Project Title

Use of Tableau to Cascade Key Indicators Reporting

Project Lead and Members

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Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group Involved in this Project

Healthcare Administration, Medical

Project Period

Start date: Feb-2017

Completed date: Mar-2018

Aims

To cascade the indicators data to the department and service level starting February 2017 and streamline the process to less than 14 FTE days per month by March 2018.

Background

See poster appended / below

Methods

See poster appended / below

Results

See poster appended / below

Lessons Learnt

Initial creation of reports with Tableau was challenging as it required training, technical skills and high manpower resource. However, there are significant manpower savings thereafter on regular data trend updates.

Conclusion

See poster appended / below

Project Category

Care & Process Redesign, Value Based Care, Productivity, Manhour Savings, Technology, Analytics

Keywords

Tableau, Key Indicators Reporting

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USE OF TABLEAU TO CASCADE KEY INDICATORS REPORTING

HE SONGHUA, CHRISTINE WU XIA, TAN KAI PIK, DR HWANG CHI HONG

☐ SAFETY
☑ PRODUCTIVITY
☐ PATIENT EXPERIENCE
☑ QUALITY
☑ VALUE

Define Problem, Set Aim

Current Medical Board reports track key Clinical Quality and Patient Safety (CQ&PS) indicators **only at the hospital level**. Departments and Services do not have visibility of their performance breakdown for the CQ&PS indicators, and are unable to act on the hospital level data.

In order to provide the CQ&PS departmental reports with department and service level data for 12 clinical departments, our team estimated that a **very high amount of manpower resource (28 FTE days per month) is required**, and is not sustainable from a manpower perspective.

Aim
- To cascade the indicators data to the department and service level starting February 2017, and streamline the process to less than 14 FTE days per month by March 2018.
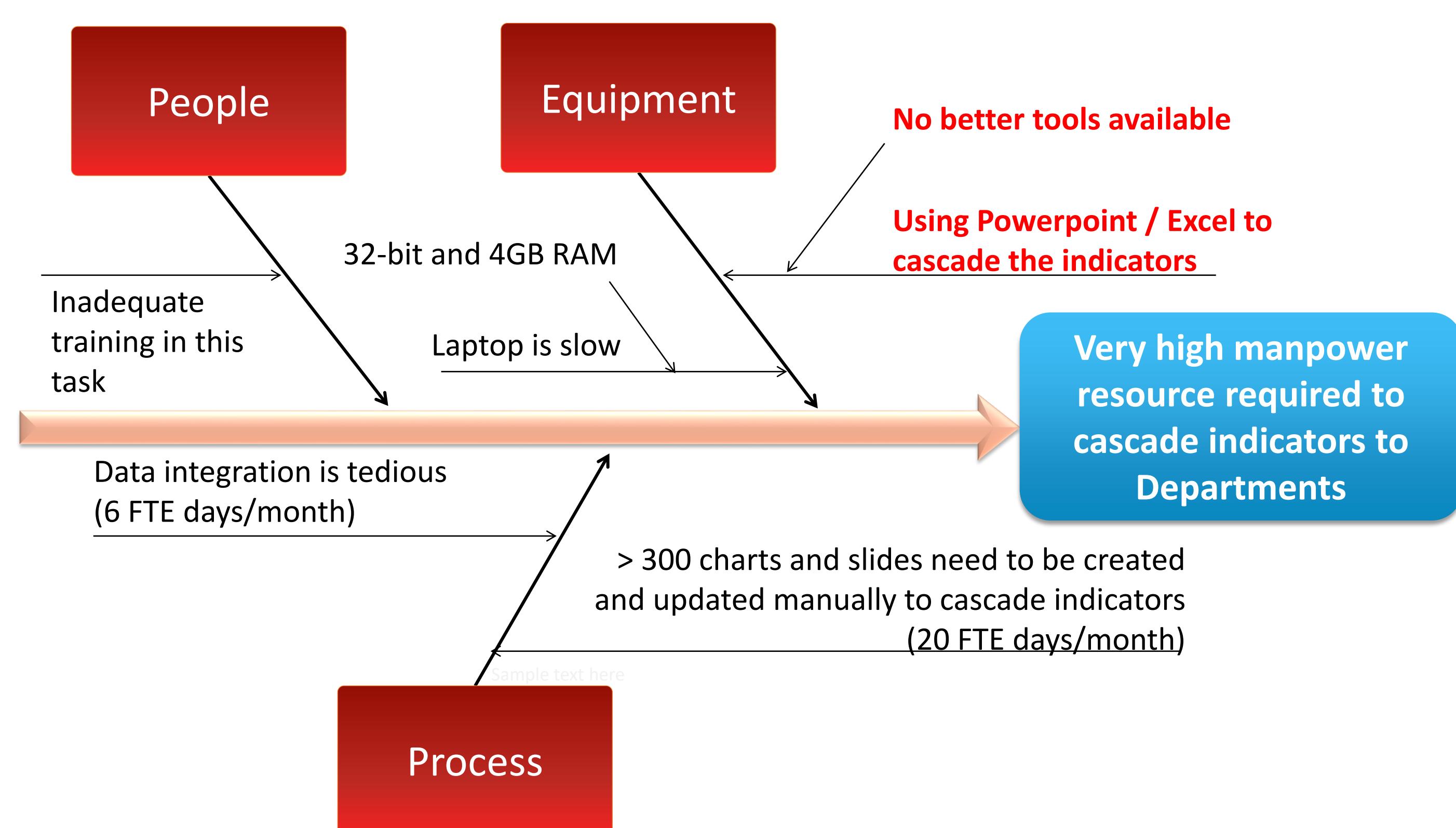
Establish Measures

- FTE days per month to generate the CQ&PS departmental reports
- Feedback on the reports

Analyse Problem

The team found that the major pain points were:
- Tedious data integration
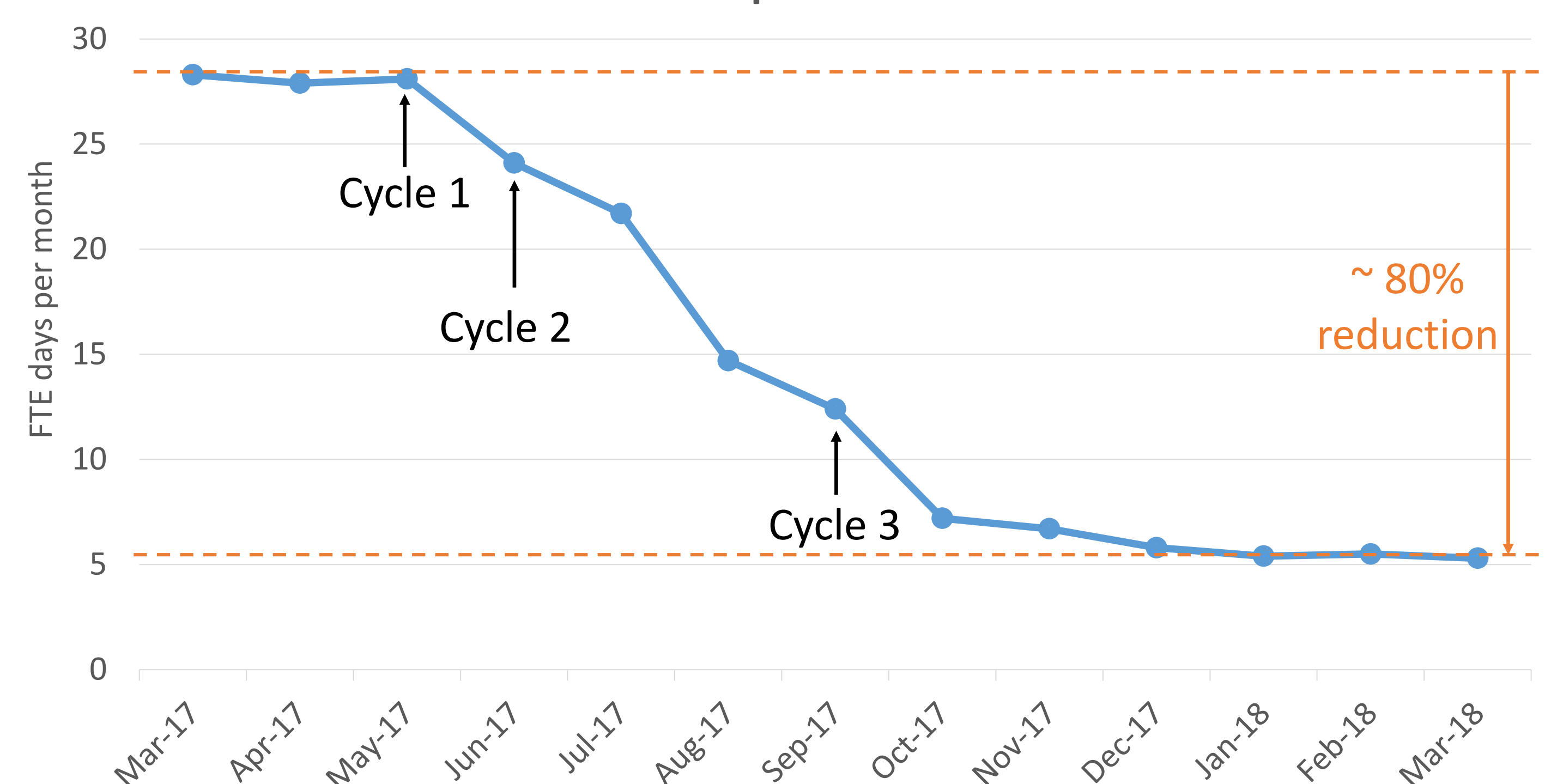- Manually creating and updating more than 300 charts and slides to cascade the indicators

The probable root cause is that the team was using Powerpoint/Excel to perform the above tasks and did not have other suitable tools.
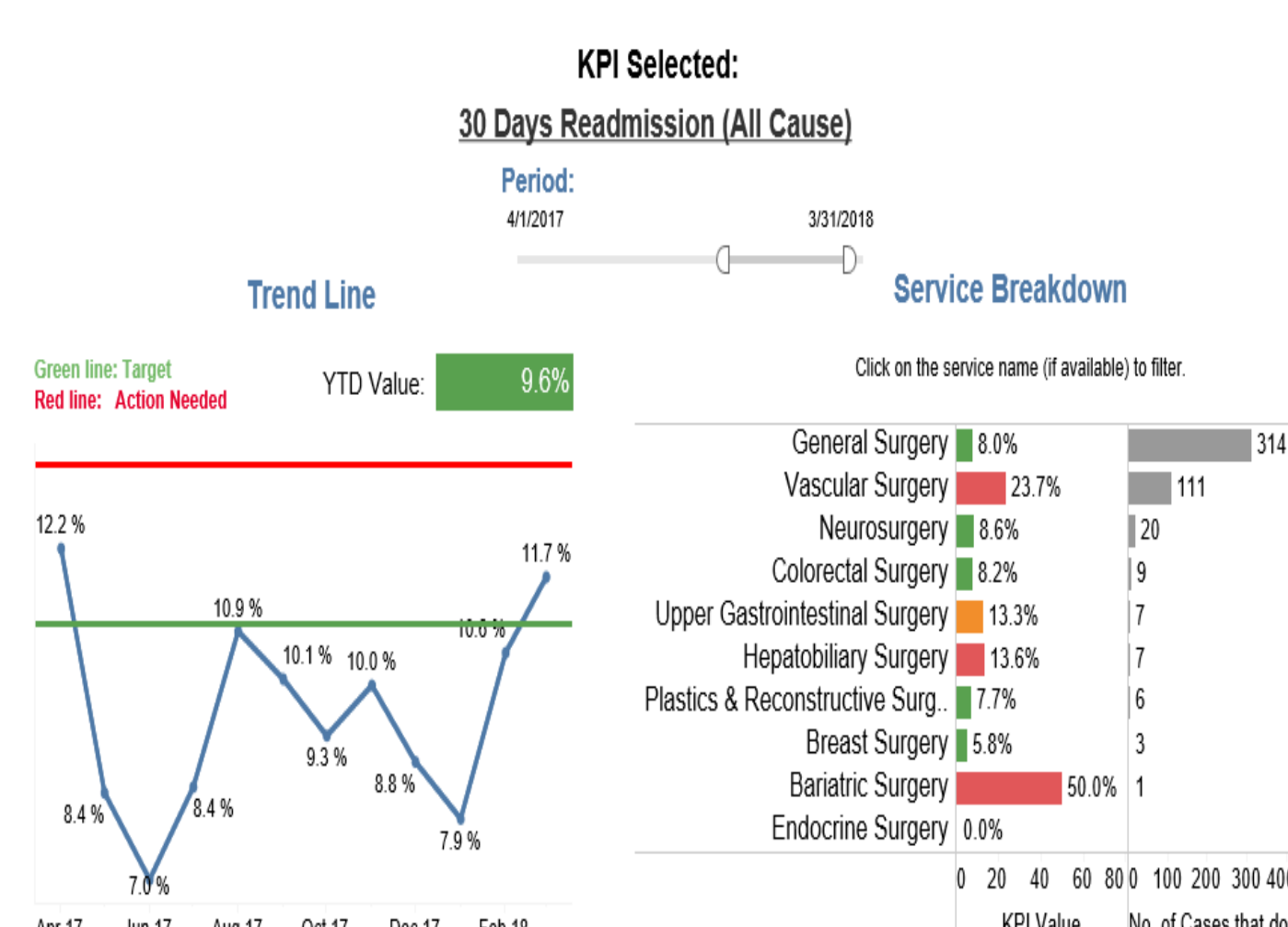

Select Changes

The team explored using **Tableau** to address the major pain points identified:
- Tableau has in-built feature to facilitate data integration
- Tableau can create a dashboard that allows user to interact and cascade the indicators data

Test & Implement Changes

CYCLE	PLAN	DO	STUDY	ACT
1	To use Tableau to facilitate data integration.	To test out using Tableau to perform cross-database joins on sample databases.	Tableau is able to integrate the databases easily by 'drag-and-drop'.	To use Tableau to integrate the databases required for the CQ&PS departmental reports.
2	To use Tableau to cascade CQ&PS indicators.	To test out using Tableau to build a pilot General Surgery dashboard to allow user to interact and cascade CQ&PS indicators.	Not so easy to create the dashboard as it requires training, technical skills, and high manpower resource. Limited dissemination of info via dashboards as each viewer access requires a license which is costly.	To improve our technical skills by self-learning through guide books and YouTube tutorials. To export dashboard in PDF format for dissemination of info. Limitation is that there is no viewer interaction with data with PDF.
		To present pilot dashboard to General Surgery.	**Positive feedback** given by General Surgery on the pilot dashboard.	
3	To reduce effort for updating of charts with Tableau.	To automate the update process with Tableau.	Total effort to update the charts **reduced by about 80%**.	To proceed to create the departmental CQ&PS reports for 4 other clinical departments by March 2018.

Monthly Manpower Resource Used To Generate CQ&PS Reports

Learning Points

- Tableau is good for cascading indicators data.

- Initial creation of reports with Tableau is challenging, as it requires training, technical skills, and high manpower resource, but there are significant manpower savings thereafter on regular data trend updates.

- However, there is limitation to dashboard access due to license cost constraints.