



IHH Healthcare

National Healthcare Innovation and Productivity (NHIP) 2025

AI-Powered Nurse Rostering for Smarter Care and Better Outcomes

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1 SUMMARY OF PROJECT

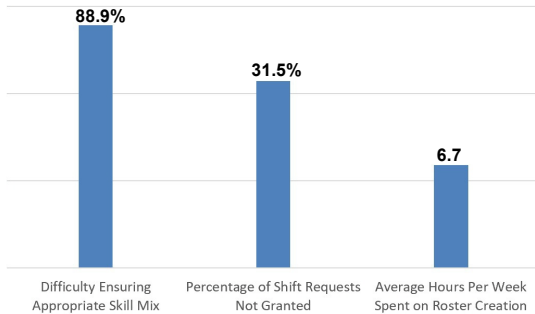
- NurseShift.ai is an economical, efficient, and user-friendly AI-powered rostering solution developed to streamline nurse scheduling.
- The system classifies rostering rules as either hard or soft to ensure compliance, improve transparency, and incorporate staff preferences.
- Continuous feedback mechanisms were incorporated to refine the system so that it meets the evolving needs of the staff and departments while optimising staffing resource allocation.

2 PROBLEM AND BACKGROUND

Nurse Leaders faced substantial challenges with time-consuming manual roster creation, resulting in delays in shift communication, inefficiencies in accommodating staff preferences, and difficulties in meeting roster rule requirements.

These issues negatively affected nurses' morale and work-life balance as well as care delivery.

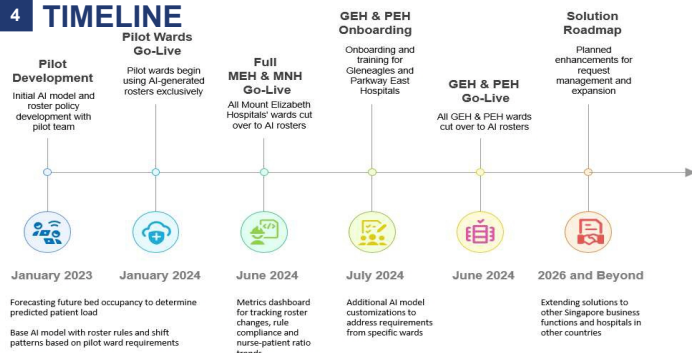
Pre-Implementation



3 OBJECTIVES

The project aimed to streamline the roster generation process by reducing manual effort and time required, while improving nurse satisfaction through an AI-enabled rostering system that supports timely, flexible, and transparent scheduling.

4 TIMELINE



5 METHODOLOGY/ CHANGE STRATEGY

- Historical data, including manual rosters, staffing profiles, and operational constraints, was collected.
- An iterative design approach was employed to explore, test, and implement new system features.
- Close collaboration was undertaken with roster planners and ward leaders to co-develop and refine the AI model.
- Rule adherence and changes were continuously reviewed to identify areas for performance improvement.
- A phased deployment strategy was adopted to ensure scalability, adaptability, and user satisfaction.

6 BENEFITS/ HIGHLIGHTS

Automates 51% of manual rostering tasks, freeing up nurses' time to focus on delivering exceptional patient care.

Accommodates flexible shift timings and preferred shift patterns, reducing the effort required to manage complex shift assignments.

Ensures adherence to stringent nursing regulations, including nurse-to-patient ratios and skill requirements, safeguarding patient safety and operational efficiency.

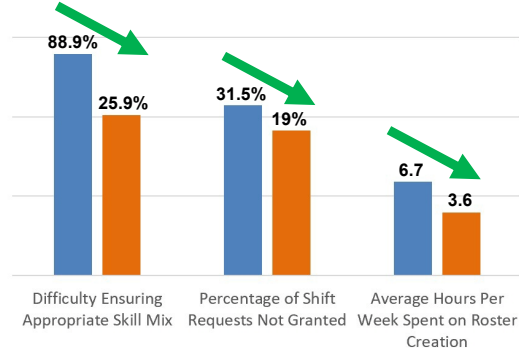
Supports highly customisable roster rules and requirements to respond promptly to dynamic staffing changes and policy updates.

Digitises shift requests and roster management, enabling timely communication and transparent roster visibility.

7 OUTCOME

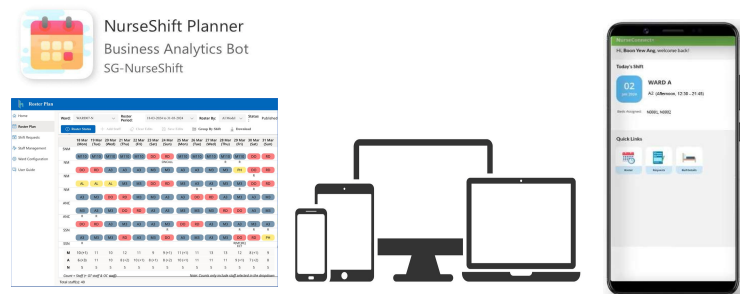
NurseShift.ai reduced the time spent on roster management by 51%. Post-implementation surveys revealed improved nurse satisfaction, with users citing increased flexibility, timely roster availability, greater transparency, and a more positive scheduling experience for both roster planners and staff.

Pre and Post Implementation



8 HEALTHCARE SUSTAINABILITY

Improved Patient Outcomes	Enhanced Health Equity	Cost Savings	Better Staff Satisfaction and Retention	Optimized Resource Allocation	Reduced Environmental Impact
Enhanced staffing accuracy supports better clinical outcomes and reduces complications.	Accurate skill mix in different areas at different times can help address disparities, ensuring that all individuals have equal access to quality care regardless of background or location.	Reduced unnecessary overtime costs and improved staff productivity represent a quantifiable cost saving that benefits the organization as a whole, potentially lowering the cost per capita for healthcare services.	Consideration of staff preferences and workload increases staff satisfaction, which can potentially reduce burnout, improve staff retention rates, lower turnover costs, and ensure continuity of care for patients.	The system accurately predicts and creates rosters based on patients' needs and acuity levels.	Reduced paper use. The AI systems eliminate the need for physical schedules and requests, thereby reducing paper consumption and waste.



9 LESSONS LEARNT

- Conduct Thorough Needs Assessments** before system design or selection
- Set Realistic Timelines** to account for complexity in rostering requirements
- Engage Stakeholders Early** to gather insights and secure buy-in
- Communicate Clearly** the purpose, benefits, and expectations to ease transitions
- Proactively Address Resistance** through listening and support
- Provide Comprehensive Training** to build user confidence and ensure effective adoption