97.1% thought CPRS can easily do that with its functions on the other hand 2.9% thought it will not be an easy task for them to generate orders.

**15. Do you think CPRS will ease access to patient records?**

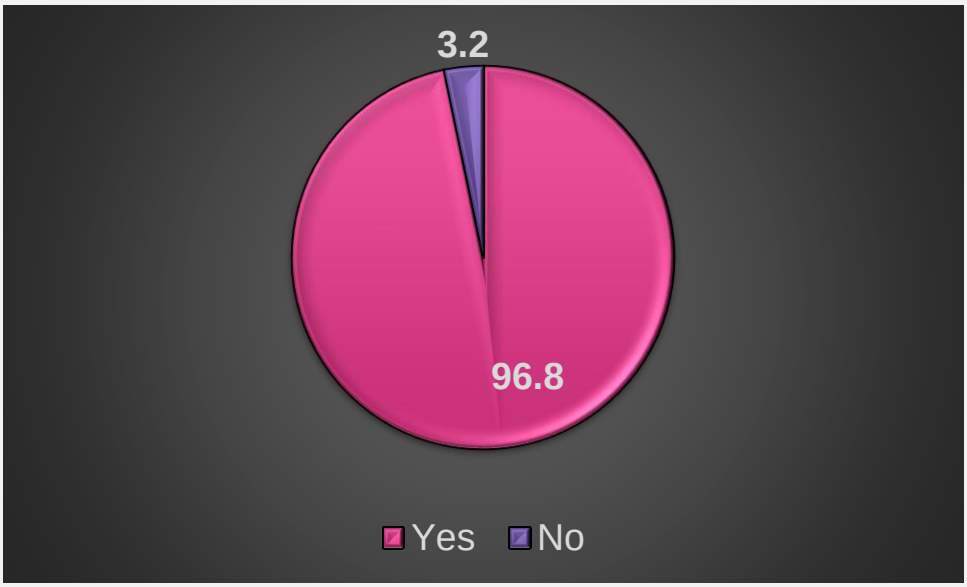


**Figure No. 15- Pie chart showing perception about ease access of patient records.**

In this era of new technologies one can store their information on the cloud and this information can be saved for life. All the hospitals are now adopting this technology very fast as it is the easiest way to save, access, and share information about patients with one another. 96.8% of users thought it will an easier way to access the information on the other hand 3.2% thought it was a longer process for them.

**16. Which process according to you will be better for the management of the hospital?**

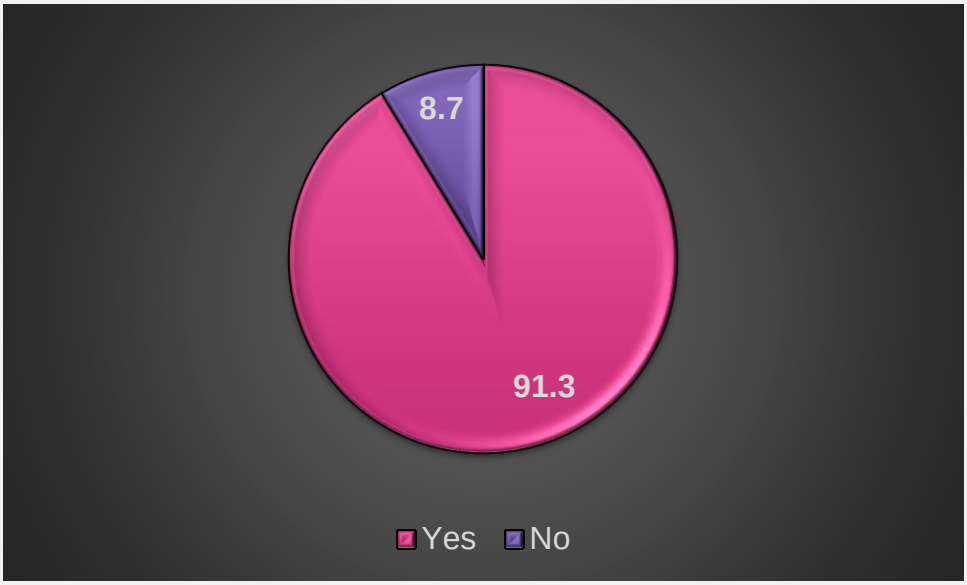


**Figure No. 16- Pie chart showing perception about better process.**

In this question yes was taken as the CPRS process and no was taken as a manual process. 91.3% thought that CPRS will be very good for the organization and will surely bring good changes whereas 8.7 thought that the manual process was much better as it was not this time-consuming and information was way too much easier to be collected by them.

**17. Do you think CPRS will be able to fulfill all the relevant needs of the end users?**

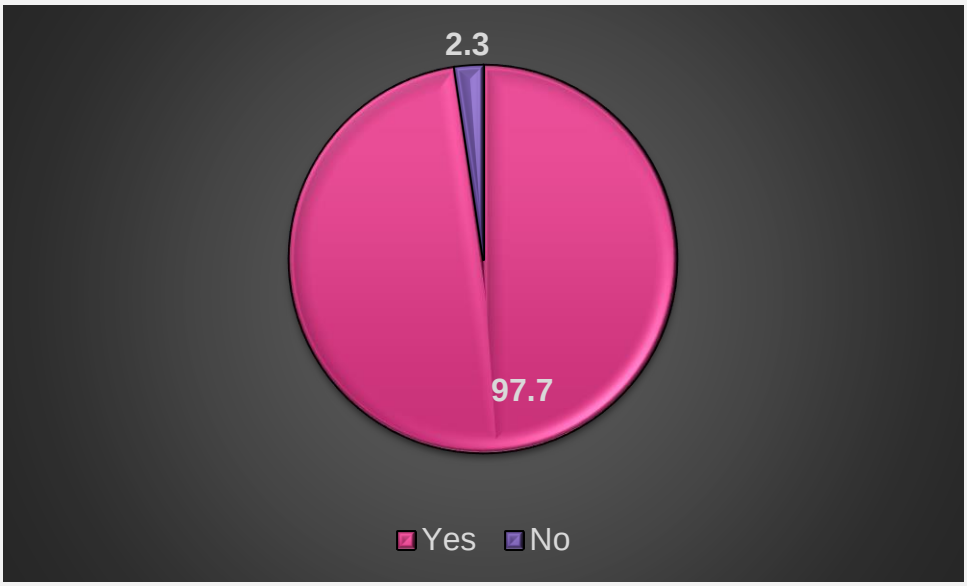


**Figure No. 17- Pie chart showing perception of users about fulfillment of their needs.**

According to 97.7% of users, CPRS will definitely fulfill their needs in the future, and on the other hand, 2.3% thought that it will not be that useful to the organization.

| Categories | Yes | No | Total Average of Yes | Total Average of No |
|---|---|---|---|---|
| How user-friendly it is? | 97.4 | 2.6 | | |
| | 94.5 | 5.5 | | |
| | 79 | 21 | 86.7 | 13.3 |
| | 81.6 | 18.4 | | |

| | | | | |
|---|---|---|---|---|
| | 81 | 19 | | |
| Efficiency | 94.5 | 5.5 | | |
| | 95.2 | 4.8 | | |
| | 95.5 | 4.5 | | |
| | 97.7 | 2.3 | | |
| | 96.5 | 3.5 | 90.09 | 9.9 |
| | 96.1 | 3.9 | | |
| | 32.6 | 67.4 | | |
| | 97.1 | 2.9 | | |
| | 96.8 | 3.2 | | |
| | 91.3 | 8.7 | | |
| | 97.7 | 2.3 | | |

**Table No. 1- Category wise analysis**

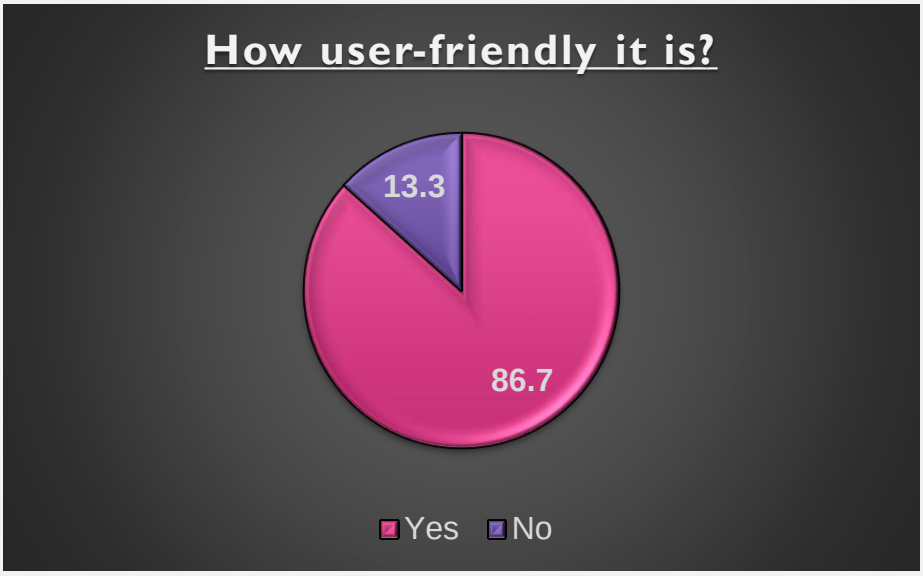


**Figure No. 18- Pie chart of category no. 1**

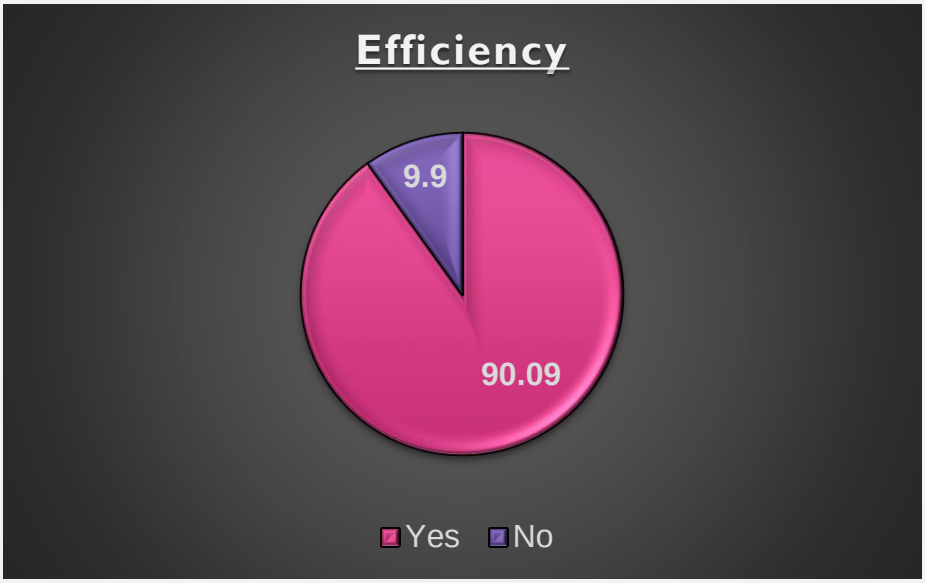


**Figure No. 3- Pie chart of category no. 2**

## DISCUSSION:

This study was conducted to access the perception of end users towards CPRS after providing them training on demo CPRS. As told in the methodology sample of 310 was taken to access the perception of end users. Firstly, the questionnaire was prepared on a Word document and then the Google form was prepared. The Google form was circulated around the population of doctors, nurses, pharmacists, executives, and coordinators during the period of 3 months.

Training sessions were already going on before this study was even started so it was easier for us to collect such data from our target audience. In the training sessions, the audience was told about the whole CPRS for example how it will look like, how one can use it, how to access the CPRS, the various functions of it, etc. All the roles of each category of end users were made clear in the starting that what all roles will be given and what can be accessed by that particular category. Training sessions were taken separately for each group doctors were trained separately, nurses were trained separately, and so on.

After collecting the data from Google Forms the questions were divided into two major categories one was how user-friendly it is and the second was efficiency.

How user-friendly it is - 86.7% thought it was user-friendly and 13.3% thought it was not user-friendly because some of them were not that good with the technologies and thinks that it was much easier earlier rather than going on the platform and checking the previous documentation, some of the end users were not aware of the product because they were new staff and were not trained yet. As a suggestion it is recommended that training should be done as soon as possible for these candidates.

Efficiency- 90.09% of end users thought it was efficient and will be beneficial for the organization like it will improve the workflow of the hospital and staff can focus more on patient care, there will be faster access to the information of the patient user will not have to search for papers on the other hand 9.90 % of end users thought it was not that efficient because it will be time-consuming and the workload will be increased due to sudden changes in the process which will be difficult for

them to adapt. It can be resolved by giving them good knowledge during the training sessions so that they should not be hesitant in any case.

## LIMITATIONS:

- This study was only conducted during the time of my internship period which was for 3 months so no data was collected after that.
- Some of the target audiences were not able to attend the training sessions because of the lack of timing.
- This study was only conducted for end users in BLK-Max hospital and not outside of the hospital.
- No in-depth knowledge was taken.

## CONCLUSION:

After observing a positive perception of end users towards CPRS it can be concluded that CPRS is good to go live for the betterment of BLK-Max super specialty hospital.

CPRS will increase the efficiency and productivity of the work of end users. It will also enhance patient safety and quality of care. CPRS will improve the documentation process as well. Now end users will be able to manage the workflow smoothly for ordering the medication or ordering any test related to the particular patient.

Some recommendations-

1. Continuously evaluate and improve the training program: While the study found the training to be effective, it is important to conduct regular evaluations to identify areas for improvement. Gather feedback from trainees to understand their specific needs and preferences and make necessary adjustments to the training program accordingly.

2. Address identified areas for improvement: The research identified some areas where the training can be enhanced to make it more effective and comprehensive. Use this information to update and refine the training program, ensuring that it covers all necessary topics and addresses any gaps or challenges that trainees may have encountered.

3. Provide ongoing support and resources: Even after the initial training, it is crucial to provide ongoing support to doctors and nurses. Establish a dedicated helpdesk or support system where trainees can seek assistance, clarify doubts, and receive additional guidance as needed. Offer resources such as user manuals, FAQs, and online forums to facilitate continuous learning and skill development.

4. Consider individual learning needs: Recognize that trainees may have varying levels of experience and familiarity with CPRS. Customize the training program to cater to individual learning needs, providing targeted instruction and additional guidance for those who require it. This ensures that all trainees can benefit from the training and gain the necessary skills to effectively utilize CPRS.

6. Monitor and measure the long-term impact: Track the long-term impact of the training program on trainees' skills, knowledge, and job performance. Conduct follow-up assessments and

evaluations to assess the sustainability of the training outcomes and identify any areas that may require further reinforcement or advanced training.

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