

AI Based Nursing Care Plan

Category: Digital Excellence

Focus Area: Clinical decision support systems and AI-enabled tools

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Problem Statement / Digital Challenge

The primary clinical challenge at Rajagiri Hospital was the heavy operational burden of manual nursing care planning. Traditional handwritten or unautomated processes consumed significant clinical time, leading to widespread documentation variations across nursing staff and shifting patient volumes. Because manual entries could not be dynamically or consistently updated alongside a patient's changing condition, the hospital faced a heightened documentation burden, nurse fatigue, and elevated medico-legal and compliance risks from incomplete patient records.

A digital solution was required to streamline clinical data retrieval, establish evidence-based care standards, and replace time-consuming administrative workflows with automated, intelligent decision support. This operational friction primarily affected bedside nurses, who lost direct patient-care hours to administrative fatigue, as well as hospital administrators tasked with maintaining strict medical quality guidelines.

The manual deficit directly compromised key National Accreditation Board for Hospitals & Healthcare Providers (NABH) quality indicators. Specifically, it impacted Patient Safety and Quality of Care standards due to inconsistent risk profiles, Nursing Services Excellence criteria concerning standardized, timely bedside charting, and overall Information Management System protocols regarding complete, legally compliant electronic healthcare documentation. By shifting away from manual care planning, a digital ecosystem became essential to protect data

continuity, ensure standard clinical compliance, and allow healthcare workers to

focus back on the patient.

Digital Tool / Solution Implemented

Rajagiri Hospital implemented the AI-Powered Nursing Care Plan solution, a clinical intelligence system integrated directly into the hospital's core Electronic Medical Record (EMR) ecosystem. Developed as an innovative in-house application under the leadership of the internal IT and clinical teams, the tool converts real-time clinical assessment data into automated documentation.

Key features include patient-specific nursing diagnosis generation, SMART goal formulation, and evidence-based clinical intervention recommendations. The solution features a specialized interactive nurse review interface that preserves clinical judgment by allowing validation before saving . Additionally, it provides built-in patient safety tracking, real-time data analysis, and automated KPI reporting to monitor documentation accuracy, system uptime, and care plan creation times across all active departments.

Digital Implementation Highlight

The rollout of the AI-Powered Nursing Care Plan solution was executed swiftly across Rajagiri Hospital, achieving seamless platform deployment. The digital initiative was led internally by an interdisciplinary team of champions, driven by the Chief Information Officer (CIO), the internal IT development unit, and senior nursing informatics leaders. This core collaborative team oversaw the technical integration with the existing Electronic Medical Record (EMR) system and managed the

operational shift at the bedside.

To guarantee maximum clinical adoption and minimize workflow friction, comprehensive training programs were conducted for the hospital's frontline nursing staff. The implementation successfully covered all major active inpatient departments and critical care units where structured, continuous patient tracking is vital. By empowering internal nursing champions within each specific department, the hospital ensured round-the-clock clinical support during the transition. This focus on staff readiness enabled nurses to master the automated workflow—transitioning confidently from automated EMR data retrieval to final clinical care plan validation.

Digital Impact

The AI-Powered Nursing Care Plan solution delivered substantial operational and clinical improvements across Rajagiri Hospital. Operationally, the system accelerated clinical workflows by reducing care plan creation times by 40%. It completely eliminated manual documentation delays and allowed bedside nurses to dedicate 30% more time to active patient-focused care.

In terms of quality and patient safety, the platform established a standardized, evidence-based approach that achieved an exceptional 95% documentation accuracy rate. Generating patient-specific care plans directly from automated clinical data significantly reduced human error, lowered medico-legal risks, and ensured perfect compliance with medical records standards for constant audit readiness.

While specific external award recognitions are currently being pursued through this submission, the project's technical architecture serves as a benchmark for modern clinical intelligence. Furthermore, this deployment directly advances the hospital's

alignment with NABH digital health parameters. By converting unstructured clinical data into automated, validated digital care plans, the hospital fulfills core NABH requirements for robust information management systems, data-driven clinical decision support, and tech-driven patient safety protocols.

Key Enablers / Innovations

The success of the project relied on three core enablers: people, process, and technology. Technically, the primary enabler was the deep integration with the existing Electronic Medical Record (EMR) system. This allowed the AI engine to retrieve patient data instantly and generate automated, patient-specific diagnostics. Operationally, standardizing clinical documentation into a unified, evidence-based format served as a major process enabler. On a human level, preserving clinical judgment by giving nurses full control to review and edit care plans before final validation built immense clinical confidence.

However, the team had to overcome significant manual challenges prior to deployment. Manual care planning consumed vast amounts of nursing time, leading to documentation variations across shifts. Care plans were not consistently updated as patient conditions shifted, increasing documentation burdens and nurse fatigue. This manual approach also created higher medico-legal and compliance risks due to incomplete records. The innovation successfully addressed these hurdles by combining automated clinical recommendations with human verification, achieving 100% system availability and a 30% increase in overall nurse satisfaction.

Key Learnings & Sustainability

A major learning was that integrating AI directly with the EMR is essential to reduce nursing workloads and achieve a 40% reduction in documentation time. Additionally, preserving human clinical validation ensures staff trust and safeguards data compliance.

Hospitals adopting similar practices must ensure their core EMR can feed real-time clinical assessment data into an AI engine. They should also design a clear, editable review interface so nurses can easily adjust automated diagnostics at the bedside.

Sustainability is driven by a centralized Nurse Care Plan Console and interactive dashboards. These visual anchors enable continuous timeline monitoring, track active patient progress, and display live KPI metrics—such as the 95% accuracy rate and 100% system uptime. Full architectural blueprints, interface screenshots, and implementation details are maintained within Rajagiri Hospital's internal IT repository and core Histree HIS system documentation.

Reference Sources (If Applicable)

Nil

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