

SUMMER INTERNSHIP PROGRAM

at

P.D. Hinduja Hospital & Medical Research Centre

From 12-05-2025 to 24-07-2025

A REPORT BY

Chaudhari Dimpal Nitin

Master of Business Administration

Pharmaceutical Management

Roll no: 0633

2024-26

under the Mentorship of

Dr. Rahul Sharma

Assistant Professor



**P. D. HINDUJA NATIONAL HOSPITAL
& MEDICAL RESEARCH CENTRE**

(Established and managed by the National Health & Education Society)

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HH/HRD/2025

DATE: 24.07.2025

CERTIFICATE

*This is to certify that **Ms. Dimpal Nitin Chaudhari**, student (MBA - Pharmaceutical Management) of IIHMR University, Jaipur has completed her **Internship** in the department of **Materials** of this Hospital with effect from **12th May, 2025** to **24th July, 2025**.*

We wish her all success in her future endeavours.

Dr. Anshul Atreja
Asst. Director – Human Resources

/sn

IIHMR University Faculty Mentor Approval

This is to certify that **Ms Chaudhari Dimpal Nitin** of academic year 2024-26 **School of Pharmaceutical Management** has prepared a poster with respect to 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 'Rahul Sharma'.

Dr. Rahul Sharma
Assistant Professor

Quality Assessment of Off-patent Research Molecules Vs Indian Branded Generic Drugs

Presented By: Chaudhari Dimpal Nitin

Roll no. 0633 (MBA PM -16)

P. D. HINDUJA HOSPITAL
& MEDICAL RESEARCH CENTRE

FACULTY MENTOR: DR. RAHUL SHARMA

BRIEF HISTORY OF P.D. HINDUJA HOSPITAL & MRC:

Following the partition, Bombay saw a sharp rise in health challenges due to overcrowding and poor sanitation. Understanding the urgent need for quality care, Late Shri Parmanand Hinduja took a remarkable step by founding the 'Seth Deepchand Gangaram Hinduja Health Care' in December 1951. Starting from a small setup with an OPD and dispensary, it expanded over the years with dedication and planning support from international experts, including Massachusetts General Hospital. By 1986, the hospital had grown into a 300-bed tertiary care center. Later, in 2013, Hinduja Surgical at Khar was also launched to further serve the city.

THEORETICAL UNDERSTANDING AND PRACTICAL EXPOSURE:

Theory:

While studying Research Methodology, I learned how to structure findings logically and that helped me to understand my project. The academic focus is usually on analyzing secondary data that's already cleaned and prepared so we work more on interpretation than collection.

Practical:

The data and information were not always readily available. I often had to coordinate with different teams to get details on branded generics. It was only after going through comparison and discussion that I could draw conclusions on quality and provide relevant suggestions for improvement.

SWOT ANALYSIS:

Strength

- Smoothly handling of purchase planning and vendor communication.
- knowledgeable and experienced staff.
- Reliable vendors, which ensures timely availability of important drugs and materials

Weakness

- Some processes still rely on manual registers like internal stock transfers.
- Inventory Gaps Between Buildings, Sometimes one building had excess while another faced a shortage.
- Operations are smooth, during emergencies, delays in transporting materials or samples—due to manual coordination or lack of transport staff.

Opportunity

- Implementing software, the department can speed up workflows, improve accuracy.
- By analyzing past consumption trends, demand forecasting could improve.
- Introducing QR codes for all materials and drugs would help in real-time tracking.

Threat

- Entry of new competitions in area such top hospitals. i.e. Apollo.
- The cost of specialized medical items is increasing.
- Facing competitions from Lilavati Hospital and Kokilaben Dhirubhai Ambaani Hospital etc.

VISION:

To deliver quality healthcare that's affordable, ethical, transparent, and driven by measurable outcomes.

MISSION:

To become a center of medical excellence that not only treats but also teaches. With a strong focus on continuous improvement, the hospital aims to uplift healthcare standards by training doctors, nurses, and allied professionals, while also fostering clinical research. It strives to align high-quality treatment with the real needs of patients across the country, maintaining a perfect balance of service, learning, and innovation.

PROJECT

Aim: To compare the quality aspects of the Off-patent research molecules Vs Indian branded generic drugs.

Objectives:

- To determine quality standards of Branded Generics Drugs.
- To evaluate the safety profile. i.e. ADRs of both type of Drugs.
- To identify similarities between off-patent research molecules and Indian branded generics drugs.

Methodology:

- **Study Area:** P.D. Hinduja Hospital & Medical Research Centre
- **Study Design:** Comparative and Descriptive Study
- **Sample size:** (Meronem- Zaxter, Supacef- Zocel, Zavicefta- Xavitaz, Zosyn- Tazact, Ambisome- Phosome, Eraxis- Andulfa, Magnex Forte- Sulbagate, Augmentin- Advent) 8 pairs injectables antibiotics of off-patent research molecules and Indian branded generics drugs.
- **Data Sources:** Product Monographs and Certificate of Analysis report (COA) of some Indian branded generics drugs.

Findings:

Based on Pharmacological Data:

Research drugs mentioned pharmacokinetic, pharmacodynamics studies and clinical trials studies on product monograph while branded generics drugs include exact same data.

Based on Certificate of Analysis (COA):

Indian branded generic drug's COA report compliance with specifications which considered within Indian Pharmacopoeias.

Based on Adverse Drug Reactions (ADRs):

Clinical trials in research molecules provides ADRs by severity and frequency of reactions. Branded generics drug's post-marketing studies not included in product monograph.

Suggestions:

- 1) Implementing software system to streamline management process of regulatory documents.
- 2) Branded generics drugs, medication procure from companies that can demonstrate bioequivalence and certificate of analysis documents.
- 3) Indian branded generics drugs procure from top 20 brands that ensures quality of medications.

Learning during Internship:

- 1) How to communicate with colleagues, team and other workers.
- 2) Experience of the corporate world.
- 3) Learnt roles and responsibilities of materials department in hospital.
- 4) Real-world data analysis that enhanced MS-Excel skills.

Challenges Faced During Internship:

- 1) Adapting to corporate world
- 2) Limited resources of data



Weekly Report

Name of the Organisation: P.D Hinduja National Hospital & Medical Research Centre

Area/ Department/ Project of Summer Internship Program: Materials Department

Name of the Student: Chaudhari Dimpal Nitin

Roll no: 0633

Stream: MBA Pharmaceutical Management

Week no: 01

From: 12/05/2025 to 17/05/25

Activity Done	Introduction to materials department. I started with basic understanding-how supply chains work.
Linking theory (Classroom learning) with practice at your organisation	Theory knowledge learned at IIHMR gave base which allow me to excel during internship.
Gaps identified on the working area.	Issues like overstocking, understocking and sometimes lack of real-time supplies tracking system.
Suggestions for improvement	Implement just-in time inventory system and need to conduct regular inventory audits.
Plan for the next week	Identifying gaps between current supply chain management

Signature of the Student: Chaudhari Dimpal Nitin

Approved by the IIHMR University's Mentor

Weekly Report

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Roll no: 0633

Stream: MBA Pharmaceutical Management

Week no: 02

From: 19/05/2025 to 24/05/25

Activity Done	Identified supply chain and procurement process in hospital. Started design of project. i.e. synopsis of project and review article.
Linking theory (Classroom learning) with practice at your organisation	Theoretical knowledge provided deeper understanding of all the concepts that I can practically apply.
Gaps identified on the working area.	In hospital's material department, gaps exist in inventory levels, processes that they struggle with use of data analysis.
Suggestions for improvement	Implementation of automated inventory management systems
Plan for the next week	Setting quality parameters for branded generics drugs to compare it with research molecules or innovator drugs.

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Weekly Report

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Name of the Student: Chaudhari Dimpal Nitin

Roll no: 0633

Stream: MBA Pharmaceutical Management

Week no: 03

From: 26/05/2025 to 31/05/25

Activity Done	I discussed the project with staff of materials department and received guidance. I analysed the hospital formulary data by using excel.
Linking theory (Classroom learning) with practice at your organisation	Practical exposure focuses on communication, critical thinking and observation, while theoretical understanding conceptual understanding.
Gaps identified on the working area.	Often, materials are requested only when they run out, and by the time approvals come through, there's already a shortage.
Suggestions for improvement	Short, focused training for staff on basic supply chain practices would make a big difference in how efficiently work is done.
Plan for the next week	In coming week, I will finalize the quality parameters for project that will ensure the quality of Indian branded generics drugs by comparing it with research molecule.

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Stream: MBA Pharmaceutical Management

Week no: 04

From: 02/06/2025 to 07/06/25

Activity Done	This week finalize quality parameters for project such as bioequivalence data, post-marketing surveillance data, certificate of analysis of report and clinical data for both type of drugs involved in study.
Linking theory (Classroom learning) with practice at your organisation	The practical exposure provided with the opportunity to learn about the theoretical application.
Gaps identified on the working area.	Hospital does not have robust plan in place to manage risks such as supply disruptions.
Suggestions for improvement	Developing a plan for potential supply disruptions. Diversifying suppliers to reduce reliance on a single source.
Plan for the next week	Next week, I will start data collection phase of the project, and the review article is in its final stages.

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Weekly Report

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Stream: MBA Pharmaceutical Management

Week no: 05

From: 09/06/2025 to 14/06/25

Activity Done	This week I collected data for project by assessing the online platforms on company websites. Solved case studies related to hospital supply chains.
Linking theory (Classroom learning) with practice at your organisation	Theoretical knowledge learnt at IIHMR, has strong fundamental foundation for me which enabled me to perform confidently on my internship.
Gaps identified on the working area.	The paperwork for indents, receipts, and issues isn't always updated properly or filed consistently. This makes it hard to track the movement or expiry of materials.
Suggestions for improvement	Having easy-to-follow procedures in place for every activity will bring consistency, especially when new staff join.
Plan for the next week	Next week, I will focus on the document-based data collection from the branded generics marketers that will help to ensure quality of drugs.

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Weekly Report

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Name of the Student: Chaudhari Dimpal Nitin

Roll no: 0633

Stream: MBA Pharmaceutical Management

Week no: 06

From: 16/06/2025 to 21/06/25

Activity Done	This week with the help of materials department and team, connected with branded generics companies to collect data and discussed about quality aspects of their products. Analysed hospital formulary data
Linking theory (Classroom learning) with practice at your organisation	Theoretical knowledge gained during our classroom sessions, particularly area like research methodology became helpful.
Gaps identified on the working area.	While reaching out to team, I noticed new employees unfamiliar with digitalization techniques
Suggestions for improvement	Implementation of digitalization process streamline structure of organization.
Plan for the next week	Next week, I will connect with the CIPLA'S R&D professionals and will have discussion for bioequivalence data and certificate of analysis of their branded generics drugs. i.e. for brands like Tazact, Advent and phosome. Research articles will be review for data collection.

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Weekly Report

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Name of the Student: Chaudhari Dimpal Nitin

Roll no: 0633

Stream: MBA Pharmaceutical Management

Week no: 07

From: 23/06/2025 to 28/06/25

Activity Done	This week I had searched research articles which relevant to my studies and which helped to compare branded generics drugs with research drugs. Viewed standards of branded generics drugs to compare it with specification of pharmacopeia.
Linking theory (Classroom learning) with practice at your organisation	Theoretical knowledge like research methodology provides clear understanding of data collection methods.
Gaps identified on the working area.	There were times when some critical items weren't available, while others were stocked in excess and remained unused. This leads to both risk and wastage.
Suggestions for improvement	Using barcoding would make it easier to track expiry dates, batches, and item movement, and speed up the issue/return process.
Plan for the next week	Next week, connecting with companies for collecting quality data for assessing branded generic drugs.

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Weekly Report

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Stream: MBA Pharmaceutical Management

Week no: 08

From: 30/06/2025 to 05/07/25

Activity Done	This week, I had great opportunity to connect with R&D professionals of CIPLA. Discussing with Pharmacovigilance and quality team for ensuring quality of their product provides views on quality, safety and efficacy of their product.
Linking theory (Classroom learning) with practice at your organisation	The practical exposure provided with the opportunity to learn about the theoretical application.
Gaps identified on the working area.	Some staff are not fully aware of practices like FEFO/FIFO, barcode scanning, or expiry monitoring, which affects handling.
Suggestions for improvement	Keeping items well-labelled, with clear sections and conditions like temperature control, helps prevent confusion and maintain quality.
Plan for the next week	For next, finalized the project with all data collected through companies and websites.

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Weekly Report

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Roll no: 0633

Stream: MBA Pharmaceutical Management

Week no: 09

From: 07/07/2025 to 12/07/25

Activity Done	This week, I have completed the report for project title based on Quality assessment of off-patent research molecules Vs Indian branded generics drugs. Solved case studies which based on healthcare supply chains.
Linking theory (Classroom learning) with practice at your organisation	Solving case studies at IIHMR university was helpful during my internship at P.D Hinduja hospital.
Gaps identified on the working area.	Most of the stock updates are done manually, which sometimes leads to delays or errors. For example, an item might be marked as “available,” but when needed, it's out of stock.
Suggestions for improvement	A digital system would help track stock levels in real time, set reorder alerts, and reduce manual errors.
Plan for the next week	Next week, I am going to present my project to the head of department and worked on data analysis of hospital formulary.

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Weekly Report

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Week no: 10

From: 14/07/2025 to 19/07/25

Activity Done	This week completed and submitted all work done during internship. i.e. project, review article and all other documents of data analysis and case studies.
Linking theory (Classroom learning) with practice at your organisation	Theories like inventory management, waste management learned in classroom that connects with real-world supply chain.
Gaps identified on the working area.	I noticed some expired materials still stored with usable ones, and unused items aren't always returned or documented properly.
Suggestions for improvement	Daily briefings or check-ins can help catch issues early and make sure everyone is on the same page.
Plan for the next week	My summer internship will be completing on 24th July and will work on data analysis of hospital formulary. Overall, the internship provided values experiences in supply chain, procurement, research skills and knowledge applicable to healthcare supply chain improvement.

Signature of the Student: Chaudhari Dimpal Nitin

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Compiled Reporting Format

Name of the Organization: P.D. Hinduja National Hospital & Medical Research Centre

Area/ Department: Materials Department

Name of the Student: Chaudhari Dimpal Nitin

Roll no: 0633

Stream: MBA Pharmaceutical Management

Duration: 12th May 2025 – 24th July 2025

Activity Done	• Initiated internship with an introduction to the Materials Department. Gained basic insights into the hospital's supply chain system and how different units are interlinked. • Explored the procurement process in depth. Drafted the initial project synopsis and began work on the review article. • Had discussions with Materials Department staff. Analysed hospital formulary using Excel to understand drug flow and usage trends. • Finalized quality parameters such as bioequivalence, post-marketing surveillance data, clinical data, and Certificate of Analysis (CoA). • I collected project data through company websites and worked on case studies related to hospital supply chains. • I became engaged with branded generics manufacturers and discussed their quality assurance processes. Analyzed formulary data further. • Sourced and reviewed literature to support comparisons between branded generics and research drugs. Cross-checked branded drug specs against pharmacopeial standards. • Connected with R&D professionals from CIPLA. Engaged in discussions with quality and pharmacovigilance teams on drug safety and efficacy. • Completed and compiled the project report titled: <i>"Quality Assessment of Off-Patent Research Molecules Vs Indian Branded Generics Drugs"</i>. • Submitted the final project report, reviewed articles, data analysis, and case study documents. Wrapped up all formal internship documentation.
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**Linking theory
(Classroom
learning) with
practice at your
organization**

- Classroom learnings at IIHMR laid the groundwork, especially around procurement and inventory management. I began noticing how theoretical concepts function in live hospital settings.
- Applied my knowledge of supply chain mapping and workflow analysis from IIHMR to real-world observations.
- Developed communication and problem-solving skills by integrating critical thinking with theoretical understanding.
- This task reinforced my understanding of quality compliance and regulatory benchmarks from theoretical courses
- Built confidence by applying fundamental knowledge from IIHMR, especially regarding strategic sourcing
- Research methodology training proved particularly useful during data collection and communication with professionals
- Learned to differentiate data collection methods through practical exposure and reinforced academic insights
- Real-world discussions on pharmacovigilance matched perfectly with theoretical models taught at IIHMR
- Case study exercises at IIHMR made me comfortable navigating complex healthcare logistics issues.
- Concepts like inventory turnover and waste management were observed and applied in real-time supply chain operations

**Gaps identified on
the working area.**

- Instances of overstocking and understocking
- Lack of a real-time supply tracking mechanism
- Absence of data analysis in decision-making
- Difficulty in maintaining ideal inventory levels
- Requisition of materials often happens post depletion, causing shortages
- No risk management strategy for supply disruptions
- Inconsistent paperwork in recording indents and receipts
- Difficulties in tracking expiry dates
- New staff were not well-versed in digital tools used in the materials department
- Poor stock rotation and critical item management led to wastage and unavailability
- Lack of awareness about FEFO/FIFO and expiry monitoring among staff

	• Manual stock updates led to mismatches between actual and recorded availability • Expired materials often stored with usable ones • Improper return/documentation process for unused items
Suggestions for improvement	• Introducing Just-In-Time (JIT) inventory systems • Regular inventory audits should be conducted to ensure accountability • Adopt automated inventory management systems for better control • Short training sessions for staff on basic supply chain practices • Develop a contingency plan • Diversify supplier base to reduce dependency • Establish standardized operating procedures for all documentation • Introducing structured digital onboarding and training modules • Implement barcode systems for tracking expiry, movement, and returns • Use clear labelling, temperature-specific storage, and organize inventory layout to avoid confusion • Introducing a real-time digital inventory system with automated alerts • Daily briefings for better communication and coordination • Routine stock clean-up and segregation of expired materials
Key Learnings	i) Bridging Theory and Practice a) One of the most valuable takeaways was understanding how classroom concepts like inventory management, procurement systems, and research methodologies are applied in a real hospital setting ii) Supply Chain Visibility is Critical a) I learned that gaps in visibility like manual stock updates or absence of tracking systems can have serious consequences, such as shortages or overstocking. iii) Digitalization Can Transform Operations a) From barcode tracking to automated inventory alerts, I saw how adopting digital tools can reduce human error, speed up processes, and improve traceability. iv) Importance of Quality Standards in Pharma a) Through interactions with pharmaceutical companies and data collection on branded generics, I gained a deep appreciation for the role of bioequivalence, pharmacovigilance, post-marketing surveillance, and Certificate of Analysis (CoA) in ensuring drug quality and patient safety.

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|--|---|
| | <ul style="list-style-type: none">v) Communication is Key in Healthcare Operations<ul style="list-style-type: none">a) Whether it was discussing data with the materials team, interacting with CIPLA's R&D professionals, or seeking guidance from mentors, effective communication was a constant requirement.vi) Small Changes Lead to Big Improvements<ul style="list-style-type: none">a) Many gaps I identified—like unclear expiry tracking, poor labelling, or lack of storage segregation—weren't complex problems. |
|--|---|

Signature of the Student 

Approved by the IIHMR University's Mentor

