

SUMMER INTERNSHIP PROGRAM

AT

**Kokilaben Dhirubhai Ambani Hospital & Medical
Research Institute, Mumbai**



FROM 12 MAY 2025 TO 21 JULY 2025

A REPORT BY

Tannavi Chaitlal Patle

Master of Business Administration

Hospital and Health Management

Roll no-2019

2024-26

Under the Mentorship of

Dr. Dharendra Kumar

Professor

Institute Of Health Management Research

IIHMR University



KDAH/HR/OL/2025/07/705

Date: 21.07.2025

TO WHOMSOEVER IT MAY CONCERN

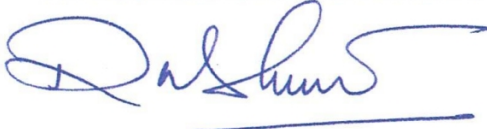
This is to certify that **Dr. Tannavi Chaitlal Patle** has successfully completed her **2 month and 10 days** period of **Internship** from 12.05.2025 to 21.07.2025 in the **Department of Clinical Administration** at **Kokilaben Dhirubhai Ambani Hospital & Medical Research Institute**, under the guidance of General Manager - Dr. Dhaval Bhatt.

She has completed her tenure entirely to the satisfaction of the departmental HOD.

We wish her all the best in her future endeavor.

Best Regards,

For **Kokilaben Dhirubhai Ambani Hospital & Medical Research Institute**,



Rashma Nathani

Dy. General Manager - Human Resources

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IIHMR University Faculty Mentor Approval

This is to certify that **Dr.Tannavi Chaitlal Patle** of academic year 2024-26 of **Institute of Health Management Research** has prepared a poster entitled “**To Optimize & Innovate: A Strategic Intervention to Enhance Efficiency, Technology Integration, and Market Competitiveness in Radiation Oncology**” with respect to his/her summer internship held during May-July 2025.

She has carried out work as per the guidelines. Her poster is approved for presentation.

Date: 28-07-2025

A handwritten signature in blue ink, appearing to read 'D.K.' or similar, enclosed in a circular flourish.

Dr Dhirendra Kumar

Professor

HISTORY & DESCRIPTION OF ORGANIZATION

Established in 2009, Kokilaben Dhirubhai Ambani Hospital, Mumbai, is a **750-bed quaternary-care facility** under the Reliance ADA Group, chaired by Mrs. Tina Ambani. Renowned for its Full-Time Specialist System and protocol-driven care. Only hospital in Mumbai with **JCI, NABH, NABL, and CAP** accreditations

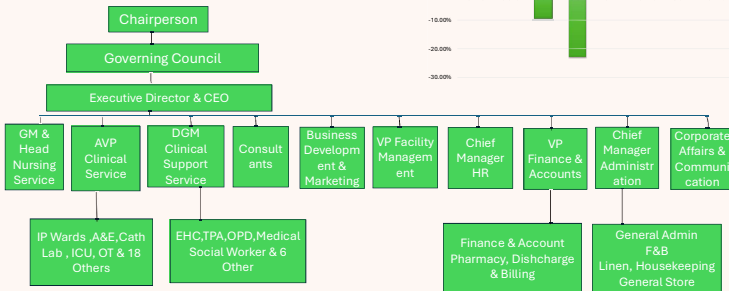
Vision-

"We aim to be a global healthcare institution that combines the best in medical treatment with strong ethical principles and a culture of care and compassion."
- Late Shri. Dhirubhai Ambani

Mission-

"To be an institution that offers comprehensive quality healthcare services under one roof through transparent patient-centric care ensuring patient safety, privacy and dignity. An institution where Every Life Indeed Matters."

ORGANIZATION STRUCTURE



THEORETICAL VS PRACTICAL LEARNINGS

Theoretical

- Essential of Hospital and Health services
- Healthcare Marketing
- Health Economics
- Biostatistics & Research

Practical

Oncology workflows and identified delays
Suggested CME programs and referral strategies
Proposed AI-based cost-saving and tariff comparison
Developed PROMs and OncoTrack tools for outcome tracking.

PROJECT

Aim & Objective

To enhance the operational efficiency, patient volume, and cost-effectiveness of the Radiation Oncology Department through data-driven analysis and strategic intervention

Methodology-

Study Design: Mixed-method, retrospective and analytical hospital-based study
Study Period:
■ Growth Trend: 10 years 2016–2025
Data Sources:
■ Registration logs, department reports, IAEA, ASTRO guidelines for Tools.

key findings



SWOT ANALYSIS

STRENGTHS

- Advanced machines (LINAC, IMRT, SRS)
- High-end infrastructure
- Strong brand & trust
- Qualified clinical team

WEAKNESS

- High OPD wait time
- Under-utilization of AI tools
- Disjointed planning systems (TPS not centralized)
- Limited package models

THREATS

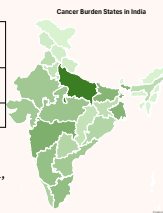
- Growing cancer centers in Mumbai
- Equipment & AMC expenses
- Rising pricing sensitivity due to government schemes (Ayushman, CGHS)

OPPORTUNITIES

- Introduce AI-based contouring
- Centralize TPS to reduce costs
- Include stay in packaged offerings
- Conduct CME/marketing for referrals

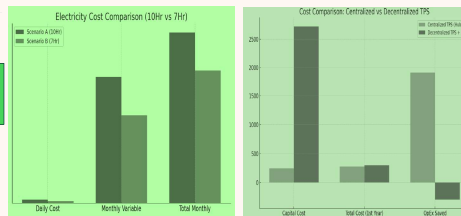
Market Analysis

Region	2022 (in millions)	2050 (in millions)	% Increase
World	20.0	35.3	+76.6%
India	1.41	2.69	+90.4%



Top Cancer Burden States –
Uttar Pradesh, Maharashtra, West Bengal, Bihar, Tamil Nadu

Recommendation Impact Analysis



CHALLENGES & LEARNING DURING INTERNSHIP

CHALLENGES FACED DURING INTERNSHIP

- Difficulty collecting and comparing data across multiple cancer centers (Gondia, Akola, Solapur).
- Limited clinical use of available AI tools like auto-contouring.
- Complexities in understanding centralized TPS and treatment planning.
- Time constraints in executing a multi-component project.

SUGGESTIONS

- Suggested AI auto-contouring.
- Proposed centralized TPS across all centers.
- Recommended OPD hour optimization for cost savings.
- Introduced stay-inclusive RT packages for outstation patients.
- Advised regular CMEs and referral tie-ups in High Burden States (UP, WB, TN etc).
- Developed OncoTrack & PROMs tools for outcome tracking



Reporting Format (Weekly) -1

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 1 From: 12 / 5/ 2025 to 17 / 5 /2025.

Activity Done	1. Orientation of whole hospital and their departments 2. Understanding the Hospital Layout and significance of each Planning 3. Project Assigned – Improve efficiency of Radiation Oncology department And Market Analysis.
Linking theory (Classroom learning) with practice at your organisation	1. Implementation the concept of Essential of Hospital services . 2. Aware about the role of Different Management body 3. Use of Research Methods to initiate Project Problem
Gaps identified on the working area.	1. Lack of Coordination Due to Work Load As I face difficulty to gather Data of Radiation Oncology Department.
Suggestions for improvement	1. Not Suggested. 2. Asked Mentor to give them Reminder.
Plan for the next week	1. Understand the Radiation oncology Department Process and patient flow . 2. Mining of Data as need to compare no of Patient in 2016 – 17 to 2024 – 2025.

Signature of the Student DrTannavipatle

Approved by the IIHMR University's Mentor

On the last day of every week Saturday -) report in the above format should be submitted to the faculty mentor. Submission of total 10 reports in 10 weeks is compulsory. Each report should not be more than 2 pages.

Reporting Format (Weekly) -2

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 From: 19 / 5/ 2025 to 24 / 5 /2025.

Activity Done	1. Mining of data of all 4 years no of patients in radiation oncology. 2. Understand the whole process of radiation machine linac working .
Linking theory (Classroom learning) with practice at your organisation	1. Application of some biostatistics 2. Use of Excel , Power BI for data analysis
Gaps identified on the working area.	1. Less no of patients / hr as per by IAEA guidelines 2. Excessive Manpower
Suggestions for improvement	1. Suggest the cost and revenue cycle Mechanism 2. Divert the excess manpower to other department where needed
Plan for the next week	1. Correction of the data if needed 2. Analysis whole data and give solutions 3. Approval from Mentor by showing reports

Signature of the Student DrTannavipatle

Approved by the IIHMR University's Mentor

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Reporting Format (Weekly) - 3

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 From: 26 / 5/ 2025 to 30/ 5 /2025.

Activity Done	1. Analysis of all the data , make graphs , PPT 2. Compare with the Standards 3. Started New Project – Clinical Audit Of CABG 4. Collecting Data from MRD Department
Linking theory (Classroom learning) with practice at your organisation	1. Application of some biostatistics 2. Use of Excel , Power BI for data analysis 3. Understand the MRD role
Gaps identified on the working area.	1. Excessive Manpower in RT Oncology Department 2. OPD hour more With less no of patient flow 3. Exceesive electricity consumption impact on Cost 4. No package with accomodation
Suggestions for improvement	1. Suggest the cost and revenue cycle Mechanism 2. Divert the excess manpower to other department where Required 3. Optimize the OPD hr 4. Make package with Accomodation and Treatment
Plan for the next week	1. Collection of the data if needed 2. Analysis whole data and give solutions 3. Compare Data with Standards

Signature of the Student DrTannavipatle

Approved by the IIHMR University's Mentor

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Reporting Format (Weekly) - 4

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 **From:** 01 / 06 / 2025 to 06/ 06 /2025.

Activity Done	1. Analysis of all the data, make graphs, PPT 2. Compare with the Standards 3. Started New Project – CCO faces Problem related to filling clearance form by patient relative in IPD Physiotherapy Department 4. Observation and Interviews of staff
Linking theory (Classroom learning) with practice at your organisation	1. Application of some biostatistics 2. Use of Excel , Power BI for data analysis 3. Understand the role of customer care officer and the billing process
Gaps identified on the working area.	1. Excessive Workload to CCO 2. Also allotment of the patients to doctors 3. No Mandatory rules of Entry in IPD 4. No clear Form Headings
Suggestions for improvement	1. Suggest to change the form tittle 2. Give that form distributing work to other staff 3. May be use of QR code for consent 4. Use Disclaimer (need for TPA/ Billing Purpose)
Plan for the next week	1. Analysis and give realistic Solutions to Management 2. Start Dialysis Related project 3. Make Questionnaires and do patient experience survey.

Signature of the Student DrTannavipatle

Approved by the IIHMR University's Mentor

On the last day of every week Saturday -) report in the above format should be submitted to the faculty mentor. Submission of total 10 reports in 10 weeks is compulsory. Each report should not be more than 2 pages.

Reporting Format (Weekly)-5

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 From: 08/ 06 / 2025 to 14 / 06 /2025.

Activity Done	1. Analysis of all the data, make graphs, 2. Compare with the Standards 3. Take the survey of dialysis patients to track the satisfaction . 4. Observation of the Billing clearance form issue in physiotherapy IPD
Linking theory (Classroom learning) with practice at your organisation	1. Application of some biostatistics 2. Use of Goggle forms for data collection 3. Understand the role of customer care officer and the billing process
Gaps identified on the working area.	1. Patient denied and make excuses for filling and take signature of billing manager at ground floor 2. Not any strict rules or entrance entry system to track the patient 3. No poster or notice stick on door or wall for mandatory billing clearance form
Suggestions for improvement	1. Improve form headings and details 2. Stick manadotory notice for billing form 3. Suggest one blling countor at floor for convience of patient relatives
Plan for Next Week	1. Prepare a report on this issue 2. Develop draft form and notice for sticking in walls 3. Understand the whole process in billing

Signature of the Student

Approved by the IIHMR University's Mentor

Reporting Format (Weekly) - 6

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 **From:** 16/ 06 / 2025 to 21/ 06 /2025.

Activity Done	1. Analysis of all the data, and find out the approval rate of Insurance Companies 2. Check the bills and know the reasons of denial and partial approval 3. Understand the terminology related to TPA 4. Complete analysis of the discharge TAT
Linking theory (Classroom learning) with practice at your organisation	1. Application of some biostatistics 2. Use of Excel , Power BI for data analysis 3. Learn Advance Excel Formulas
Gaps identified on the working area.	1. Difficulty to analysis the bills due to multiple financial documents 2. Delay in Dishcharge in Cash Patient
Suggestions for improvement	1. Suggest to prepare the discharge summary earlier in cash patient 2. Those with low approval rate focused on them
Plan for the next week	1. Analysis and give the solutions 2. Start with new Project related to cancer centre of kokilaben ambani hospital 3. Understsnd their work flow of their centres

Signature of the Student DrTannavi patle

Reporting Format (Weekly) - 7

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 **From:** 23/ 06 / 2025 to 28/ 06 /2025.

Activity Done	1. Start New Project – 3 things to do 2. Analysis of the workflow and patient load in past 6 months of three cancer centre – Akola , Gondia , Solapur 3. Tool for Track the Growth in all centre and treatment techniques 4. PORMs for Outcome Analysis
Linking theory (Classroom learning) with practice at your organisation	1. Use of Excel , Power BI for data analysis 2. Learn Advance Excel Formulas
Gaps identified on the working area.	1. Difficulty to analysis And collect the data due to Centre Unable to send Data in Format 2. Not well Structured data
Suggestions for improvement	1. Suggest to have a standard framework to fit the data 2. Suggest to use the guidelines by IAEA and ASTRO
Plan for the next week	1. Analysis and give the tools / metrics for tracking 2. Improvement in the PORMs 3. Understand the cancer system related AI centralizing tools .

Signature of the Student DrTannavi patle

Reporting Format (Weekly) - 8

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 **From:** 30/ 06 / 2025 to 05/ 07/2025.

Activity Done	1. Analysis of the workflow and patient load in past 6 months of three cancer centre – Akola, Gondia , Solapur 2. Tool for Track the Growth in all centre and treatment techniques 3. PORMs for Outcome Analysis
Linking theory (Classroom learning) with practice at your organisation	1. Use of Excel , Power BI for data analysis 2. Learn Advance Excel Formulas 3. Google sheet for making PORMs Dashboard
Gaps identified on the working area.	1. Difficulty to analysis And collect the data due to Centre Unable to send Data in Format 2. Not well Structured data
Suggestions for improvement	1. Suggest to have a standard framework to fit the data 2. Suggest to use the guidelines by IAEA and ASTRO
Plan for the next week	1. Analysis and give the tools / metrics for tracking 2. Improvement in the PORMs 3. Understand the cancer system related AI centralizing tools .

Signature of the Student DrTannavi patle

Reporting Format (Weekly) - 9

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 **From:** 07/ 06 / 2025 to 12/ 07/2025.

Activity Done	1. Analysis of the workflow and patient load in past 6 months of three cancer centre – Akola, Gondia , Solapur 2. Tool for Tracking the treatment mode and no of patient flow 3. PORMs for Outcome Analysis 4. Making the inquiry tool for the patient tracking
Linking theory (Classroom learning) with practice at your organisation	1. Use of Excel , Power BI for data analysis 2. Learn Advance Excel Formulas 3. Google sheet for making PORMs Dashboard
Gaps identified on the working area.	1. Difficulty to analysis And collect the data due to Centre Unable to send Data in Format 2. Not well Structured data
Suggestions for improvement	1. Suggest to have a standard framework to fit the data 2. Suggest to use the guidelines by IAEA and ASTRO
Plan for the next week	1. Analysis and give the tools / metrics for tracking 2. Improvement in the PORMs 3. Understand the cancer system related AI centralizing tools .

	4. Finalize over all project and presentation in front of management team.
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Signature of the Student DrTannavi patle

Reporting Format (Weekly) - 10

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Week no: 2 From: 14/ 07 / 2025 to 21/ 07/2025.

Activity Done	1. Analysis of the workflow and patient load in past 6 months of three cancer centre – Akola, Gondia , Solapur 2. Tool for Tracking the treatment mode and no of patient flow 3. PORMs for Outcome Analysis 4. Develop Referral relationship management tool 5. Develop ACE Tool for the KDAH Centres
Linking theory (Classroom learning) with practice at your organisation	1. Use of Excel, Power BI for data analysis 2. Learn Advance Excel Formulas – deleloper macro use for the automated form 3. Google sheet for making PORMs Dashboard
Gaps identified on the working area.	1. Difficulty to analysis And collect the data due to centre staff unable to send it in more way 2. Manual records maintain
Suggestions for improvement	1. Suggest to have a standard framework to fit the data 2. Suggest to use the guidelines by IAEA and ASTRO 3. Use the Developed tool for standardization of the treatment across all the Centre.
Plan for the next week	1. Made the poster and reports 2. Finalize over all project and presentation in front of management team. 3. Conclude the Internship.

Signature of the Student DrTannavi patle

Compiled Reporting Format

Name of the Organisation: Kokilaben Dhirubhai Ambani Hospital , Mumbai

Area/ Department/ Project of Summer Internship Program: Medical Administration

Name of the Student: Dr Tannavi Patle

Roll no: 2019

Stream: MBA HM

Activity Done	1. Radiation Oncology Efficiency & Market Analysis • Orientation of Radiation Oncology Department and understanding LINAC operations. • Data mining and comparison of patient load (2016–17 vs. 2024–25). • Efficiency benchmarking using IAEA guidelines. • Analysis of manpower usage, patient/hr ratio, and OPD hour utilization. • Cost and revenue cycle review, proposal for centralized TPS, and AI-assisted contouring. • Proposal for medical tourism package with stay. • Use of Power BI/Excel for data visualization and solution development. 2. Clinical Audit of CABG • Data collection from MRD. • Process review and comparison against standards. • Developed presentation summarizing gaps and recommendations. 3. IPD Physiotherapy Clearance Process Improvement • Observed issues with patient-relative form filling. • Interviewed staff and CCO for bottlenecks in workflow.
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	- Identified confusion due to unclear form headers, heavy workload, and lack of QR-based digital consent. - Suggested revised form structure and QR-enabled consent process. 4. Discharge Billing Analysis (Cash vs. TPA) - Studied billing records and insurance approval rates. - Identified common causes of bill denials. - TAT analysis of cash patients revealed delays due to late summary preparation. - Recommended early summary drafting and bill optimization. 5. Oncology Centers (Akola, Solapur, Gondia) Growth & Outcome Tracking - Collected and analyzed 6-month workflow and patient load data. - Developed OncoTrack Tool to monitor growth and treatment modalities. - Designed PROMs dashboard using Google Sheets for outcome tracking. - Created Referral Management and ACE Tool for standardization. - Faced challenges in data format, recommended standard templates and alignment with IAEA/ASTRO guidelines.
Linking theory (Classroom learning) with practice at your organisation	- Applied concepts of Hospital Services Essentials in understanding departmental structures and functions. - Implemented principles from Healthcare Operations & Quality Management to analyze and improve departmental efficiency.

	- Utilized Health Information Systems and Biostatistics for data collection, analysis, and interpretation. - Gained hands-on experience with healthcare IT tools like Power BI, Google Sheets, and Excel macros for creating dashboards and reports. - Applied research methodology and project proposal writing techniques to design and execute various projects. - Gained practical exposure to workflow analysis across departments. - Conducted stakeholder interviews to understand ground-level challenges and gather insights. - Worked on process redesign initiatives to enhance efficiency and service delivery.
Gaps identified on the working area.	- Radiation Oncology: - Underutilization of resources (patients/hr), excessive OPD hours. - No bundled packages for medical tourists. - Excess staff deployment. - Discharge & Billing: - Delay in cash patient discharge. - Complex documentation with TPA patients. - IPD Physiotherapy: - Form confusion for attendants, lack of QR-based process. - Cancer Centers: - Inconsistent data formats. - Manual record-keeping and lack of centralized outcome tracking.

	• General: ◦ Coordination delays in data collection. ◦ Lack of standard digital tools across units.
Suggestions for improvement	• Implement AI-assisted auto-contouring in Radiation Oncology. • Centralize TPS system across centers. • Introduce bundled radiotherapy and stay packages for medical tourism. • Conduct regular CMEs and referral engagement. • Standardize data entry formats across centers. • Use PROMs and OncoTrack tool for performance monitoring. • Introduce digital consent with QR code in IPD. • Advance discharge summary preparation for faster billing. • Train staff for Excel tools and dashboard usage.
Key Learnings	• Gained in-depth exposure to hospital operations and cross-department coordination. • Learned to apply analytical and technical skills to real-time healthcare data. • Understood challenges in large hospital systems – documentation, standardization, manpower optimization. • Developed multiple decision-support tools (PROMs, OncoTrack, ACE, Referral). • Improved interpersonal skills through collaboration with clinical and administrative teams. • Gained confidence in using data to recommend strategic solutions in hospital settings.

Signature of the Student

Approved by the IIHMR University's Mentor