

Rapid Assessment RESULTS



Rapid Assessment Overview

FLO's Rapid Assessment provides your institution with a glimpse into the savings and operational efficiencies your department could realize by augmenting your nurse scheduling process with just one of FLO's helpful decision support tools, Plan. The Assessment process uses mathematical modeling to intelligently sequence clinical shifts to match patient care needs and department goals utilizing a small sampling of your institution's unique data to quickly prescribe the optimal number of nurses assigned to each shift for each day of a scheduling period.

Assessment Parameters

Facility: **Loveable Hospital**

Time Frame: **July 2 - 29, 2023**

Scheduling Horizon: **4-weeks**

Data from Loveable Hospital's Emergency Department included:

- Forecast Census
- Scheduling Rules
- Available Shifts
- Nurse roster count by FTE, type

Rapid Assessment Results

A Rapid Assessment was conducted for **Loveable Hospital's Emergency Department** utilizing the department's baseline scheduling plan and forecasted census for one scheduling period. FLO's Rapid Assessment tool was also run for the same scheduling period, adhering to the department's scheduling rules, shift types, and high-level nurse roster detail. The results produced by FLO's Rapid Assessment tool were then compared against the department's baseline schedule in terms of patient safety and schedule efficiency. Overall, FLO's tool was able to identify a more efficient nursing schedule plan that was better aligned with the forecasted census and resulted in improved patient safety metrics.

Labor Efficiency



- 938 clinical nurse working hours saved (equivalent to approximately 6.5 full-time working nurses)

Safety





- Patient-to-Nurse ratio (PNR) maintained 94% of the time preventing any unsafe staffing situations

Schedule Utilization

FLO's Rapid Assessment tool was able to achieve a **more flexible use of shift types, developing 28 distinct patterns**, one for each day of the scheduling period.

PARS BASED <i>Same shift pattern regardless of demand</i>		FLO's OPTIMIZED SCHEDULING <i>Customized Shift Patterns</i>																												
Pattern:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
0700_12HR	7	8	6	7	6	7	6	6	6	7	6	7	6	7	7	7	6	6	7	7	6	6	6	6	6	6	6	6	6	6
0900_12HR	1		2	1	1	1	2			1	1	1	2		1	1		1	1	1				1	1				2	
1100_08HR	2	6	5	3			1	1	3					3	2	3	3	1	2	4	2	3	1	1	3	2		2	2	
1100_12HR	1	1			4	2		3	1	5	4	3	1	3	1	2		2	2	1			1	2	4	1	3	4	3	
1300_12HR	2	1	5	2	1	2	2	1	1	2	1	2	1	1	1	2	5	2	2	1	3	3	3	1	2	2	4	2		
1500_12HR	1	2		2	2		5		1	2	2		1	2	4	2	1	4			3	1	1	1				2	3	
1900_08HR	2	1	2	3		2		1	1	1		1					3		1	2		2				2	1			
1900_12HR	6	7	7	6	6	6	6	6	7	6	6	6	6	6	6	7	7	7	6	6	6	6	6	6	6	6	6	8	6	6
Shift Count:	22	26	27	24	20	20	22	18	20	24	20	20	17	22	22	24	25	23	21	22	20	21	18	18	22	19	22	22	22	

The tool created a schedule that more efficiently used Evening shifts over Night shifts to **better align nurse resources with census demand patterns**, which exhibited spikes during the early evening hours when these shifts overlapped and used fewer Night shifts during low census demand periods.

Shift Utilization		
Day Shifts	45%	44%
Evening Shifts	18%	22%
Night Shifts	36%	34%

Schedule Efficiency

FLO's Rapid Assessment tool generated an improved schedule pattern that closely aligned with the census forecast, ensuring optimal utilization of nurse resources. The improved optimized schedule pattern reduced surplus and shortfall hours for the scheduling period creating a **total savings of 938 clinical nurse working hours**, which is equivalent to **approximately 6.5 full-time working nurses** (assuming full-time nurses work a minimum of 36 hours per week or 0.9 FTE).

Schedule Efficiency



Overscheduling (surplus)	783 hours	309 hours	474 -hour improvement
Under-scheduling (shortfall) <i>Total shortfall hours</i>	440 hours	126 hours	314 - hour improvement
Unfilled Shifts <i>Total unfilled hours</i>	150 hours	0 hours	150 - hour improvement
Total Labor Inefficiency (hours)	1,373 hours	435 hours	938 - hour improvement

Schedule Safety

FLO's Rapid Assessment tool produced a safer schedule than the baseline forecast. It **maintained an optimal Patient-to-Nurse ratio (PNR) 94% of the time**, compared to the baseline's 84%, and ensured sufficient nurse coverage, **preventing any unsafe staffing situations** during the scheduling period. In comparison, the baseline schedule was found to be unsafe 6% of the time (unsafe staffing defined as a PNR ratio exceeding 4:1). Additionally, the tool allocated **sufficient nursing resources for each hour** based on the census, ensuring that the **maximum shortfall of nurses never exceeded 2 nurses**. In contrast, the baseline forecast resulted in a maximum shortfall of 6 nurses during the scheduling period.

Schedule Safety



Minimum Staffing <i>Minimum nurses at each hour (including lunch coverage)</i>	Direct Nurses: 4 Indirect Nurses: 2	Direct Nurses: 4 Indirect Nurses: 2	0 (neutral)
Under-staffing (hourly maximum) <i>Nurse demand less scheduled direct nurses</i>	Maximum Shortfall: 6 nurses	Maximum Shortfall: 2 nurses	4 - nurse improvement
Unsafe Staffing <i>% of time patient-to-nurse ratio exceeds 4:1</i>	6%	0%	6% - points improvement
Optimal Staffing <i>% of time patient-to-nurse ratio between 2:1 and 4:1</i>	84%	94%	10% - points improvement
Max Patient-to-Nurse Ratio <i>Maximum patient-to-nurse ratio</i>	6:1	3.5:1	2.5:1 - improvement