

From Reactive Care to Predictive Care

Category: Digital Excellence

Focus Area: Disease/Care Management

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Problem Statement

Max Super Specialty Hospital, Saket manages a large population of clinically vulnerable patients, particularly ICU shift-outs and high-risk ward admissions. Traditionally, these patients were monitored through intermittent manual observations conducted every few hours. This approach created monitoring gaps during which sudden physiological deterioration could remain undetected until the next nursing round, increasing the likelihood of delayed intervention, emergency ICU transfers, prolonged hospital stay and higher treatment costs.

The challenge was to improve patient safety and early deterioration detection without expanding ICU infrastructure or increasing nursing manpower. Existing monitoring practices were reactive rather than predictive, relying heavily on manual documentation and clinical observation.

To address these operational challenges, Max Saket implemented the Isansys Patient Status Engine (PSE), a continuous wireless patient monitoring platform capable of providing real-time physiological surveillance, automated Early Warning Scores and instant deterioration alerts.

The initiative directly benefited patients, nurses, treating consultants, intensivists, rapid response teams and hospital management by enabling earlier clinical decision-making and improving overall quality of care.

The initiative supported multiple NABH quality objectives including patient safety, continuous patient monitoring, timely clinical escalation, effective communication,

documentation quality, risk reduction and optimal utilization of healthcare resources

Objectives

The Isansys Patient Status Engine (PSE) is a wearable continuous patient monitoring platform designed for high-risk hospitalized patients.

The system continuously captures vital parameters including heart rate, respiratory rate, ECG, oxygen saturation, temperature, blood pressure and heart rate variability. Patient data are transmitted wirelessly through secure gateways to the Lifeguard Server where advanced analytics generate automated Early Warning Scores and real-time deterioration alerts.

Clinicians can access centralized dashboards enabling immediate review of patient status and prompt clinical escalation whenever abnormal physiological trends are detected.

The platform was implemented in March 2024 with ten monitoring units (five in East Block and five in West Block), primarily focusing on ICU shift-out patients and other clinically unstable ward patients.

Intervention & Methodology

Implementation was carried out in a phased manner to ensure seamless integration with existing clinical workflows.

Major implementation activities included:

• Installation of ten Isansys monitoring units.

• Identification of appropriate patient selection criteria.

â€¢ Training of more than 170 nursing professionals on wearable sensor application, dashboard interpretation and alert response.

â€¢ Development of standardized escalation protocols for abnormal Early Warning Scores.

â€¢ Daily monitoring of generated alerts by clinical teams.

â€¢ Deployment of centralized monitoring dashboards.

â€¢ Continuous evaluation of clinical outcomes and operational indicators.

Strong leadership support from the Quality Department and active participation of nursing teams ensured successful adoption across clinical departments while maintaining minimal disruption to routine patient care.

Results & Impact

Implementation of Isansys produced measurable improvements across clinical, operational and financial domains between March 2024 and April 2026.

Clinical outcomes included monitoring of 798 patients over 3,304 monitoring days, with early identification of deterioration resulting in timely escalation of 112 patients requiring higher levels of care. Continuous surveillance enhanced patient safety by reducing delays in recognizing physiological decline and supporting earlier clinical intervention.

Operational improvements included saving more than 750 ICU bed-days, equivalent to creating approximately two additional ICU beds annually without expanding infrastructure. Automated monitoring also reduced manual observation workload, resulting in over 3,200 nursing hours saved and improved workforce productivity.

Financial analysis estimated cost avoidance of approximately â‚¹1.28 crore through optimized ICU utilization and reduced critical care burden.

The initiative demonstrated successful adoption of digital health technologies aligned with NABH Digital Health standards by strengthening continuous patient monitoring, supporting evidence-based clinical decision-making, improving documentation quality and enhancing patient safety.

Challenges & Critical Success Factors

- â€¢ Leadership commitment from hospital management
- â€¢ Strong Quality Department oversight
- â€¢ Structured staff training for more than 170 nurses
- â€¢ Clearly defined escalation pathways
- â€¢ Standardized patient selection criteria
- â€¢ Continuous outcome monitoring
- â€¢ Real-time clinical dashboards
- â€¢ Wearable wireless monitoring technology

Challenges

- â€¢ Initial staff adaptation to continuous digital monitoring
- â€¢ Workflow integration with existing nursing practices
- â€¢ Alert prioritization during early implementation
- â€¢ Continuous user training and competency maintenance
- â€¢ Integration with existing hospital digital systems

Key Learnings

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1. Continuous monitoring enables earlier recognition of clinical deterioration compared with intermittent manual observations.
2. Digital health solutions improve both patient outcomes and operational efficiency simultaneously.
3. Successful implementation depends as much on staff engagement and workflow redesign as on technology itself.

Sustainability

- â€¢ Expand Isansys deployment across additional specialties.
- â€¢ Integrate with Electronic Medical Records.
- â€¢ Develop centralized digital surveillance command centre.
- â€¢ Continue KPI-based performance monitoring.
- â€¢ Periodic refresher training for nursing staff.
- â€¢ Standardize predictive monitoring within routine inpatient care.

Reference Sources (If Applicable)

<https://isansys.com/>

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