

Green Belt Lean Six Sigma Project Report Out

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OhioMHAS, Office of Hospital Services

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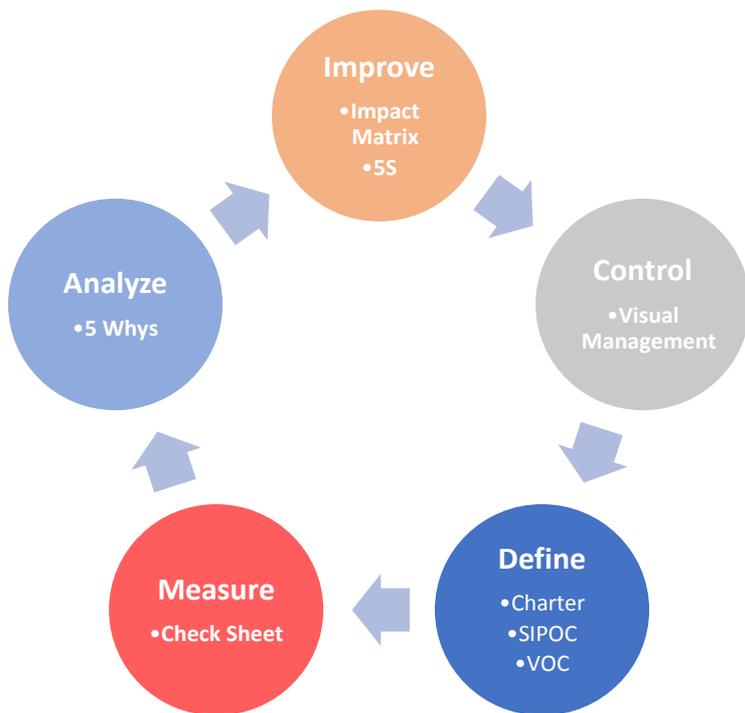


Hospital Services Operations Dashboard

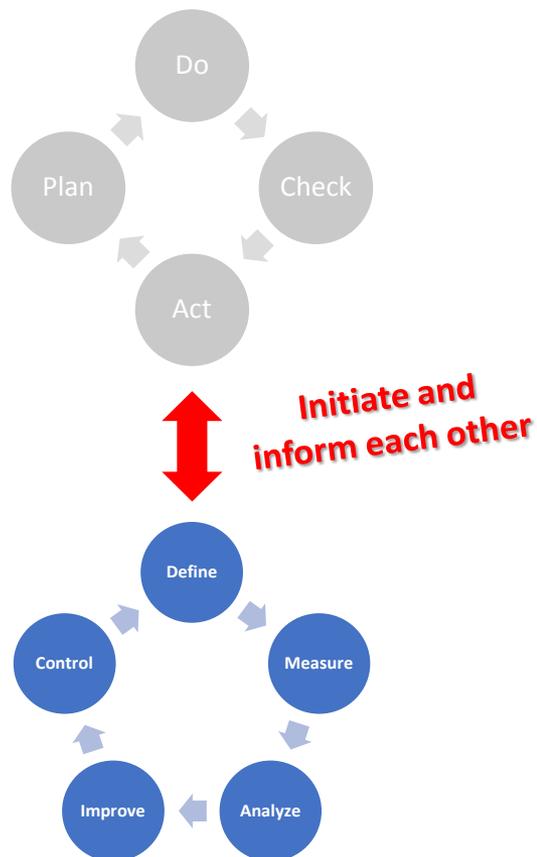
OVERVIEW

Two-part Six Sigma structure for this project:

Part 1 *Project Creation*



Part 2 *Project Utilization*



Project Charter

Problem/Opportunity Statement

Opportunity to develop a **resource management reporting dashboard** that is timely, comprehensive, accurate, and promotes effective resource management at both the individual provider and broader hospital system levels.

Project Goals

- Align all budget models (financial and staffing) with data from the accounting system
- Reduce human involvement in the data collection, presentation, and dissemination processes
- Integrate resource management reporting into a single Tableau dashboard
- Provide dashboard visualizations and data tables that are useful for effective resource management at both the individual provider and broader hospital system levels

Project Boundaries

- Data will be limited to what is available in OAKS BI Cognos
- Dashboard visualizations and data tables will be targeted towards CEO and COO-level leadership (aggregate metrics of overall operations as opposed to transactional process details)
- Natural lead time associated with OAKS reporting data (pay period end date vs. FTE actuals, expenditure and encumbrance reporting tied to OAKS overnight batches)

LEAN Ohio Project Charter

Project/Event Title: Hospital Services Operations Dashboard
Project Facilitator: Andrew White
Agency/Organization: Office of Hospital Services, ODHHS
Project Mentor: Eric Connor
Charter Last Updated Date: 9/27/2018

Project Background
Improving the collection, accuracy, presentation, and dissemination processes for key operational reporting measures (budget, spending, revenue, staffing, and clinical staffing) for the state hospital system (which includes six state hospitals, three independent programs, and the Office of Hospital Services).
Problem/Opportunity Statement
The utilization of Tableau's data and visualization capabilities allows the Office of Hospital Services to align its budget/staffing models with real-time data from OAKS; provide senior hospital leadership real-time, accurate reporting on key performance indicators; and eliminate current manual reporting processes.

SCOPE First step in the process: Creating a set of OAKS-based data for budgetary and staffing actuals.
Last step in the process: Transition Tableau dashboard from Test environment to Production environment with automated refresh.

Project Goals
Align all operational reporting (budgets, spending, revenue, staffing, and clinical staffing) with real-time data directly from OAKS; integrate all operational reporting into a single Tableau dashboard; reduce human involvement in the data collection, presentation, and dissemination processes.
Project Boundaries: Project will focus solely on data available in OAKS.

Performance Metrics
What measures will tell you if you are successful: Timeliness of reporting (times actuals vs OAKS vs when reports are sent)
Performance Metrics: Current, Goal, Final, % Change

Projected Results
Increased trust in the validity of operational reporting data; utilization by state hospital leadership as a single source of data for operational performance measures.

Project Team
Team Lead: _____
Team Champion/Sponsor: Andrew White
Process Owner: Eric Connor
Team Members: _____
Subject Matter Expert: Andrew White, Eric Connor
Project Champion/Sponsor and Process Owner Sign-Off: _____
I am committed to supporting this project and implementing the future improvements.
Sponsor Signature: _____
Process Owner: _____

SIPOC

Suppliers	Inputs	Process	Outputs	Customers
Fiscal	OAKS Cognos BI coding requirements		RPH Budget Report	Hospital Services Leadership
OIS	Coded BI reports ("actuals")		CSN Budget Report	RPH Leadership (CEO/COO)
Hospital Services	Budgeting and planning reports ("budget")		FTE Budget Reports	CSN Leadership
				State Hospital Operations Staff
				Central Office Leadership



Voice of the Customer

Primary Customer

- **Hospital Services Leadership**
 - Responsible for overall hospital system resource allocation and management
 - Oversees individual provider resource allocation and management

Data Collection Tools

- Interviews and complaints

Top Customer Requirements

1. Timely
2. Comprehensive
3. Accurate
4. Useful for effective resource management at both the individual provider and broader hospital system levels

*i.e. initiate and inform
downstream DMAIC cycles*

Current functioning of these 4 requirements were evaluated in the Measure phase...

1) Timely

- **Tool:** Check Sheet
- **Distribution of three reports:**
 - RPH Budget Report
 - CSN Budget Report
 - FTE Budget Report
- **Measures:** 2 primary measures were identified
 - **Discrete measure**—whether report was sent or not (*“Was the report sent?”*)
 - **Continuous measure**—number of days between when data was ready and when report was sent (*“If report was sent, how long did it take?”*)
 - Average and By Pay Period End Date
 - Data was identified as “ready” when non-payroll data was run (PPE date +16 days)

Type of Data	Lead Time to Receive
FTE	Pay Period End Date + 9 Days
Payroll	Pay Period End Date + 9 Days
Non-Payroll	Pay Period End Date + 16 Days

- **Time period analyzed:**
 - 15 months; i.e. 32 continuous pay periods beginning 4/1/2017 and ending 6/9/2018 (end of FY17, entirety of FY18)

Measure

Collect data and measure existing system for inefficiencies, opportunities

RPH Budget Report

Report Sent

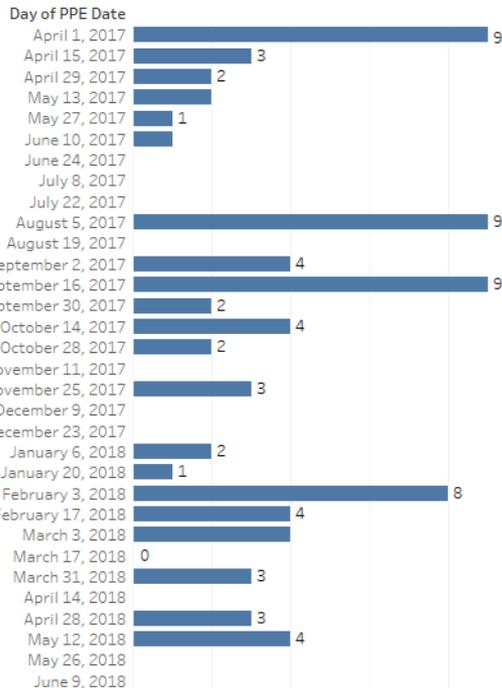


Average Lead Time

(in days)

4

Detailed Lead Time



CSN Budget Report

Report Sent

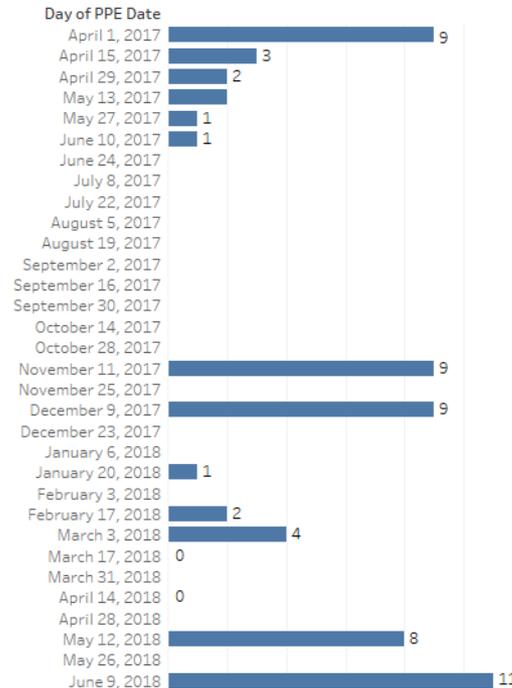


Average Lead Time

(in days)

4

Detailed Lead Time



FTE Budget Report

Report Sent

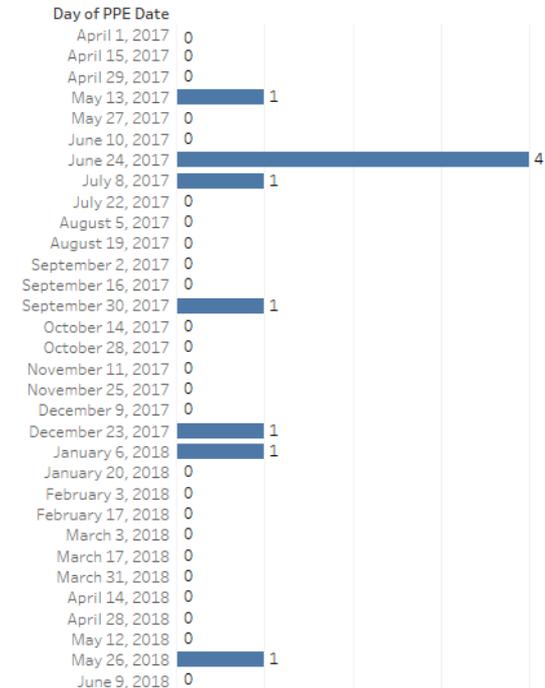


Average Lead Time

(in days)

0

Detailed Lead Time



2) Comprehensive

- Reporting is largely separate from each other.

Indicative of possible product design issue

3) Accurate

Measure: variance between operational reporting numbers and actuals in the state accounting system

However, existing budget and reporting structure makes it virtually impossible to verify accuracy:

- 1. Based on legacy accounting system (CAS) structure that does not exist in current accounting system (OAKS)**
 - *Requires BI Cognos coded reports to translate OAKS actuals (500, 510, etc.) to CAS language (1-line, 2-line, etc.)*
 - *Comparing these CAS-coded reports to un-coded OAKS actuals is like comparing apples to oranges*
- 2. Based on 77 combinations of chartfields, all of which are not in OAKS**
- 3. Reporting data lead time of 9 days makes departmental reporting almost immediately out-of-date compared to OAKS actuals**
- 4. Coded actuals are manually aligned with budgets in Microsoft Excel**
 - *Technical linking of budgets to actuals would require more tools/expertise than exist currently*
 - *This manual alignment is prone to human error*

4) Useful for effective resource management at both the individual provider and broader hospital system levels

Tool: Check Sheet

Discrete measure: inclusion of reports in hospital quarterly Governing Body meetings (*“Was the report in the Governing Body packet or not?”*)

Time period analyzed: Entirety of FY18 = 4 Governing Body Meetings * 6 RPHs = 24 possibilities

Result: 0/24, or 0%

Indicative of possible issues both in terms of process and product design

Five Whys

WHY aren't budget reports distributed on a timely basis?
Because the reports have to be manually created.

WHY do the reports have to be created manually?
Because the way we budget does not align with the accounting system.

WHY does the way we budget not align with the accounting system?
Because we budget using the old accounting system structure.

WHY do we budget using the old accounting system structure?
Because our operational reports are based on the old accounting system structure.

WHY are our operational reports based on the old accounting system structure?
Because that's what the Department and Hospital Services uses.

Primary Customer who initiated this project

Impact Matrix/PICK Chart

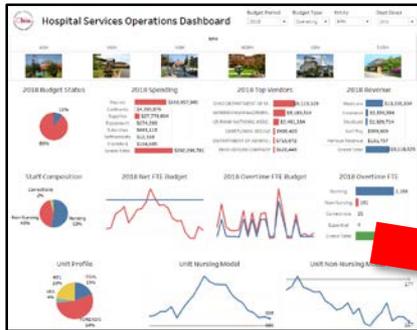
HIGH IMPACT	<p>I. Possible <i>Transition existing manual reporting to align with the current accounting system (OAKS).</i></p> <p>Accurate</p>	<p>II. Implement <i>Create a new automated reporting dashboard that aligns with the current accounting system (OAKS).</i></p> <p>Accurate, Comprehensive, Timely, Useful</p>
	<p>IV. Not Worth The Effort <i>Reinforce importance of timely reporting and reeducate staff on existing reports (CAS).</i></p> <p>Timely, Useful</p>	<p>III. Consider <i>Develop technical solution to align current budget framework with coded actuals (CAS).</i></p> <p>Accurate, Timely</p>
LOW IMPACT	LOW CONTROL	HIGH CONTROL

5S

Applied a 5S approach to both the **data** and the **dashboard**:

	DATA	DASHBOARD
SORT	<ul style="list-style-type: none"> • Evaluated existing OAKS BI Standard Report for use actuals datasets • Identified reports that were useful • Restructured reports in OAKS as needed • Aligned external budget dataset structure with structure of new actuals dataset from OAKS 	<ul style="list-style-type: none"> • Using merged datasets in Tableau, developed multiple visualizations and data tables for consideration • Deleted what was unnecessary/confusing and kept the rest
STRAIGHTEN	<ul style="list-style-type: none"> • Technical merger of actuals datasets from OAKS and external budget datasets in Tableau 	<ul style="list-style-type: none"> • Categorized remaining visualizations based on type • Created the Dashboard structure • Developed navigation and drill-downs throughout entire Dashboard
SCRUB	<ul style="list-style-type: none"> • Aligned merged dataset with chartfield crosswalk to make data easier to understand and utilize • Confirmed accuracy of merged data against actual datasets 	<ul style="list-style-type: none"> • Tested that all navigation and drill-downs worked appropriately • Cleaned up formatting and visualizations
STANDARDIZE	<ul style="list-style-type: none"> • Scheduled actuals datasets to refresh every morning at 6:00 am 	<ul style="list-style-type: none"> • Ensured that Dashboard refreshes were limited to just the datasets and not the Dashboard structure
SUSTAIN	<ul style="list-style-type: none"> • Upload refreshed actuals datasets every morning to the Tableau Dashboard and publish for viewing 	<ul style="list-style-type: none"> • Upload refreshed actuals datasets every morning to the Tableau Dashboard and publish for viewing

Round 1



Needs some 5S straightening before sharing with provider leadership (CEOs/COOs)

Round 2



Officially shared with provider leadership as trial period

Round 3



Added additional views at request of RPH leadership to allow for benchmarking across providers

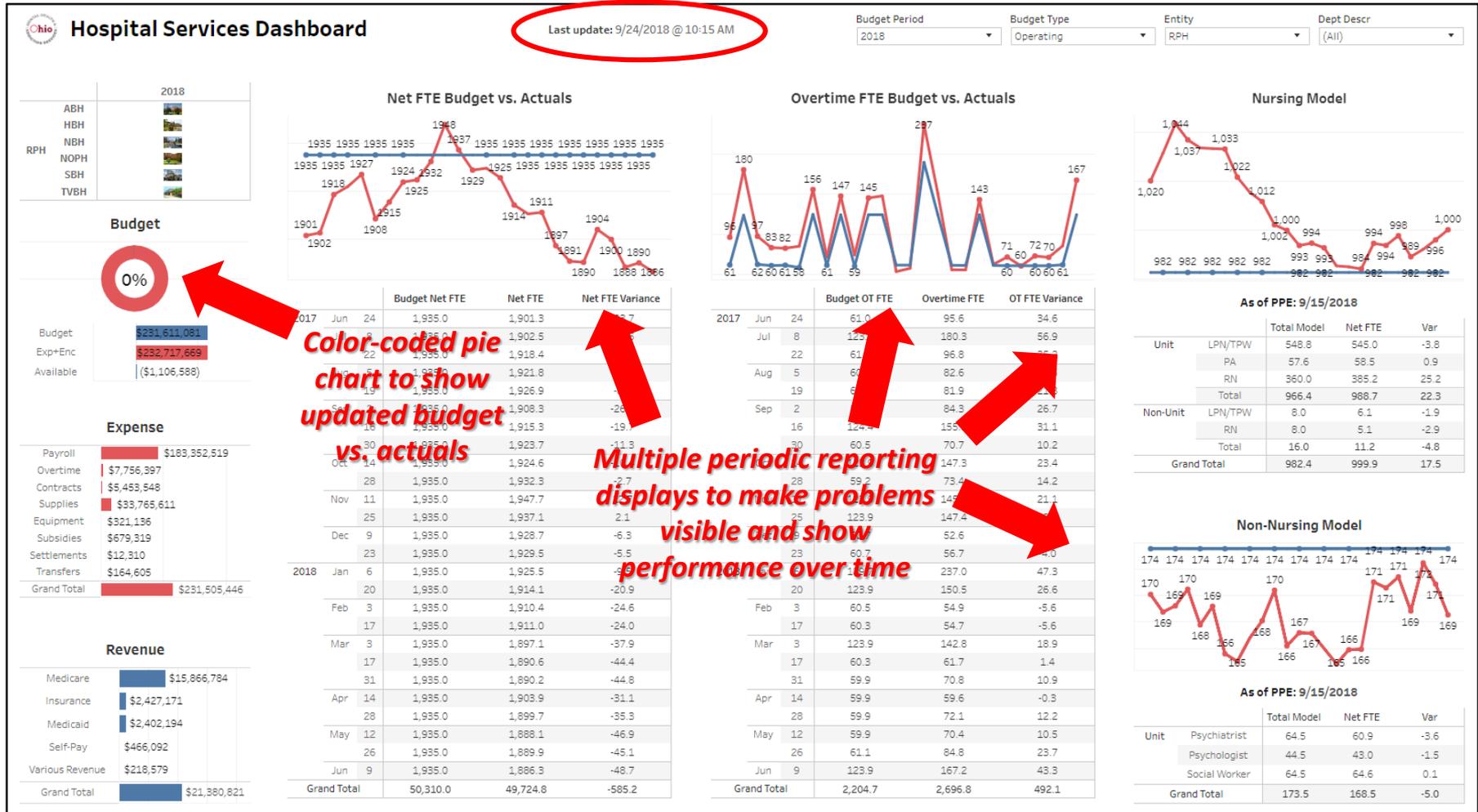
Round 4



Tracked utilization during trial period, applied 5S once again to improve user functionality and overall views, and then transitioned to Control phase

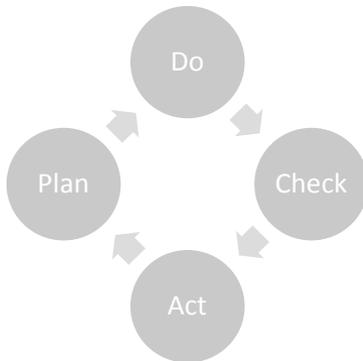
Visual Management

Timestamp to indicate functioning of data refresh process



Control Monitoring:

- Data is refreshed on a daily basis
- Individual Provider and Hospital Services leadership have access to Dashboard at all times
- Within first four pay periods in FY19, biweekly report distribution variation decreased by 100%



PDCA Efforts During Control Phase:

- Transitioning to an automatic daily refresh of actuals datasets within the Dashboard itself, further reducing human involvement
- Value-added feature of emailing hard copies of [Dashboard](#) to RPH/CSN leadership in order to encourage Dashboard utilization
- Focused on supporting downstream DMAIC efforts at the individual provider and hospital system levels

What questions do you have?



Hospital Services Operations Dashboard
