Nightingale: AI Powered Digital Platform for Nursing Excellence
Baby Memorial Hospital, Kozhikode

About the Organization
- 500 bed tertiary care hospital
- 40+ Medical and Surgical departments
- A skilled team of 350 doctors and over 2200 staff
- Location: Kozhikode, Kerala, India
- Email: info@babymhospital.org
- Phone: +91-495-2777777

Problem Statement / Digital Challenge
- Nurses play a pivotal role in delivering comprehensive and quality patient care
- Substantial portion of nurses' work hours is consumed by non-nursing activities
- Hinders their ability to deliver comprehensive care
- Acuity-based nursing allocation inefficient with paper based forms
- High attrition of 40% among nursing staff - challenges in training and skill development

Root cause analysis
- Descriptive survey design with Time & motion study
- Nurses spend only 31.9% of time in direct patient care
- Among non-nursing activities, maximum time was spent on documentation: 18.4%
- 80% of nurses said that workload affected work-life balance

Digital Tool Implemented
- Nightingale was designed to enhance nursing care with a combination of AI-powered automation, workflow optimization, and seamless integration
- Low cost incremental innovation by the in house Digital Technology team
- Use of Generative AI, Combinatorial Optimization, Natural Language Processing, Text-to-Speech technology and Conversational AI

Key Modules
- Nursing Care Plan Generator, Acuity Based Staffing, Consultation Notifications, Patient Interaction Simulator, Incident Resolution, Knowledge Base, Counselling Companion

Digital Implementation Highlights
- Nursing Leadership, Clinicians and the in-house Digital Technology Team collaboratively drove the vision, design, and successful implementation with support from Top Management

Digital Impact
- 12000 employee hours saved per year
- Handles 5000 consultation notifications per month
- 2400 care plans generated per month
- 340 knowledge base articles generated

Awards & recognitions
- Best Practice in Digital Transformation CII DX Awards 2024, FICCI Healthcare Excellence Awards 2024, CHiME Project of the Year 2024, 1st Runner-up in Best Healthcare Digital Initiative category at CII Hospital Tech 2024, Winner of 'Best Use of AI in Healthcare' Category at THIT 2024, Runner-up in Hospital Innovation Competition at CAHOTECH 2023

Challenges:
- Integration with existing hospital systems
- Ensuring user adoption among nursing staff and doctors

Key Enablers:
- In-house IT team ensured interoperability with HIS,
- Structured onboarding programs, hands-on training sessions, and ongoing support

Lessons Learned
- Co-Creation Drives Adoption: Involving end-users - especially nurses and clinical staff - early in the design and development process.
- Iterative Rollout Ensures Success: Deploying features in phases, collecting feedback, and continuously refining the system.
- Training Is Not One-Time: Ongoing training, peer champions, and continuous support were critical in overcoming resistance.

Replicability
- Easily Adaptable Across Hospital Types
- Modular, Interoperable Design
- Cost-Efficiency Through Automation
- Cloud-Native and Device-Agnostic