

What Is The Purpose of Data: HANA Improves Perioperative Health Operations at Mercy

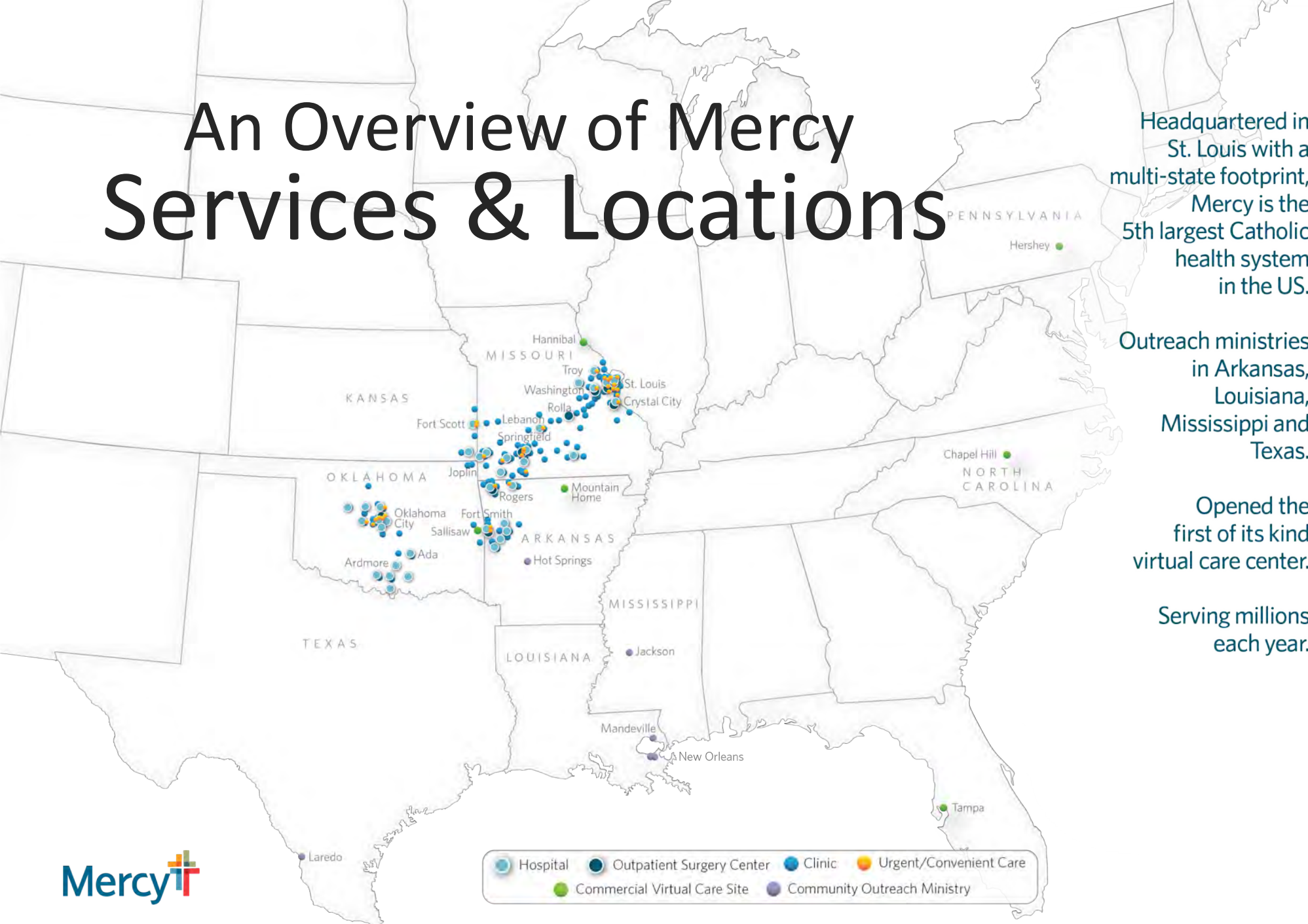


Jamie Oswald

18 April 2018

SAP Federal Summit

An Overview of Mercy Services & Locations



Headquartered in St. Louis with a multi-state footprint, Mercy is the 5th largest Catholic health system in the US.

1827
founded

44
hospitals

Outreach ministries in Arkansas, Louisiana, Mississippi and Texas.

350
outpatient facilities

3,000
integrated providers¹

Opened the first of its kind virtual care center.

40,000
co-workers

Serving millions each year.

>\$5B
revenue

Top 5
consistent best performing large health system²



- Hospital
- Outpatient Surgery Center
- Clinic
- Urgent/Convenient Care
- Commercial Virtual Care Site
- Community Outreach Ministry

¹ Physicians & advanced practice clinicians
² Truven Health 15 Top Health System consecutive years: 2016 & 2017

Agenda

- Perioperative Background
- Solution Delivery
- Results

Use Case

Perioperative Services

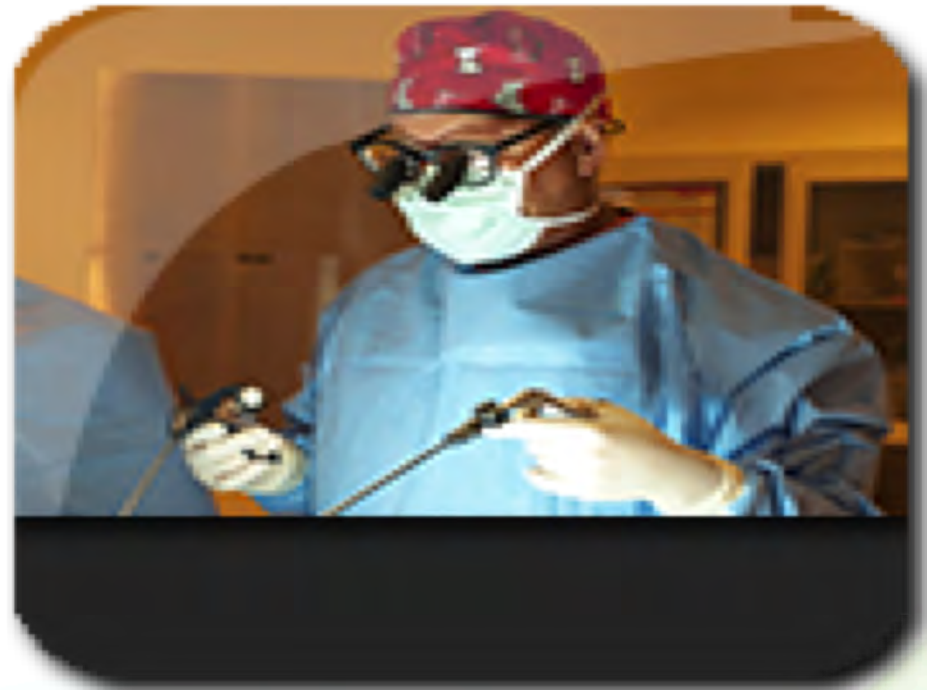
Our area of business centered around operating rooms
- highest cost/discharge service line in nation

Key Metrics

- Cost/Case
- Block Utilization
- Turnover Time

Key Challenges

- Governance
- Volume
- Dynamic Grouping/Filtering



Business Landscape Prior to 2012

- US healthcare reimbursements were going down
- Organization was inconsistently structured across facilities
- Measures were inconsistently defined across facilities
- Data collection and analysis was very manual and often estimated
- Varying opinions for best practice, price and product.

Why HANA?

Why HANA for Periop?

- Self-service
- Speed to delivery
- Speed of analysis



Why HANA?

Self-Service



BusinessObjects Explorer

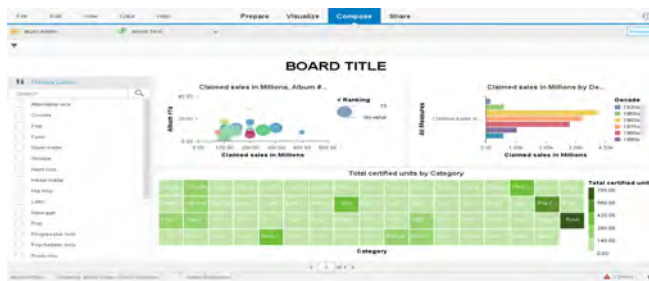
- Took from Indexed size limits
- Weeks > Years
- Lower Level of Detail
- Added more complex calculations

SAP Lumira

- 2.0 Deployed, in its way

SAP Analytics Cloud

- Under Review



Why HANA?

Speed of Delivery

- Aggregations go away, so requirements can be tweaked and validated in real-time
- Data loads are significantly faster, too.
 - Up to 100k rows/second
- Learning Curve must be accounted for



Why HANA?

Speed of Analysis

Some queries couldn't come back

- Yes, even the pre-aggregated ones

Dynamic Grouping/Filtering

- Can't be pre-aggregated



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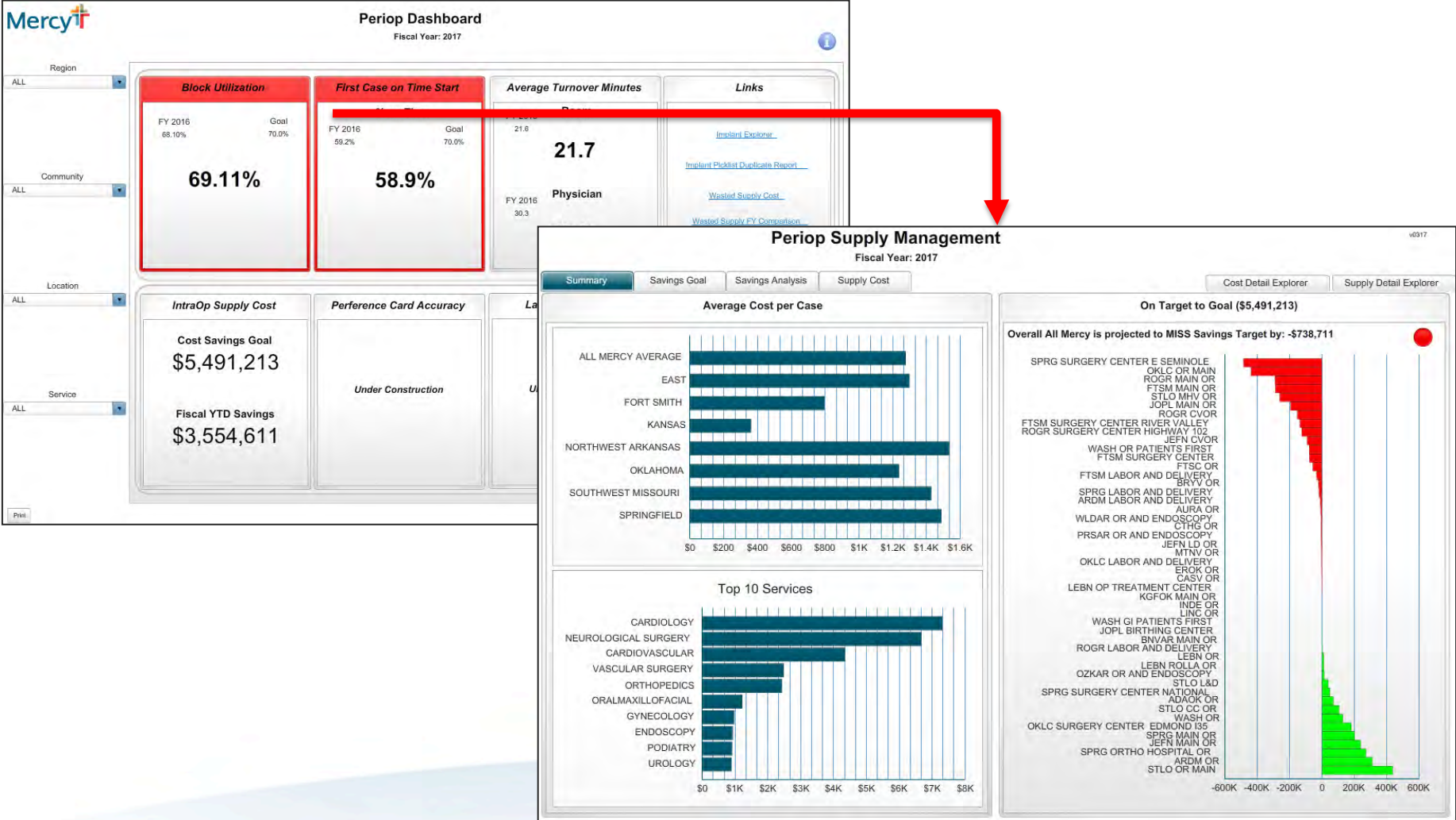
Supported Platforms

Epic and SAP BusinessObjects



Perioperative Dashboard

Dashboard Navigation



Perioperative Dashboard

Cost per Case Dashboard

Periop Supply Management

Fiscal Year: 2017

Summary | Savings Goal | Savings Analysis | Supply Cost

Average Cost per Case

Top 10 Services

On Target to Goal (\$5,491,213)

Overall All Mercy is projected to MISS Savings Target by: -\$738,711

SPRG SURGERY CENTER E SEMINOLE
OKLC OR MAIN
ROGR MAIN OR
FTSM MAIN OR
STLO MHV OR
JOPL MAIN OR
ROGR CVOR
FTSM SURGERY CENTER RIVER VALLEY
ROGR SURGERY CENTER HIGHWAY 102
JEFN CVOR
WASH OR PATIENTS FIRST
FTSM SURGERY CENTER
FTSC OR
BRYV OR
FTSM LABOR AND DELIVERY
ARDM LABOR AND DELIVERY
AURA OR
WLDAR OR AND ENDOSCOPY
C HIG OR
PR SAR OR AND ENDOSCOPY
JEFN LB OR
MTNV OR
OKLC LABOR AND DELIVERY
EROK OR
CASV OR
LEBN OP TREATMENT CENTER
KGFOK MAIN OR
INDE OR
WASH GI PATIENTS FIRST
JOPL BIRTHING CENTER
BNVAR MAIN OR
ROGR LABOR AND DELIVERY
LEBN OR
OZKAR OR AND ENDOSCOPY
STLO L8
SPRG SURGERY CENTER NATIONAL
ADACK
STLO CC O
WASH
OKLC SURGERY CENTER EDMOND B35
SPRG MAIN O
JEFN MAIN O
SPRG ORTHO HOSPITAL OF
ARDM O
STLO OR MAI

Information Portfolio

Perioperative Intra-op Case Cost Dashboard

1.1 Audience
1.2 Frequency
2. Dashboard Location
2.1 None
3. Links From and To this Dashboard?
3.1 Linked From Dashboard?
3.2 Measures Appearing in the Dashboard
3.3 Related Measure Programs
3.4 Status

Description
The Perioperative Intra-op Case Cost dashboard contains case cost analysis based on average cost per case. The costs include the actual cost of supplies and implants used and wasted in the procedures performed in the intra-op area as tracked in Epic Op Time. The costs also include the cost accounting labor, capital, and other costs tied to the OR Level Charge assigned to the primary procedure. **These are not actual labor, capital and other costs per case.**

The dashboard has summary, analysis and provider tabs that allow the average cost per case to be viewed by community, location, service, specialty, procedure and provider. In addition there is a tab for Supply Management that will open a new dashboard specific to supply cost management.

Two buttons near the top right of the dashboard, Cost Detail and Supply Detail, will open BusinessObjects Explorer views. These allow much greater exploration into the dashboard data.

Measures (1/2 max)	Surgery Year/Month	Region	Community	Complexity (ask)	BL CLARITY RV, LOC.	Species
Total Cost per Case	2014-07	WEST	5,143.69	5,148.83	4,079.81	CTWB OR
Total cost amount (\$UM)	2014-06	EAST	5,123.13	5,234.28	5,740.88	Complex
Labor & Overhead (\$UM)	2014-09	CENTRAL-SOUL.	5,185.91	5,185.91	5,179	Basic
Supply Cost Used (\$UM)	2014-10	CENTRAL-NOR.	5,010.09	5,010.09	5,010.09	Complex
Supply Cost Wasted (\$UM)	2014-11	EAST	5,294.33	5,294.26	5,294.26	Complex
Case Count (\$UM)	2014-12	SPRINGFIELD	5,281.39	5,099.61	5,099.61	Complex
	2015-01	FORT SMITH	5,042.23	4,987.96	5,119.27	Complex
	2015-02		5,299.8		5,022.96	Complex
	2015-03		5,282.03		5,007.94	Complex
	2015-04		5,269.44		5,371.62	Complex
	2015-05		5,134.28		5,234.24	Complex
	2015-06		5,168.69		5,234.61	Complex

Multiple Data Sources in a Single View

The screenshot shows a dashboard titled "Periop Intra-op Case Cost" with various filters and data tables. Callouts on the right side of the image point to specific data sources: EPISI, Lawson, EPIC, GHX Nuvia, and Bravo Contract Mgmt.

Service Name	Avg per Case	Case Count	Cost Used	Cost Wasted	Labor/Overhead
OBSTETRICS	178	29	5,157	7	14,809
ONCOLOGY	43	21	896	0	6,179
OPHTHALMOLOGY	617	2,530	1,561,350	24,288	680,317
ORALMAXILLOFACIAL	1,211	447	541,198	2,107	211,212
ORGAN PROCUREMENT	331	4	1,326	5	2,511
ORTHOPEDICS	2,517	8,275	20,830,874	67,087	4,287,150

UNSPSC	Total Cost	Avg Cost/Case	Case Count	Cost Used	Cost Wasted
ORTHO SURG IMP- KNEE	4,306,432	4,242	1,161	4,925,060	1,400
ORTHO SURG IMP- ORTHO	3,348,394	1,259	2,420	3,047,495	10,603
ORTHO SURG IMP- HIP J	2,761,048	4,087	666	2,722,171	4,149
***UNKNOWN**	2,660,388	1,401	1,834	2,569,651	5,257
ORTHO SURG IMP- SHOUL	1,000,239	5,219	131	683,658	2,990
ORTHO SURG IMP- SOFT	756,758	894	846	756,173	4,799

Item Used	Qty Used	Cost Used	Qty Wasted	Cost Wasted	Rsn Wasted	On Contract	Manufacturer	Manufacturer ID	Supply on the fly
COMP TIB TRIATHLON CMNT 51	38	38,000		0		Y	STRYKER ORT	5520-B-400	
COMP FEM VNGRD CR INTRLK R	22	34,500		0		Y	BIOMET INC	183008	
COMP FEM VNGRD CR INTRLK L	20	31,250		0		Y	BIOMET INC	183026	
COMP TIB COCR FINNED 75MM	30	23,250		0		Y	BIOMET INC	141234	
BRNG TIB VNGRD EPOLY CR EP-	12	19,500		0		Y	BIOMET INC	EP-183440	
COMP TIB JRNY BCS NPOR SZ4	19	19,450		0		Y	SMITH NEPHEW	74022224	

EPISI

Lawson

EPIC

GHX Nuvia

Bravo Contract Mgmt

Perioperative Dashboard

Finding Opportunities

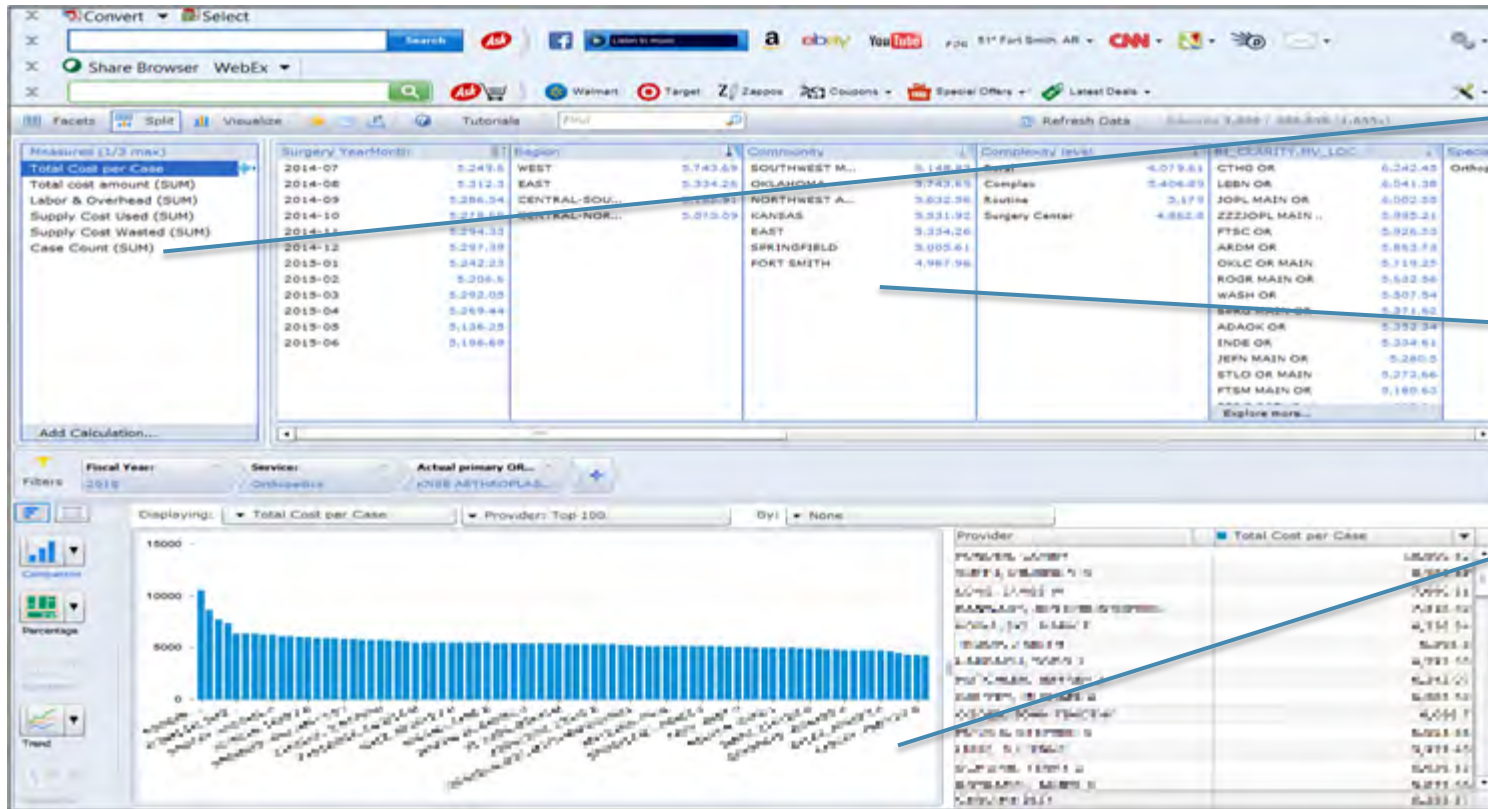


Surgeon Specific View

Cost at 50th Percentile

Financial Opportunity

Perioperative Dashboard Self-Service



Measures

Facets

Visuals

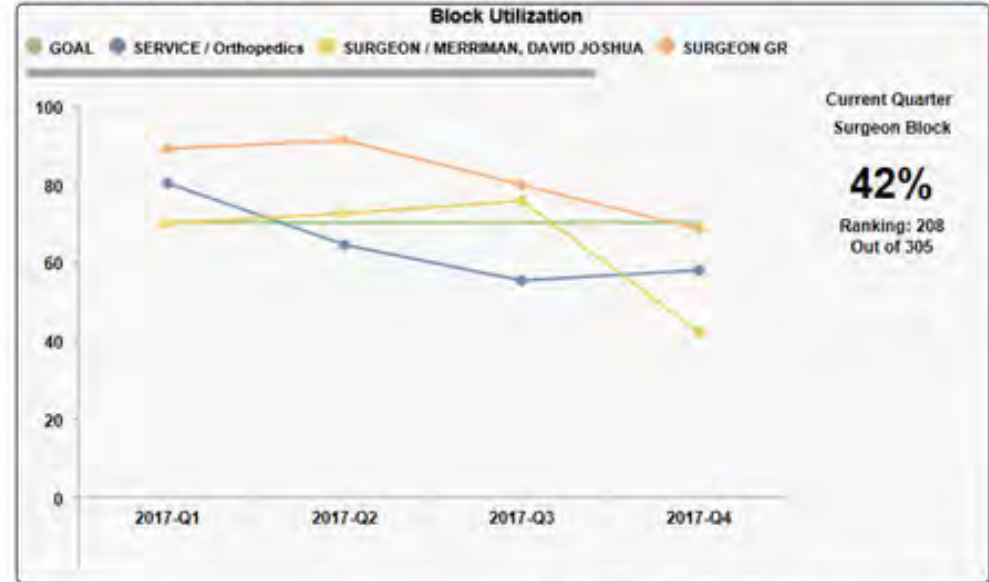
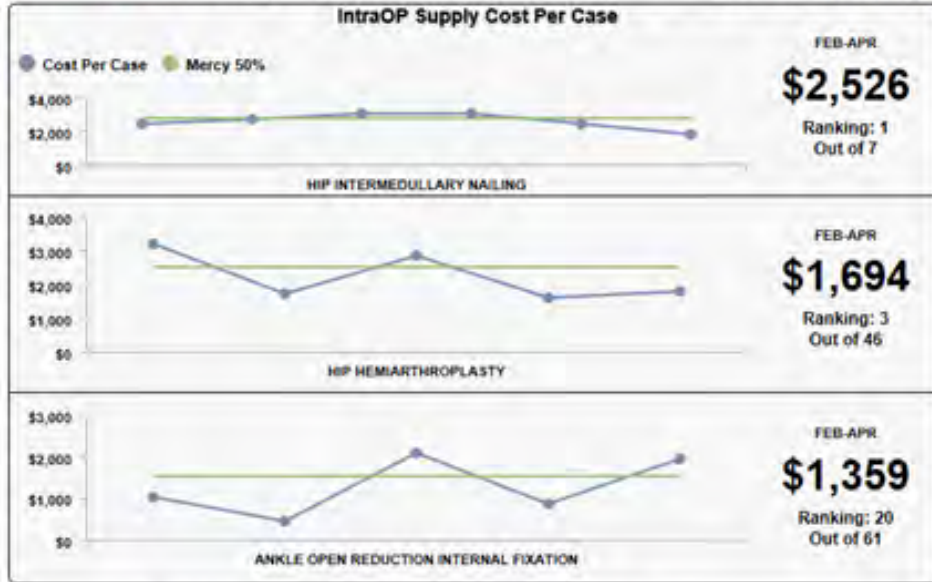
Perioperative Dashboard Physician View



MERRIMAN, DAVID JOSH ▾ Single ▾

Surgeon Scorecard

Community: Springfield / Specialty: Orthopedic Surgery



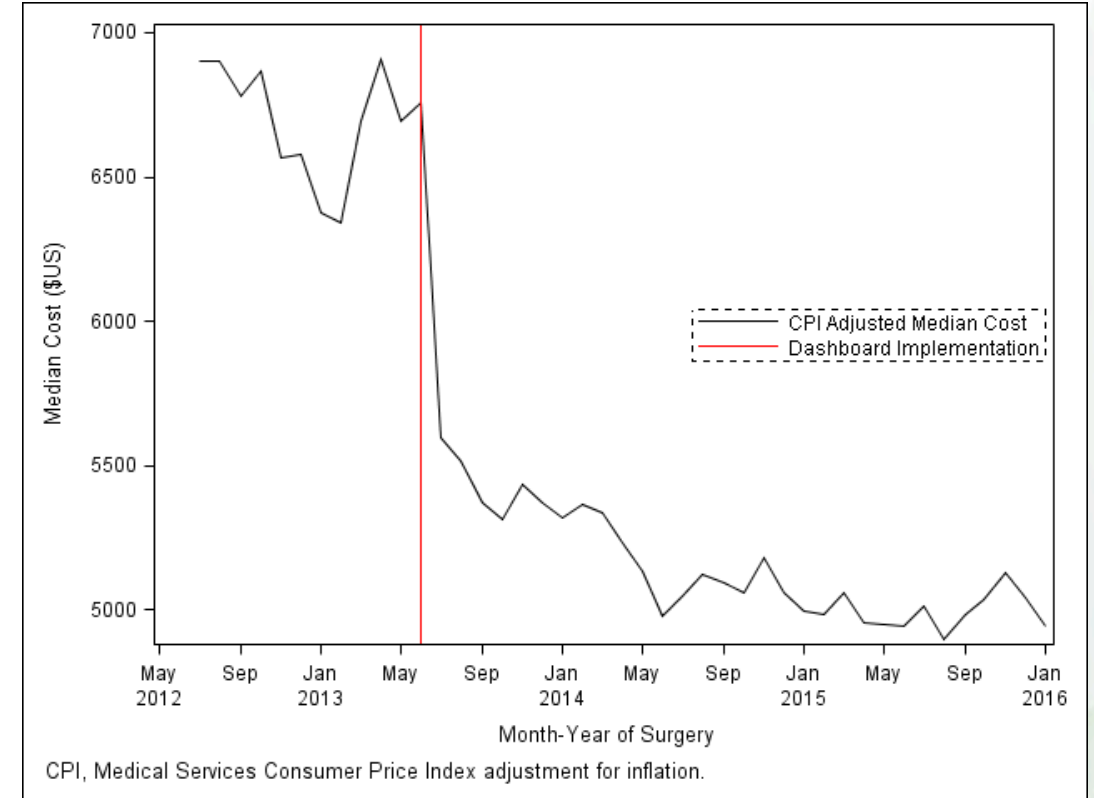
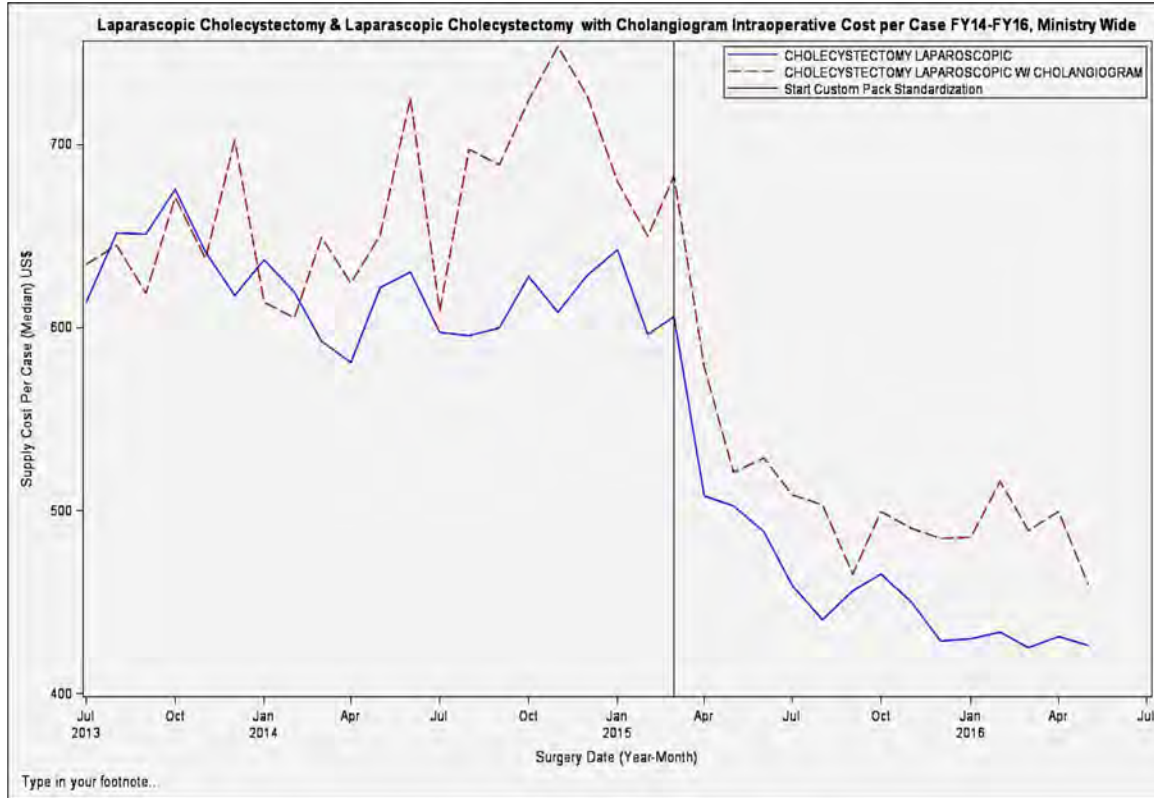


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Analytics Success

Reduced Variation



Analytics Success

By the Numbers

Periop

- \$17 Million in Periop & Cardiology last fiscal year
- \$33 Million over the first 4 years

Other Areas

- \$4 Million in Nursing Labor
- \$1 Million in Lab

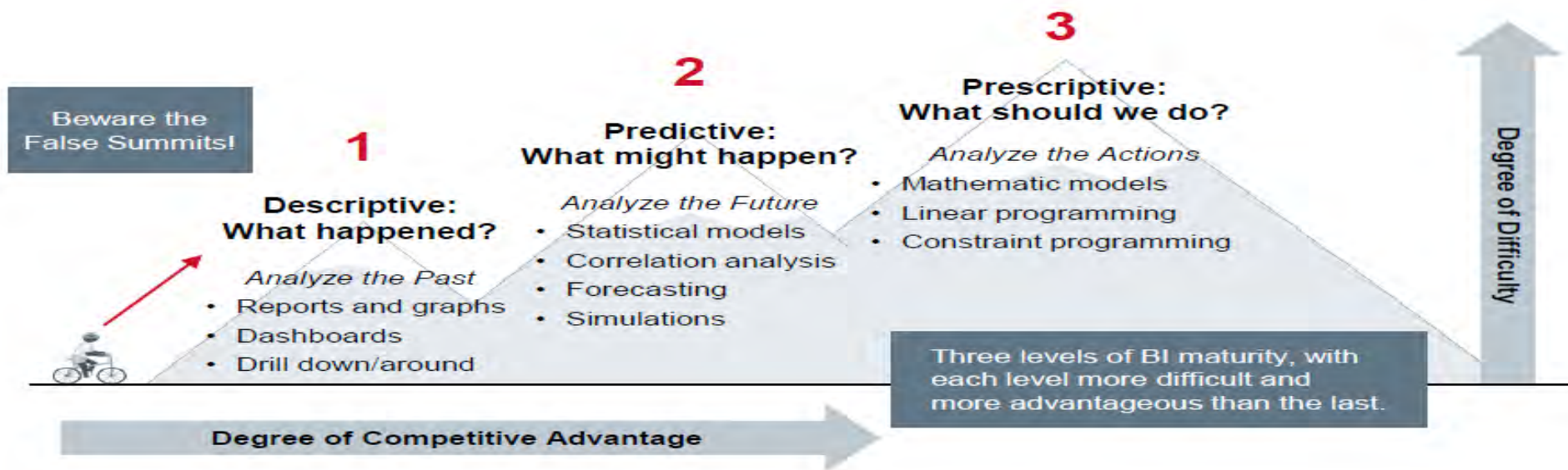
Lessons Learned

- You need support from the top and bottom of the organization.
- Choose your battles wisely.
- You have to get the data right.
- You will never kill Excel.

No Shortcut to the Top

Different Capabilities for Different Question Types

Be Prepared and Plan for Predictive and Prescriptive Analytics



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Source: The Advisory Board research and analysis.

Questions?

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