

Optimising Efficiency by Automating Planned Electives Reporting and Validation

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Aim

- To create a daily reporting mechanism for number of electives by clinical specialties
- To create a system to validate planned and actualised electives

Background

As part of the hospital direction to increase electives in KTPH, Bed Management Unit (BMU) was required to:

- Report and verify detailed breakdown of electives for the next day
- Investigate discrepancies between planned and actualised electives

Total of 6 hours daily was spent to manually validate lists of patients and generate a census of planned electives. This process was error prone and mentally taxing, requiring much investigative efforts, thus necessitating the need for improvement.

Team Members

Name	Designation	Department
Noraini Bte Samri	Senior PSA Associate Executive	BMU
Samilah Devi D/O Krishnasamy	PSA Associate Executive	BMU
Clarence Chew Qi Wen	Assistant Manager	Peri-Operative Service
Muhammad Hadi Iskandar Bin Mohamed Effendi Chow	Senior Executive	Peri-Operative Service
Nurul Aqilah Binte Zainudin	Senior Executive Assistant	Peri-Operative Service

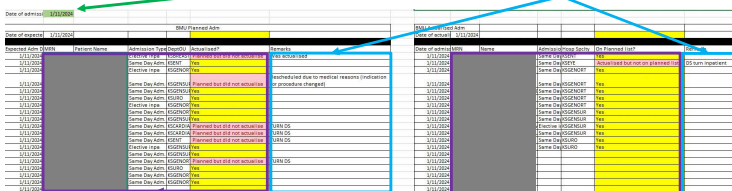
Interventions / Implementation

Over 3 months, Plan-Do-Study-Act cycles resulted in the following initiatives to improve the efficiency of the process:

- Excel Database: Raw data was collated daily into a databank
- Automated Reporting Template: An excel template was created to (1) tabulate planned electives by specialty and by type from the databank, and (2) generate the report, using excel formula.
- Automated Matching Sheet: The process of matching patient lists was automated through advanced filters and macros. The matching sheet was further improved to populate with only a change of the expected admission date. Conditional formatting and highlights helped to identify cases that needed to be investigated at a glance.

Step 1: User enters the date of expected admission

Step 3: User labels identified category of reasons



Step 2: Formula automatically generates lists of planned and actualised patients from database corresponding to the date. Formula then automatically matches the lists of patients, with discrepancies highlighted in red

Onward 2026

1. Strategic Priority 2: Drive Ambulatory First and Elective Surgery

- Enables BMU to provide accurate information on elective load for better management and optimisation of electives

2. Foundation: Operational Resilience

- Automating the process maximises efficiency while minimising errors

3. Foundation: Staff Wellbeing

- Performing the task reduces mental burden through automation and increases Joy-in-Work

Results & Outcomes

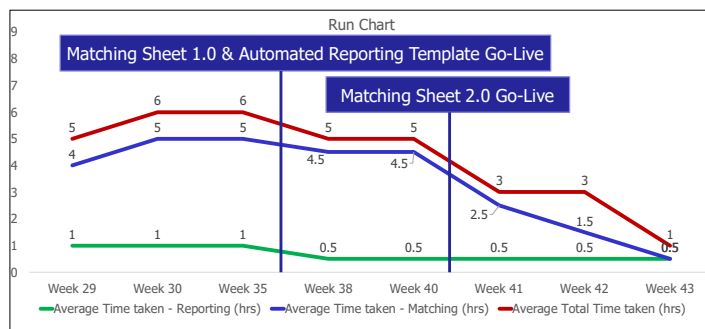
- Time and manpower cost savings

After 3 months of continuous improvement:

- Achieved 90% reduction in time spent matching patient lists, from 5 hours to **30 mins**
- Achieved 50% reduction in time spent preparing reports, from 1 hour to **30 mins**

This translates to the following time and manpower cost savings:

- Annualised time savings: 1,200 hours
- Annualised manpower cost savings: \$53,612.86



	Time (As-is)	Time (To-be)	Time Savings/Day	Frequency	Time Savings/Year	Manpower Cost Savings/Year
Planned Admissions Reporting	60 mins	30 mins	30 mins	Every Weekday	120 hrs	\$10,722.57
Matching and Validation	300 mins	30 mins	270 mins	Every Weekday	1,080 hrs	\$42,890.29
Total Weekday Time Savings	360 mins	60 mins	300 mins		1,200 hrs	\$53,612.86

- Increased accuracy of report through continuous improvement

- Root causes of discrepancies were identified from matching sheet through investigations co-conducted with Peri-ops team
- Epic reports were updated and relevant stakeholders engaged to overcome root causes of discrepancies

Conclusion

We successfully implemented an automated reporting system for planned and actualised electives, facilitating better decision making and management of electives load in KTPH.

This project will be sustained through continued PDSA arising from the root causes identified and the rectification of avoidable discrepancies between planned and actualised electives.