

Internship Report

Dissertation Location: Ahmedabad, Gujarat, India

University Mentor: Dr. Akshay Kumar Mishra, Associate Professor, IIHMR University, Jaipur

Submitted by: Mr. Sourabh Sharma

Tenure: 10th March 2025 to 10th June 2025

Introduction:

Medication non-adherence is one of the leading challenges in modern healthcare, especially in the management of chronic diseases such as hypertension, diabetes, and schizophrenia. According to the World Health Organization (WHO), nearly 50% of patients in developed countries do not adhere to their prescribed treatments. In India, where the health system faces diverse social, economic, and technological challenges, adherence is even more inconsistent.

Digital pills, embedded with ingestible sensors, represent an innovative leap in medication adherence technology. These smart pills record the exact time a medication is ingested and transmit the data to a connected app or wearable patch. The real-time feedback helps healthcare providers monitor compliance, detect missed doses, and personalize treatment strategies.

This dissertation project investigates how digital pill technology can enhance medication adherence and improve treatment effectiveness. It combines primary data through structured surveys conducted in Ahmedabad with secondary data from global studies and case-based evidence. The focus lies on patient attitudes, provider perspectives, and identifying ethical, financial, and practical challenges that influence the adoption of digital pills in the Indian healthcare context.

Objectives of Internship:

- To evaluate the effectiveness of digital pills in improving patient adherence to medication.
- To understand the treatment outcomes associated with digital pill technology.
- To assess the attitudes and perceptions of patients and healthcare providers toward the adoption of digital pills.
- To identify the major barriers—technological, ethical, and economic—that limit the use of digital pills.
- To contribute to the evolving literature on digital health innovations within pharmaceutical management.

Organizational Profile:

IIHMR University, Jaipur

Established in 1984, IIHMR University is a pioneer in health management education, research, and policy innovation. Recognized by the UGC and accredited by NAAC, the university focuses on healthcare quality, hospital management, pharmaceutical systems, and public health research. It is a WHO Collaborating Centre for Health Systems Research.

Mission and Vision:

Mission

To improve health standards through better management of healthcare and pharmaceutical systems by conducting quality education, policy research, and professional training.

Vision

To become a globally recognized institution in health and hospital management through leadership in education, innovation, and system strengthening.

Core Values:

- **Academic Excellence:** Promoting rigorous research and informed learning.
- **Integrity:** Commitment to ethical and transparent academic conduct.
- **Social Impact:** Solving contemporary health challenges through education and research.
- **Collaboration:** Partnering with international and national organizations.
- **Innovation:** Fostering digital and data-driven healthcare transformation.

Campus and Infrastructure:

Located in Jaipur, the IIHMR University campus is equipped with modern infrastructure, including:

- Smart classrooms
- Digital library access to Scopus, JSTOR, PubMed
- Statistical labs with software like SPSS, Power BI, and R Studio
- Hostel and recreational facilities
- On-campus health centre

Academic Programs:

IIHMR offers the following specialized programs:

- MBA in Pharmaceutical Management
- MBA in Hospital and Health Management
- MBA in Development Management
- Master of Public Health (MPH) with Johns Hopkins University
- PhD in Health and Hospital Management

Research and Outreach:

IIHMR is actively engaged in research across digital health, Pharmacoeconomics, health systems, maternal and child health, and public-private partnerships. It collaborates with the Ministry of Health and Family Welfare, WHO, UN agencies, and pharmaceutical companies. The university supports applied research that feeds into national health policies and drug distribution reforms.

Internship and Dissertation Learning:

This dissertation was a deep-dive into how digital pills are reshaping the landscape of chronic disease management by transforming how we track and support patient adherence. Through structured primary surveys and robust secondary data interpretation, I gained exposure to real-world healthcare challenges and how technology-driven solutions like ingestible sensors can be leveraged.

The experience honed my skills in survey design, health tech analysis, literature review, and evidence-based writing. It also provided hands-on insight into healthcare innovation, patient behaviour analysis, and the ethics of data usage in pharmaceutical technology.