

SUMMER INTERNSHIP PROGRAM

at

Fortis Escorts Hospital, Jaipur

1st May 2024 to 29th June 2024

INTERNSHIP REPORT BY

Shikha Singh

Master of Business Administration

Hospital and Healthcare Management

2023-25

under the Mentorship of

DR. Tripti Bisawa



02TH July, 2024

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Shikha Singh has worked as a Trainee with us in the Dept. of Bio-Medical Engineering from 01 May, 2024 to 29 June, 2024 for the period of Two Months.

Her performance during the period in the department was Good.

We wish Her the best for all her future endeavors.

For Fortis Healthcare Limited.

Authorized Signatory



Annexure A

Completion Certification from the Organization CERTIFICATE

This is to certify that Dr./Mr./ Ms. SHIKHA SINGH of 2023-25 (batch) of Biomedical Engineering (Name of the department/institute) has worked with our organization for his/her summer internship from 1-05-2024 to 29-06/2024 (date). The overall performance shown by him/her during the period was excellent/good/average. This certificate is being issued to meet the requirements of the IIHMR University.

Date: 29/06/2024

Excellent

(Signature of organization Mentor)

Name: Piyush K. S.

Designation: M. Biomedical Engg.

Seal/Stamp of the Organization
Bio-Medical Engg. Department
Fortis Escorts Hospital
(A Unit of Escorts Heart And
Super Speciality Hospital Limited)
LN Marg, Malviya Nagar, JAIPUR-302 017

VISION: SAVING AND ENRICHING LIVES

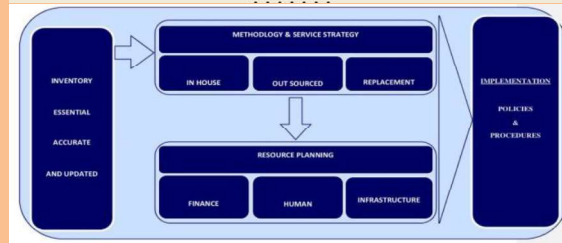
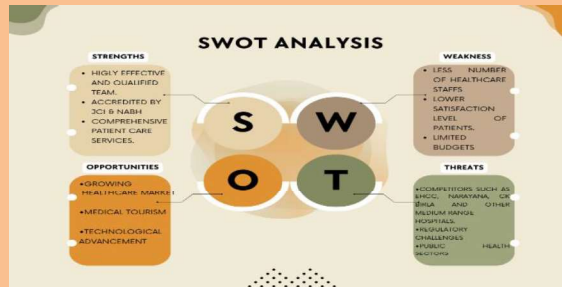
MISSION: TO BECOME GLOBALLY RESPECTED HEALTHCARE ORGANIZATION KNOWN FOR CLINICAL EXCELLENCE AND DISTINCTIVE PATIENT CARE

ORGANIZATION BRIEF HISTORY AND DESCRIPTION

- FORTIS CURRENTLY HAS 4 JCI AND 26 NABH ACCREDITED HOSPITAL ACROSS COUNTRY WITH ITS BRANCHES IN SRI LANKA, NEPAL AND UAE.
- FORTIS ESCORTS HOSPITAL JAIPUR, IS A 275-BED NABH ACCREDITED MULTI-SUPER SPECIALTY HOSPITAL IN RAJASTHAN. THIS HOSPITAL HAS ESTABLISHED ITSELF AS ONE OF THE BEST TERTIARY CARE CENTERS IN THE REGION.
- FORTIS JAIPUR IS A PIONEER IN HIGH-END PROCEDURES SUCH AS KIDNEY TRANSPLANTS, TOTAL KNEE AND HIP REPLACEMENT AIDED BY ROBOTIC COMPUTER NAVIGATION, ADULT AND PEDIATRIC CARDIAC SURGERY, AND THE TREATMENT OF CONGENITAL HEART DEFECTS.

THEORETICAL INSIGHTS AND PRACTICAL OBSERVATIONS

- THEORETICALLY I HAVE GAINED KNOWLEDGE ABOUT DIFFERENT DEPARTMENTS IN HOSPITALS AND THEIR FUNCTIONING.
- I HAVE GAINED KNOWLEDGE ABOUT DIFFERENT TYPES OF MACHINE USED IN BIOMEDICAL ENGINEERING DEPARTMENT.
- LEARNED DIFFERENT TYPES OF EQUIPMENTS USED IN HOSPITAL LIKE CRITICAL, NON CRITICAL AND REVENUE GENERATION EQUIPMENTS.
- I HAVE LEARNED HOW TO SEGREGATE BIOMEDICAL WASTE GENERATED IN HOSPITAL AND HOW BMW TREAT AFTER SEGREGATION.
- THEORETICALLY, WE LEARNED ABOUT THE SIX STEPS OF HAND HYGIENE PRACTICE AND TRAINED VARIOUS DEPARTMENTS OF HOSPITAL STAFFS ABOUT 6 STEPS OF HAND HYGIENE PRACTICE.



LEARNINGS

- LEARNED OT MANAGEMENT IN HOSPITAL.
- AUDITED RADIOLOGY AND DIALYSIS DEPARTMENT OF HOSPITAL.
- LEARNED QUALITY CHECKS OF ICU AND NICU.
- VISITED CSSD DEPARTMENT AND LEARNED VARIOUS STEPS OF STERILIZATION PROCESSES USED IN HOSPITAL.
- DONE DATA ANALYSIS IN INFECTION CONTROL DEPARTMENT.
- UNDERSTANDING OF EHR AND ITS ROLE IN HEALTHCARE

USEFULNESS OF INTERNSHIP

- HAD PRACTICAL KNOWLEDGE ABOUT ALL THE DEPARTMENTS.
- GAINED KNOWLEDGE ABOUT HOSPITAL SERVICES AND ITS MANAGEMENT AND COORDINATION.

CHALLENGES FACED DURING INTERNSHIP

- TECHNICAL COMPLEXITY
- REGULATORY KNOWLEDGE
- TIME MANAGEMENT
- ETHICAL CONSIDERATIONS
- ADAPTABILITY



GAPS IDENTIFIED

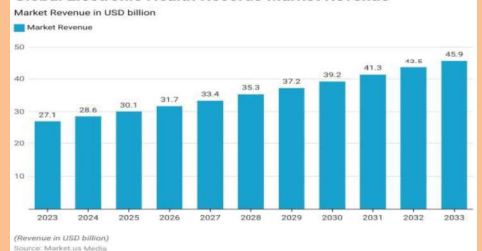
- IN INFECTION CONTROL DEPARTMENT THEIR IS POOR COMPLIANCE WITH HAND HYGIENE PROTOCOLS AMONG HEALTHCARE WORKERS.
- LACK OF EFFECTIVE MONITORING AND ENFORCEMENT OF INFECTION CONTROL PRACTICES.
- LACK OF SPACE IN BIOMEDICAL ENGINEERING DEPARTMENT FOR REPAIR AND MAINTENANCE OF MEDICAL EQUIPMENT'S.
- LACK OF CALIBRATIONS TOOLS LIKE MONITORS, CAUTERY MACHINES AND DEFIBRILLATORS MACHINES

PROPOSED SUGGESTIONS AND SOLUTIONS

- MORE TRAINING SHOULD BE PROVIDED TO HEALTH CARE WORKERS.
- MORE MONITORING AND REGULAR SURVILLANCE SHOULD BE DONE FOR INFECTION CONTROL PRACTICES.
- MORE SPACE SHOULD BE THEIR IN BIOMEDICAL ENGINEERING DEPARTMENT FOR PROPER MAINTENANCE OF MEDICAL TOOLS AND MACHINES.



Global Electronic Health Records Market Revenue

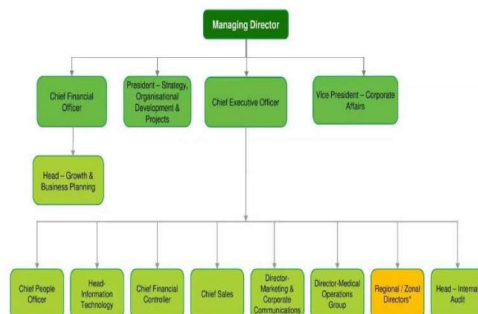


SHIKHA SINGH (182.8), MBA HM-28

Dr. TRIPTI BISAWA- PROFESSOR (FACULTY GUIDE)

Mr. PIYUSH KUMAWAT- BIOMEDICAL ENGINEER HEAD (ORGANIZATION MENTOR)

ORGANIZATIONAL STRUCTURE



(Week-1)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 1

From: 1st May 2024 to 4th May 2024

Activity Done	Participated in Hand Sanitization program, attended Hand Sanitization mela for infection control, learning of different types of biomedical waste segregation, visited central sterile service department learned its working and different working of different machines in CSSD and their uses, visited OT and have knowledge about different machines, visited OT and had knowledge about OT equipment's and its surrounding temperature, learned about positive and negative air pressure and what is magnetic area in OT, learned about HER and UHD, dialysis department and had knowledge about different new technology and new machines for dialysis. Visited OT for audit.
Linking theory (Classroom learning) with practice at your organization	• Able to relate with epidemiological studies. • Able to relate with essential of hospital services. • Able to relate with studies of digital health.
Gaps identified in the working area.	• Lack of awareness • Lack of Knowledge about digitalization of the patient related data • Lack of time management. • More work should be done on the electronic health records of the patient.
Suggestions for improvement	Round visit should be done for audit, more new technologies should be introduced in biomedical engineering department, more round visit should be done for quality checking of patients for sanitization, proper training should be done in well coordinate more training should be done.
Plan for the next week	Will learn about more new technologies in biomedical engineering its relevance in Hospital services.

Signature of the Students

(Week-2)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 2

From: 6th May 2024 to 11^h May 2024

Activity Done	1. Done round visit of quality checking of ICU & NICE inlets and outlets) 2. Learning of different type of Biomedical waste segregation 3. Data Entry of patients CVP and Ventry.
Linking theory (Classroom learning) with practice at your organization	• Able to relate with Essentials of services.
Gaps identified in the working area.	1. Round visits were not made regularly. 2. Loopholes in Data Maintenance.
Suggestions for improvement	1. Regular field visit should the done 2. Data should be maintained on daily basis
Plan for the next week	• Change of Department and Audit Work in Biomedical Engineering Department.

Signature of the Students

(Week-3)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 3

From: 13th May 2024 to 18th May 2024

Activity Done	1) Learned about different types of equipment (critical, non-critical, revenue generation equipment, mission critical equipment). 2) Learned about working of hospital working and various departments. 3) Gone for audit of medical equipment's in radiological department.
Linking theory (Classroom learning) with practice at your organization	• Able to relate with essential of hospital services.
Gaps identified in the working area.	• Lack & Awareness. • Lack of time management.
Suggestions for improvement	• More round should be done for audit and proper time management should be done.
Plan for the next week	• Round visit for audit will be done. • Will learn about the more medical equipment's.

Signature of the Students

(Week-4)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 4

From: 20th May 2024 to 25th May 2024

Activity Done	1) Visited central sterile service department learned its working and different working of different machines in CSSD and their uses. 2) Visited OT and have knowledge about different machines. 3) Gone for audit of medical equipment's.
Linking theory (Classroom learning) with practice at your organization	• Able to relate to relate with essential of hospital services.
Gaps identified in the working area.	• Lack & Awareness. • Lack of time management.
Suggestions for improvement	• More round should be done for audit and proper time management should be done.
Plan for the next week	• Round visit for audit will be done. • Will learn about the more medical equipment's.

Signature of the Students

(Week-5)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 5

From: 27th May2024 to 1st June2024

Activity Done	1) Visited OT knowledge about OT equipment's and its surrounding temperature. 2) Learned about positive and negative air pressure and what is magnetic area in OT. 3) Learned about HER and UHD.
Linking theory (Classroom learning) with practice at your organization	• Able to relate with essential of hospital services.
Gaps identified in the working area.	• Lack of AI implementation in OT. • Lack of new technologies.
Suggestions for improvement	• More new technologies should be introduced.
Plan for the next week	• Learning for communication and connectivity of patients health reports.

Signature of the Students

(Week-6)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 6

From: 3rd June 2024 to 8th June2024

Activity Done	1) Visited dialysis department had knowledge about different new technology and new machines for dialysis. 2) Had knowledge about electronic patient health record system. 3) Interactions with doctors about electronic patient health record.
Linking theory (Classroom learning) with practice at your organization	• Able to relate with essential of hospital services.
Gaps identified in the working area.	• Lack of space management in dialysis room.
Suggestions for improvement	• More new technologies should be introduced.
Plan for the next week	• Doctors review electronic patient's health record system.

Signature of the Students

(Week-7)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 7

From: 10th June 2024 to 15th June2024

Activity Done	1) Visited for audit in dialysis room. 2) Had knowledge about different machines of biomedical engineering 3) Had knowledge about UHID number of patients and its importance. 4) Learned about electronic health record system of patient, its key features its importance and benefits.
Linking theory (Classroom learning) with practice at your organization	• Able to relate to relate with digital health.
Gaps identified in the working area.	• Lack & Awareness. • Lack of time management • More work should be done for electronic health records of patients
Suggestions for improvement	• More round should be done for audit and time to time important of technology in biomedical engineering should be done.

Signature of the Students

(Week-8)

Name of the Organisation: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Department- Biomedical Engineering

Name of the Student: Shikha Singh

Project- Hand Sanitization & Biomedical Engineering role in OT & EHR

Roll no: 1828

Stream: MBA in Hospital and Health Management

Week no: 8

From: 17th June 2024 to 22nd June 2024

Activity Done	1) Visited MICU had knowledge about different machines and ventilator working. 2) Done audit of machines.
Linking theory (Classroom learning) with practice at your organization	• Able to relate with essentials of hospital services.
Gaps identified in the working area.	• Lack and awareness. • Lack of time management.
Suggestions for improvement	• More rounds should be done for audit and time to time important of technology in biomedical engineering should be done. • Spare parts of machines should have proper room for its servicing.
Plan for the next week	• Round visit audit will be done. • I will learn about more medical equipment.

Signature of the Students

Compiled Report

Name of the Organization: Fortis Escorts Hospital, Jaipur

Area/ Department/ Project of Summer Internship Program: Biomedical Engineering

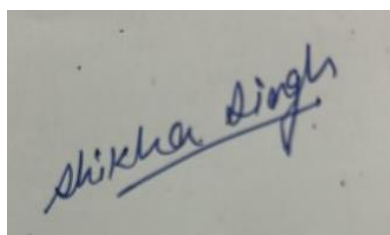
Name of the Student: Shikha Singh

Roll no:1828

Stream: MBA-HHM

Activity Done	1. Participated in Hand Sanitization program, attended Hand Sanitization mela for infection control, learning of different types of biomedical waste segregation, visited central sterile service department learned its working and different working of different machines in CSSD and their uses, visited OT and have knowledge about different machines, visited OT and had knowledge about OT equipment's and its surrounding temperature, learned about positive and negative air pressure and what is magnetic area in OT, learned about HER and UHD, dialysis department and had knowledge about different new technology and new machines for dialysis. Visited OT for audit. 2. Visited OT knowledge about OT equipment's and its surrounding temperature. 3. Learned about positive and negative air pressure and what is magnetic area in OT. 4. Learned about HER and UHD. 5. Visited dialysis department and had knowledge about different new technology and new machines for dialysis. 6. Had knowledge about electronic patient health record systems. 7. Interactions with doctors about electronic patient health record. 8. Visited for audit in dialysis room. 9. Had knowledge about different machines of biomedical engineering 10. Had knowledge about UHID number of patients and its importance. 11. Learned about electronic health record system of patients, its key features its importance and benefits. 12. Visited MICU had knowledge about different machines and ventilator working. 13. Done audit of machines.
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Linking theory (Classroom learning) with practice at your organization	• Able to relate with epidemiological studies. • Able to relate with essential of hospital services. • Able to relate with studies of digital health.
Gaps identified in the working area.	• Lack of awareness • Lack of Knowledge about digitalization of the patient related data • Lack of time management. • More work should be done on the electronic health records of the patient. • Lack of AI implementation in OT. • Lack of new technologies. • Lack of space management in dialysis room
Suggestions for improvement	Round visit should be done for audit, more new technologies should be introduced in biomedical engineering department, round visit should be done for quality checking of patients for sanitization, proper training should be done in well coordinate more training should be done.



Signature of the Students