

Internship Report

Introduction:

The healthcare landscape in India has evolved significantly over the past few decades, with rapid urbanization, improved access to facilities, and national-level interventions aiming to strengthen maternal and child healthcare. Among the most vital pillars of paediatric healthcare is vaccination a simple yet powerful preventive tool that safeguards children against life-threatening diseases. Despite wide-scale awareness and initiatives such as the Universal Immunization Programme (UIP), timely adherence to vaccination schedules remains a persistent challenge in urban healthcare settings.

This challenge arises not due to infrastructural deficits but due to behavioural, logistical, and awareness-related obstacles that hinder parents from bringing their children in for scheduled immunizations. Missed or delayed vaccinations lead to increased vulnerability to infectious diseases, disrupt herd immunity, and contribute to outbreaks that are otherwise preventable. From an operational standpoint, such missed appointments affect resource planning, disrupt appointment schedules, and result in underutilization of services.

To address this operational inefficiency, a process optimization study was conducted during an internship at **Cloudnine Hospitals, Jayanagar, Bangalore**. The internship focused on designing, implementing, and analyzing the impact of structured reminder calls to parents of infants scheduled for immunizations. This proactive intervention was aimed at improving vaccination compliance and identifying barriers to adherence.

The experience provided deep insights into paediatric patient flow, parent behaviour, call-based communication strategies, and the role of data-driven follow-ups in enhancing service delivery. The internship not only contributed to the hospital's ongoing paediatric vaccination efforts but also formed the foundation of a research-based approach to solving operational inefficiencies in healthcare delivery.

Objectives of Internship:

The internship was conceptualized with a comprehensive framework that integrated academic learning with hands-on experience in a real-world hospital setting. The primary objectives were multifaceted and focused on patient compliance, communication, data analysis, and systemic improvements.

1. **To assess the role of structured telephonic reminders in improving compliance** with scheduled paediatric vaccinations among parents of infants.
2. **To measure conversion rates** from reminder calls to actual confirmed appointments, thereby evaluating the practical impact of communication efforts on hospital turnout.
3. **To identify behavioural and systemic barriers** including logistical, psychological, and informational factors that hinder vaccination adherence.
4. **To develop evidence-based, scalable strategies** for institutionalizing reminder mechanisms and process optimization techniques within hospital operations.

5. **To support hospital departments** in reducing appointment gaps, improving the efficiency of paediatric services, and enhancing overall patient engagement and satisfaction.

Organizational Profile:

Cloudnine is a hospital chain in India specializing in women's and children's healthcare, including maternity and fertility services. They offer a range of services from pregnancy care and normal delivery to high-risk pregnancy management and neonatal care. Cloudnine operates multiple facilities across various Indian cities and aims to provide high-quality healthcare with international standards.

Cloudnine Hospitals is a leading chain of maternity, paediatric, and fertility hospitals in India. Established with a vision to redefine maternity and neonatal care, Cloudnine has grown into a trusted brand offering high-quality medical services across multiple Indian cities. The Jayanagar unit in Bangalore is one of its flagship centers known for its excellence in maternal and child healthcare.

Cloudnine's pediatric department provides a wide range of services, including neonatal care, general pediatric consultations, and most crucially, routine immunizations as per the national schedule. With a large number of outpatient paediatric visits and a growing population of infants requiring timely vaccinations, Cloudnine Jayanagar handles a substantial volume of scheduled appointments for immunization every week.

Despite the well-defined schedules and awareness campaigns, the hospital was facing an increasing number of missed appointments. This not only impacted health outcomes for the children but also led to inefficiencies in staff planning and resource utilization. The internship was initiated to study this issue from a process perspective and introduce structured interventions to improve compliance.

Mission and Vision:

Cloudnine Hospital's vision is to be a leading provider of women and child healthcare in India, setting new standards for excellence in the field. Their mission is to provide premier quality maternal and neonatal care by relentlessly pursuing clinical excellence and continuous quality improvement, with a strong focus on patient safety.

Mission:

Cloudnine's mission is to deliver superior maternity and paediatric care that supports the physical, emotional, and psychological well-being of mothers and children. The hospital believes in building a supportive ecosystem that nurtures life through empathy, clinical excellence, and continuous innovation.

Vision:

To become India's most trusted and preferred destination for maternity, paediatric, and fertility care by consistently delivering exceptional services, adopting global best practices, and empowering families with healthcare knowledge and support.

This mission and vision are not just statements but operational principles that guide every decision, from clinical practice to patient communication strategies. The focus on personalized care and operational excellence aligns directly with the goals of the internship project.

Internship and Dissertation Learning:

1. Realizing the Critical Role of Vaccination in Paediatric Care

The internship deepened the understanding that paediatric vaccination is more than a routine task it's a foundational component of public health. Delays in vaccination, though seemingly minor at the time, can have cascading effects on child morbidity rates and community health risks. The role of the hospital is not just to administer vaccines but to ensure adherence through proactive engagement.

2. Process Gap Identification

Upon initial review of hospital vaccination schedules and patient turnout data, it was found that a significant portion of appointments was not honoured by parents. Despite SMS alerts, many parents failed to show up on the appointed dates. This identified a **gap in two-way** communication and confirmed the need for direct, human interaction via reminder calls.

3. Structured Follow-Up Implementation

The core activity of the internship involved creating and executing a structured follow-up system. This included:

- Preparing a daily list of upcoming vaccination appointments
- Making personalized reminder calls to parents one or two days before the scheduled vaccination
- Collecting responses, including confirmations, rescheduling requests, or cancellation reasons
- Recording barriers such as illness, travel, or fear of side effects
- Maintaining data logs in Microsoft Excel for each call made

This hands-on activity allowed for real-time learning in both communication management and data documentation.

4. Data Analysis and Conversion Rate Calculation

The data collected was analyzed to calculate:

- **Call-to-confirmation conversion rate:** The percentage of parents who confirmed attendance after the reminder call.
- **Missed-to-acknowledged rate:** Number of missed appointments that resulted in rescheduled appointments after follow-up.
- **Categorization of barriers:** Psychological (vaccine hesitancy), logistical (distance, travel), and behavioral (forgetfulness).

This analysis provided clear metrics on the impact of the intervention

5. Key Findings and Insights

- A large percentage of missed appointments were due to **forgetfulness** or **confusion over dates**, not intentional avoidance.
- Personalized human interaction was **highly effective** in prompting parents to confirm and attend.
- Many parents expressed gratitude and viewed reminder calls as an act of care rather than intrusion.
- **Fear of side effects** and lack of understanding about the importance of timely vaccination emerged as recurring concerns, indicating the need for counseling-based follow-ups.

6. Strategic Recommendations

Based on the findings, the following recommendations were proposed:

- Institutionalize structured telephonic follow-ups as a standard operating procedure.
- Train front-desk and nursing staff in **empathetic communication** and parental counselling.
- Integrate follow-up call data into **hospital CRM or EMR systems** for automated scheduling.
- Use **multilingual scripts** to bridge language barriers and ensure inclusivity.
- Maintain a **defaulter registry** and initiate second-round calls or SMS reminders.
- Introduce a **feedback mechanism** to capture parental suggestions or challenges faced.

These strategies could significantly enhance operational efficiency and improve paediatric vaccination adherence at scale.

Conclusion

This internship was a transformative learning experience that provided valuable insights into the intersection of healthcare delivery, process efficiency, and patient engagement. By focusing on a tangible problem missed vaccination appointments and applying structured, real-time interventions, the project demonstrated how small, yet strategic process improvements can yield measurable impacts in healthcare outcomes.

The study not only validated the effectiveness of structured reminder calls but also emphasized the importance of empathetic communication, system-driven tracking, and data-informed decision-making. Through the internship, a deeper appreciation was developed for hospital operations, paediatric healthcare delivery, and the significance of bridging communication gaps between hospitals and patients.