

Redesigning Daily Updates on Bed Situation for Efficiency and Visualization

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Aim

The project aims to redesign the Daily Update on Bed Situation report for Chiefs and Senior Management with three key objectives:

1. Review data indicators to align with current hospital needs.
2. Promote clinical departments' ownership of performance via enhance data visualization.
3. Alleviate reporting burdens thereby releasing A&E and BMU teams for more strategic work.

Background

1. Since May 8, 2023, BMU and A&E Ops have been using a standalone Excel file to report a Daily Update on Bed Situation. This labour-intensive task is time-consuming for executives in both departments. Many tracked indicators are duplicative, as they are also reported by ground staff, and some lack the necessary detail for current issues.
2. Average total time taken to generate this report daily at baseline is 1 hr 15mins or 75mins.
3. Average time taken to generate 6 charts with the granularity required to facilitate decision making to achieve hospital goals is 1hr or 60mins.
4. Hence, a redesign of this daily report is needed.

Team Members

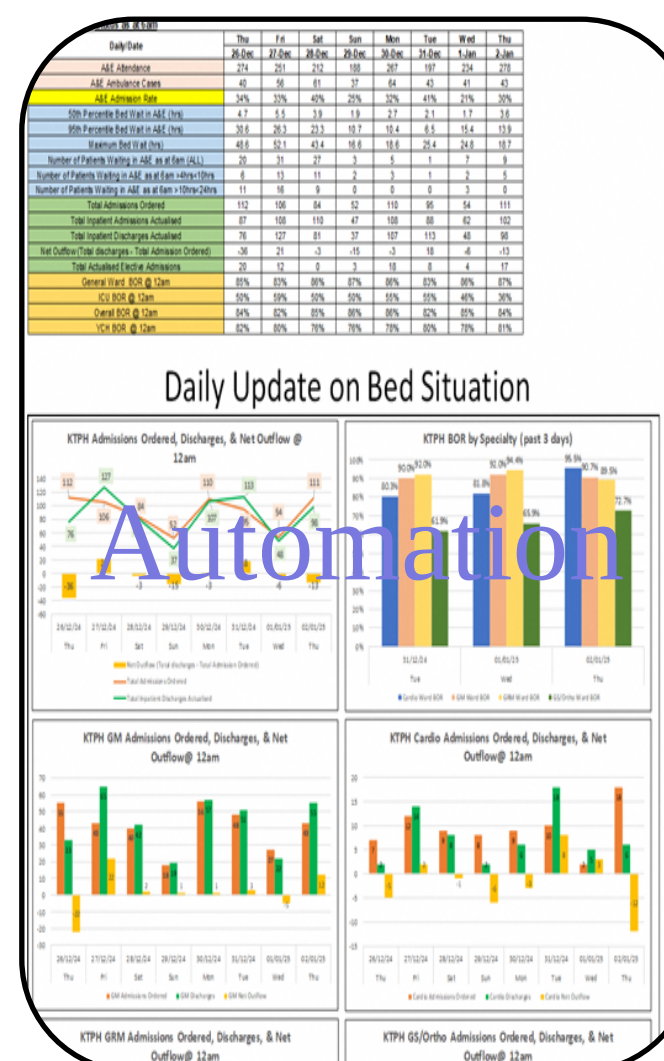
Name	Designation	Department
Nur Ilyana Bte Mohamed Salleh	Senior Executive Assistant	Acute & Emergency Care
Noraini Bte Samri	Senior Patient Service Associate Executive	Bed Management Unit
Samilah Devi D/O Krishnasamy	Patient Service Associate Executive	Bed Management Unit
Bryan Tam Wei Hoe	Executive	Bed Management Unit

Interventions / Implementation

Utilizing design thinking from Stanford's Hasso Plattner Institute, the project followed a five-stage process:



- 1. Empathise:** Engaged with A&E and BMU teams to identify inefficiencies
- 2. Define:** Aimed to streamline report completion and improve data visualization to facilitate decision making to achieve hospital goals.
- 3. Ideate:** Collaborated with stakeholders to identify essential data and reduce redundancy.



- 4. Prototype:** Developed and proposed a new report format with the following enhancements:
 - Consolidated relevant A&E and BMU data on a central data repository, thereby eliminating the need to maintain a standalone tracking file.
 - Incorporated and automated 2 important reports, Daily Update on Bed Situation and GCEO table to central data repository excel file.
 - Added automation for 6 daily charts for better visualisation through the use of excel formulae.



- 5. Test:** Launched the new report format with approval from Chiefs and Senior Management during the Patient Flow Meeting.

Onward 2026

Strategic Priority 1:

1. This project enhance visibility through visual charts on the overall demand and outflow of patients in their various disciplines.
2. These charts are intended as a form of visual management for various disciplines' clinical teams to take ownership on various indicators within their care streams:
 - Admissions Ordered
 - Bed Occupancy Rate (BOR)
 - Inpatient Discharges

Operational Resilience:

1. Automation of daily visual charts releases more of A&E and BMU ops teams' time to focus on other strategic priorities.
2. A centralised tracking for daily update data and BMU data offers the following flexibility:
 - Ease of creation of new charts with greater granularity to facilitate decision making for achieving hospital goals.

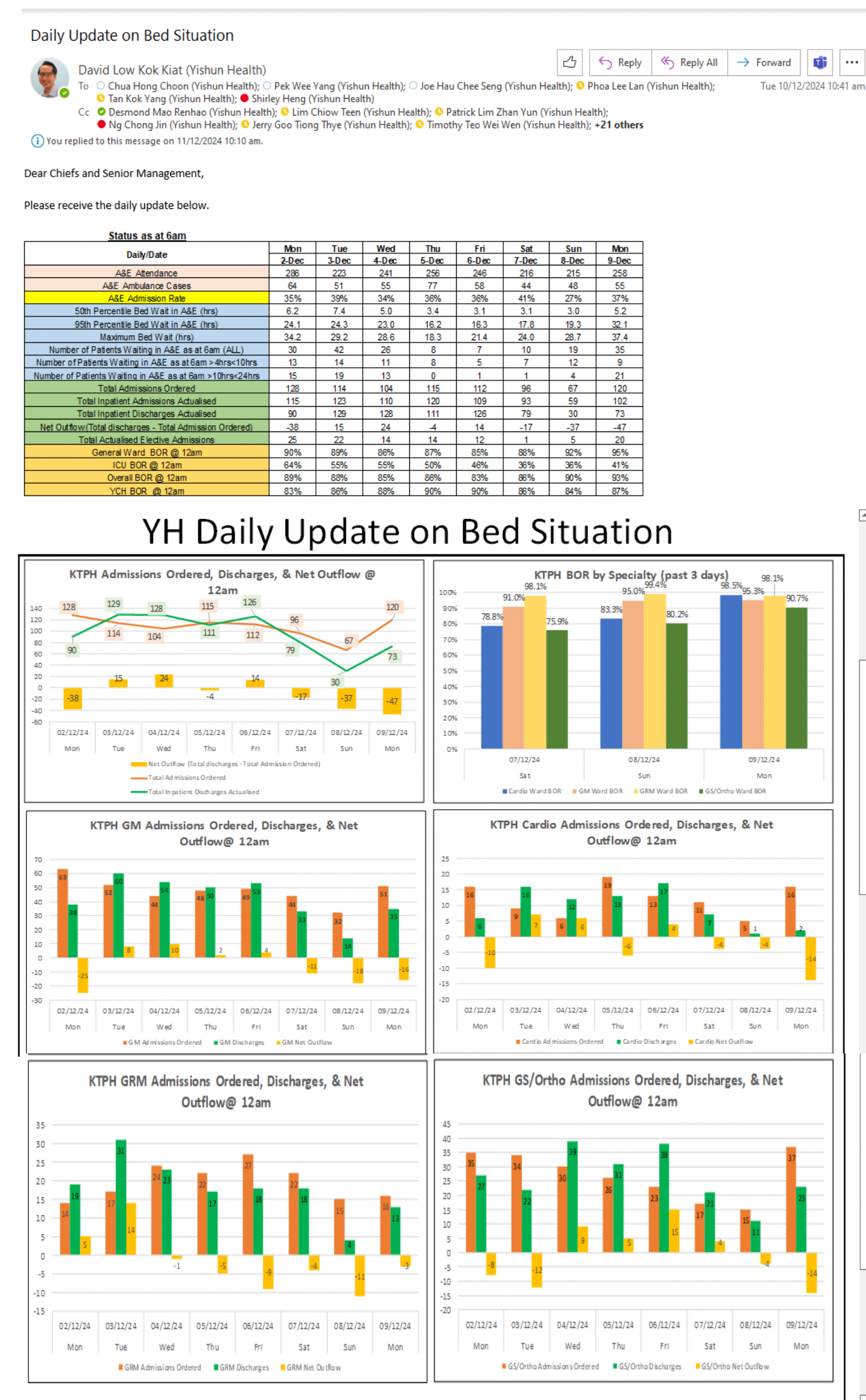
Staff Well-being:

1. Staff do not feel as stressed performing the task as the automation has made the process more intuitive.

Results & Outcomes

1. Achieved annualised time savings of 488 hrs.
2. Achieved annualised manpower cost savings of \$21,802.56

Report	Time taken / Report (As Is)	Time taken / Report (To Be)	Time Savings of Report / Day	Frequency	Total Time Savings per Year	Manpower Cost Savings/Year
Daily Update on Bed Situation	75 mins	10 mins	65 mins	Every Weekday	260 hrs	\$11,616.12
Daily 6 Charts	60 mins	3 mins	57 mins	Every Weekday	228 hrs	\$10,186.44
Total weekday time savings:	135 mins	13 mins	122 mins		488 hrs	\$21,802.56



Conclusion

The redesigning of Daily Updates on Bed Situation has increased efficiency via visualization of key data which will be sustained by the following measures:

- 1) Daily audit by BMU executive to ensure data accuracy before sending report to Chiefs and Senior Management.
- 2) 3 monthly review of data indicators to check with stakeholders on their relevancy and if there are new indicators to be tracked.