

# Technology and Teamwork:

An award-winning strategy for improving patient care and operational efficiency



# Speaker Introduction

**Todd Stewart, MD**

Vice President

Clinical Integrated Solutions Clinical Informatics

Mercy Technology Services



# Conflict of Interest

Andrew Eilers, BSN, RN, MBA

Todd Stewart, MD

Has no real or apparent conflicts to report

# Agenda

- Learning Objectives
- Health IT Value
- Mercy Background
- Interdisciplinary Health IT Projects
  - Mercy Pathways
  - Perioperative Dashboard
  - Coding and Documentation
- Questions

# Learning Objectives

1. Describe the impact of cross-functional collaboration on improving outcomes.
2. Learn how standardized clinical process changes result in sustainable improvements in patient care.
3. Describe how analytics facilitate lower-cost health care and accurate coding to capture revenue for care delivered.

- **Treatment/Clinical**
  - Improvement in quality of care through reduction in mortality and advancement in efficiency by expediting administration of medications key to treatment, like antibiotics for pneumonia patients
- **Electronic Information/Data**
  - Evidence-based pathways bring clinical decision support triggers and evidence-based links to the point of care for providers and interdisciplinary clinicians
- **Savings**
  - Reduction in direct variable cost of care for patients on the pathway.
  - Surgical Procedure Data and Improved Clinical Documentation resulted in cost savings



# 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

43  
hospitals

Outreach ministries in Arkansas, Louisiana, Mississippi and Texas.

350  
outpatient facilities

3,500  
integrated providers<sup>1</sup>

Opened the first of its kind virtual care center.

40,000  
co-workers

Serving millions each year.

>\$5B  
revenue

Top 5  
best performing large health system<sup>2</sup>

<sup>1</sup> Physicians & advanced practice clinicians

<sup>2</sup> Truven Health 15 Top Health Systems 2016



# 2017 HIMSS Davies Award Recipient

Achieving mortality rates less than half the national average for pneumonia and heart failure patients

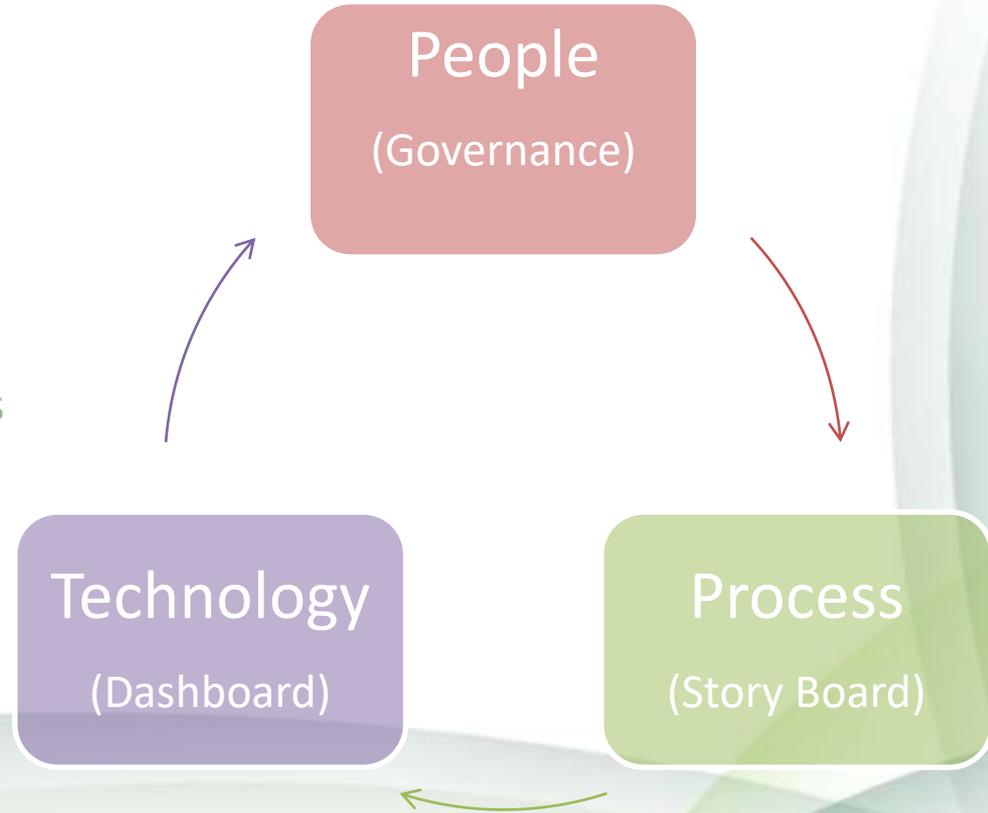
Using surgical procedure data to achieve \$9.42 million in cost reductions

Improving clinical documentation to realize more than \$65 million in additional revenue



# Mercy's Approach to Change

- Cultural transformation
- Right people, process, and solution
- Establish a common governance process
- Create standard metric definitions
- Create data mart
- Create dashboards/scorecards
- On-going training and development



# Why is Mercy Developing Pathways?

Quality

Cost-Effectiveness

Service

- Transforming healthcare through use of standardized automated tools, process metrics and adherence monitoring to accelerate performance in quality, cost and patient experience

# Mercy Pathways Available

## Medical

1. 23 Hour Observation: Syncope
2. Abdominal Pain
3. Cellulitis
4. COPD
5. DKA
6. GI Hemorrhage
7. GI Obstruction Non-Surgical
8. Heart Failure
9. *Hyperglycemia*
10. Intracerebral Hemorrhage
11. Ischemic Stroke with Thrombolytics
12. Ischemic Stroke/TIA
13. Malnutrition
14. **Pneumonia**
15. Sepsis
16. Subarachnoid Hemorrhage
17. Urinary Tract Infection
18. *Wound Care– Prevention*
19. *Wound Care– Treatment*

## Labor/Postpartum

20. Cesarean Birth Postpartum
21. Labor, Delivery and Postpartum – Vaginal Birth

## Surgical

22. Bariatric
23. Laparoscopic Cholecystectomy
24. Hip Fracture/Hip Replacement – Adult
25. Major Head and Neck Surgery, Clean Post-op
26. Major Head and Neck Surgery, Clean Contaminated Post-op
27. Total Knee Replacement
28. Hysterectomy
29. Colectomy

## Cardiac

30. A-fib
31. CABG and Heart Valve Replacement
32. NSTEMI
33. STEMI
34. Unstable Angina and Chest Pain

## Critical Care

35. *IPPV Respiratory Failure*
36. *NPPV Respiratory Failure*
37. Pulmonary Edema/ARDS
38. Severe Sepsis/Septic Shock

## Pediatric

39. Asthma
40. Bronchiolitis
41. Pneumonia
42. Well Newborn

# Additional Industry Recognition

Gateway to Innovation Project of the Year

Mercy Leadership Innovation Award: Patient Outcomes

Healthcare Informatics Innovator Award



# Utilization and Cost

	Overall Utilization (all pathways)	Overall Savings (direct variable cost)
FY 2015	48%-53%	\$10 million
FY 2016	53%-70%	\$14 million
FY 2017 (Q1-Q3)	58%-70%	\$ 17 million

# Mercy Pathway Development



# Cycle of Pathway Production/Review

All workflows (ambulatory, inpatient, post acute etc.) of the pathway goes through each stage of the development or review process but potentially at different times.

<b>Phase 1</b> <i>Research</i>	<b>Phase 2</b> <i>Complete First Draft</i>	<b>Phase 3</b> <i>Review and Revise First Draft</i>	<b>Phase 4</b> <i>Epic Build Education Development</i>	<b>Phase 5</b> <i>Review /Testing</i>	<b>Final Phase</b> <i>Final Build Change Control</i>
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Introductory Paragraph  
PICOT Questions/Search Strategy  
Opportunities: Quality, Service & Cost/Ayasdi  
Baseline Metrics  
Articles/RCA's  
Evaluation Table  
Phase 3 Physician Meetings  
Physician Letters (Welcome & LOU's)

**Initial Drafts:**  
Pathway Order Sets  
Process Map  
CTP/CTQ Identified

**Final Drafts:**  
Order Sets  
Pathway Process Map  
CTP/CTQ  
SC Approval

Handoff and Content Build In Epic  
**Draft Education**

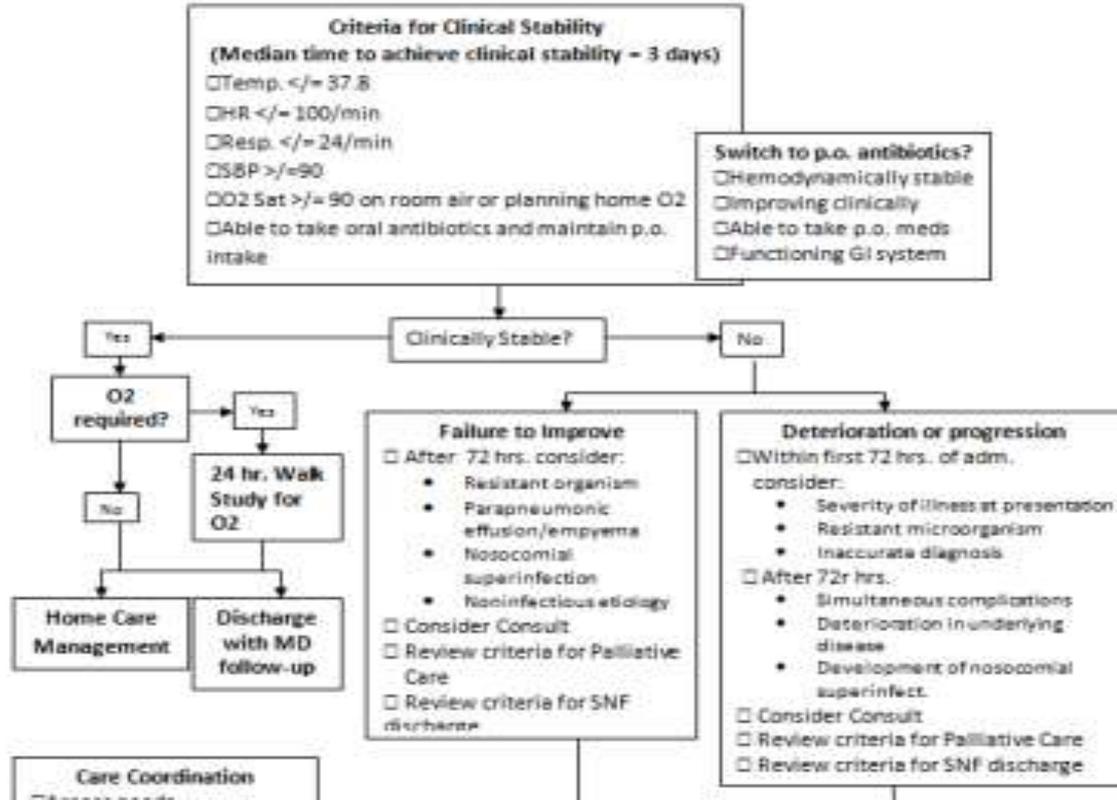
Physician, Pharmacy, and Collaborative Meetings  
Revisions

Submitted for Change Management Process  
- 4 weeks'

Pathway Coordinator	Pathway Coordinator	Pathway Coordinator	Pathway Coordinator	Pathway Coordinator	
Lead RN	Lead RN	Lead RN	Lead RN	Lead RN	
Librarian	Librarian	Librarian			
Lead Physician	Lead Physician	Lead Physician	Lead Physician	Lead Physician	
Pharmacist	Pharmacist	Pharmacist	Pharmacist	Pharmacist	
Implementation Lead	Implementation Lead	Implementation Lead	Implementation Lead	Implementation Lead	
SC Physician Team		SC Physician Team		SC Physician Team	
Interdisciplinary Members as needed	Interdisciplinary Members as needed	Interdisciplinary Members as needed		Interdisciplinary Members as needed	
		Epic Builders	Epic Builders	Epic Builders	Epic Builders

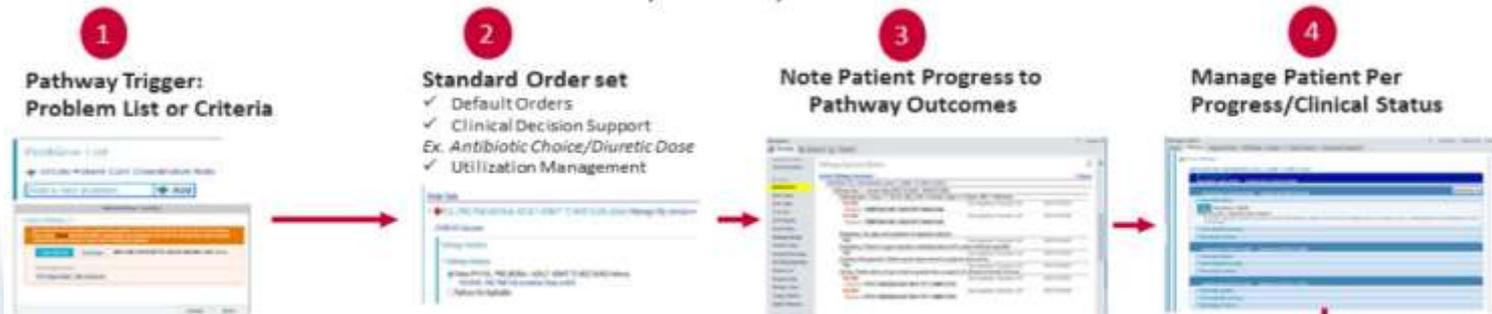
# Pathway Algorithm Example

## Day One to Day Three Non-ICU Admission



# Pathway Workflow

## Mercy Pathway Workflow



**Standard Pathway Applied**  
 Interdisciplinary Team Management Based Upon Orders from Order set

- ✓ Outcomes
- ✓ Documentation
- ✓ Tasks
- ✓ Patient Education



**Documentation of Patient Progress to Outcomes**

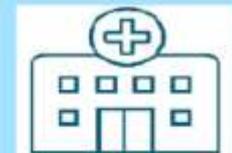
- ✓ Met
- ✓ Not Met
- ✓ Variances
- ✓ Variance Reason



**Clinically Worsening**  
 Manage Patient Per PW Orders, PW Tasks and Reevaluate Progress to PW Outcomes



**Clinically Stable**  
 Maintain Patient Status Per PW Orders, and PW Tasks. Continue Progress to Discharge



**Discharge Patient**  
 Disposition and Follow ordered per patient risk category outlined in PW Discharge Orders

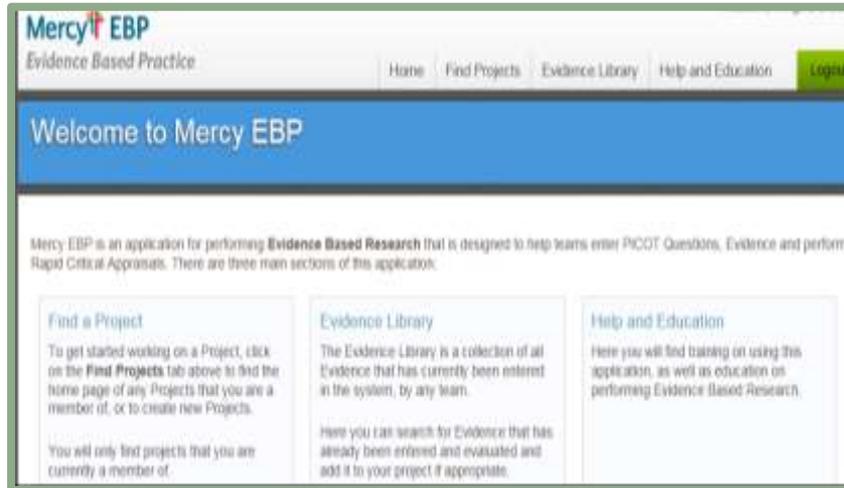
# Pneumonia Pathway Example

## Problem

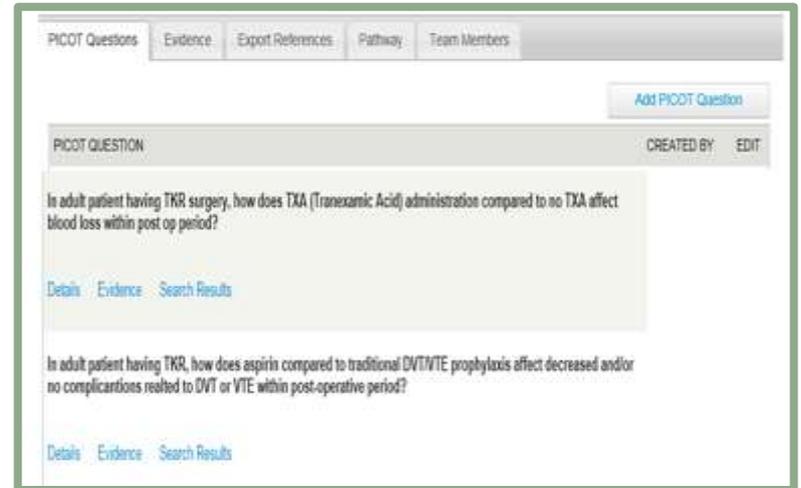
- Actual Mortality Rate was at the national average
- Contribution Margin related to DRG based payment

## Intended Improvement

# Mercy EBP



The screenshot shows the Mercy EBP homepage. At the top left is the logo "Mercy EBP Evidence Based Practice". To the right are navigation links: "Home", "Find Projects", "Evidence Library", "Help and Education", and a "Logout" button. Below the navigation is a blue banner with the text "Welcome to Mercy EBP". Underneath is a paragraph: "Mercy EBP is an application for performing Evidence Based Research that is designed to help teams enter PICOT Questions, Evidence and perform Rapid Critical Appraisals. There are three main sections of this application." Below this are three columns: "Find a Project" (with instructions on how to find or create projects), "Evidence Library" (describing the collection of evidence), and "Help and Education" (describing training resources).



The screenshot shows a form for entering a PICOT question. At the top are tabs: "PICOT Questions", "Evidence", "Export References", "Pathway", and "Team Members". There is an "Add PICOT Question" button. Below is a table with one row. The table has columns for "PICOT QUESTION", "CREATED BY", and "EDIT". The "PICOT QUESTION" column contains two entries: "In adult patient having THR surgery, how does TXA (Tranexamic Acid) administration compared to no TXA affect blood loss within post op period?" and "In adult patient having THR, how does aspirin compared to traditional DVT/VTE prophylaxis affect decreased and/or no complications related to DVT or VTE within post-operative period?". Each entry has links for "Details", "Evidence", and "Search Results" below it.

# Order set Suggestions and Best Practice Alerts

### Order Sets

Search  + Add 🔍 Advanced

▼ Suggestions

PUL: (PW) PNEUMONIA, ADULT-ADMIT TO MED SURG 🗑

Right click on an Order Set to add to favorites.

🔍 Restore ✓ Close F9

BestPractice Advisory - Corn, Polly Q

▼ Caution (Advisory: 1)

This patient has been identified as a patient that qualifies for use of the Sepsis/Septic Shock order set and pathway. Please select Accept below for the Med: Sepsis/Septic Shock Ongoing Care order set and place the evidence based orders for the care of Sepsis or Septic Shock including the pathway.

Open Order Set Do Not Open **MED: (PW) SEPSIS/SEPTIC SHOCK ONGOING CARE** [preview](#)

Acknowledge Reason

NOT a Sepsis Patient Defer to Intensivist

✓ Accept Dismiss

▼ Quality (Advisories: 4)

The patient's chart indicates a diagnosis that requires an ACE inhibitor or ARB therapy at discharge. Please prescribe ACE inhibitor or ARB therapy or if contraindicated, use order below to document contraindication.

Order	Do Not Order	🗑 REASON FOR NOT PRESCRIBING ACE / ARB
Order	Do Not Order	🗑 REASON FOR NOT PRESCRIBING ACE OR ARB
Order	Do Not Order	🗑 captopril (CAPOTEN) 12.5 mg tablet
Order	Do Not Order	🗑 lisinopril (PRINIVIL; ZESTRIL) 2.5 mg tablet
Order	Do Not Order	🗑 valsartan (DIOVAN) 40 mg tablet
Order	Do Not Order	🗑 Irbesartan (AVAPRO) 150 mg tablet
Order	Do Not Order	🗑 elmesartan (BENICAR) 20 mg tablet
Order	Do Not Order	🗑 losartan (COZAAR) 25 mg tablet

# Order Set Design

- Healthcare Information Technology Interventions and Solutions that impact mortality, average time to antibiotic and/or cost
  - **Order Set Design** to support evidence based medicine
  - **Clinical Decision Support Criteria Embedded** to *expedite* correct medication dosing and evaluation
  - **Safety Parameters Embedded**

# Pneumonia Order set

Order Sets

✓ **Multiple Versions of User Order Sets** Do Not Show This Again

You can now save multiple versions of user order sets. Click the Manage My Version link below to begin. [Learn More](#)

▼ PUL: (PW) PNEUMONIA, ADULT-ADMIT TO MED SURG [Manage My Version](#) ▼ — Required

**CURB-65 Calculator** ← **Link to evidence based calculators**

▼ Pathway Initiation

▼ Pathway Initiation

**Follow INTERDIS PW: PNEUMONIA - ADULT, ADMIT TO MED SURG Pathway** ← **Defaulted order to follow pathway**  
ROUTINE, ONE TIME First occurrence Today at 1645

Pathway Not Applicable

Code Status

# Evidence Based Orders

- Defaulted evidence based orders
- Nurse communication order “Do not delay Antibiotic Administration”
- Progressive ambulation

Contact and Airborne Isolation

Contact and Droplet Isolation

## ▼ Nursing Communication

Nursing Communication - Assess Vaccination Status at Admission

ROUTINE, ONE TIME First occurrence Today at 1645, Assess vaccination status of admission and administer Pneumococcal and Influenza vaccines per protocol prior to discharge.

Nursing Communication - Do Not Delay Antibiotic Administration

ROUTINE, ONE TIME First occurrence Today at 1645, Do Not Delay Antibiotic Administration to Collect Sputum Culture

Nursing Communication - Patient is Unable to Sit up in Chair 20 Minutes in First 24 Hours

ROUTINE, ONE TIME First occurrence Today at 1645, If the patient is unable to sit up in the chair for greater than or equal to 20 minutes once within the first 24 hours or greater than or equal to 20 minutes twice daily within the first 48 hours, place an order for a consult from PT & OT, if not already ordered.

Nursing Communication - Place Order for IV Flush Panel

ROUTINE, ONE TIME First occurrence Today at 1645, Please order the appropriate Standard IV Flush panel for this patient based on IV line type. For example order "Peripheral IV Flush Panel (18 YR and Older)" for a peripheral line.

Nursing Communication

# Orders Built to Guide Providers

# Built In Indications

**piperacillin-tazobactam (ZOSYN) IVPB 4.5 Gram**  
4.5 Gram, IV, EVERY 6 HOURS, First Dose Today at 1230, Until Discontinued, ROUTINE  
Antibiotic Indication: Pneumonia - Healthcare-associated(HCAP)

9/7/16 | 0000, 0600, 1200, 1800  
9/8/16 | 0000, 0600, 1200, 1800

Order has no end date or number of doses, so more times will be scheduled at a later date.

Questions:

Prompt	Answer	Comments
1. Antibiotic Indication:	<input type="text" value="Surgical prophylaxis"/> <input type="text" value="Pneumonia - Community-acquired(CAP)"/> <input type="text" value="Pneumonia - Healthcare-associated(HCAP)"/> <input type="text" value="Severe Sepsis or Septic Shock"/> <input type="text" value="Urinary Tract Infection(UTI) / GU Infection"/> <input type="text" value="Wound / Cellulitis / Abscess"/> <input type="text" value="Osteomyelitis / Septic Arthritis"/> <input type="text" value="Bacterial Endocarditis / Endovascular Infection"/> <input type="text" value="Bacteremia"/> <input type="text" value="Intra-abdominal infection / Fecal Contamination"/> <input type="text" value="Meningitis / CNS Infections / Epidural Infection"/> <input type="text" value="Clostridium difficile infection"/> <input type="text" value="Neutropenic Fever in immunocompromised patient"/> <input type="text" value="Upper Respiratory Tract / ENT Infection"/> <input type="text" value="Other: Enter in Comments"/>	

Admin. Inst.: [Renal adjust per protocol](#)  
Prod. Admin. Inst.: (none)  
Indications:   
Indications (Free Text):   
Comments (F6): [Click to add text](#)  
(300 char max.)  
Priority:

Product: **PIPERACILLIN-TAZOBACTAM 4.5 GRAM INFUSION S**  
Phase of Care:

Build in indication for use and administration instructions to allow the pharmacist to update the dose of medication (or interval) as appropriate to limit delay in contacting provider to clarify dose per indication/renal function

Order set design

# Expediting Antibiotics

- Design of order set prevents omissions and inaccuracies in initial orders, thus reducing iterative communications, phone calls and care delays

Built-in authorization

- Authorization to take evidence-based actions within the scope of practice of the interdisciplinary team

# Built In Authorization

Verify Orders - Order Details

Verify Reject Reject & R/O Interactions Edit I-Vent New I-Vent Order Hx Show Charge Label Preview More

Back to Order List 4 of 5 Order ID: 230217

### piperacillin-tazobactam (ZOSYN) IVPB 4.5 Gram

New Ordered by: Abu Shanab, Joy R., PHARMACIST Today 1300

NF: May substitute with formulary alternative From PUL: (PW) PNEUMONIA, ADULT-ADMIT TO MED SURG

Edit Clinical Information Edit Dispense Information

Order dose:	4.5 Gram	Route:	IV	Frequency:	EVERY 6 HOURS
Admin dose:	4.5 Gram	Administer Over:	30 Minutes	For:	Until discontinued
				# of doses:	
				1st dose:	Today 1300 (As Scheduled)
				Last dose:	
				Scheduled times (adjusted):	
					9/6/2016 1300, 1800
					9/7/2016 0000, 0600, 1200, 1800

Order questions: Edit

Antibiotic Indication: Pneumonia - Healthcare-associated (HCAP)

Admin instructions: **Renal adjust per protocol** Edit

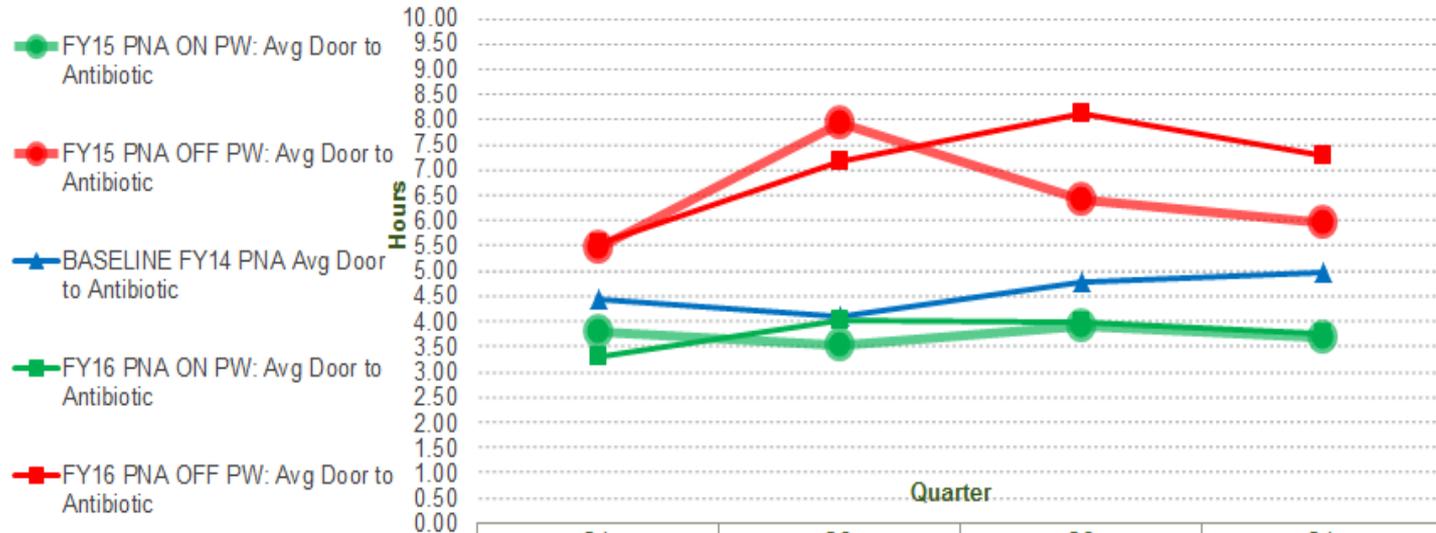
Dispensable: piperacillin-tazobactam (ZOSYN) 4.5 gram IVPB

Products to dispense	Order dose	Admin dose	Dispense	Package
PIPERACILLIN-TAZOBACTAM 4.5 GRAM INFUSION SO	4.5 Gram	4.5 Gram	4.5 Gram	1 EA Ba

Reference links: [Micromedex Drug Information](#)

With this instruction, the pharmacist can follow the local process (based on administration times) for adjusting the dose and or frequency as required

# Average Time To Antibiotics



	Q1	Q2	Q3	Q4
FY15 PNA ON PW: Avg Door to Antibiotic	3.81	3.53	3.89	3.68
FY15 PNA OFF PW: Avg Door to Antibiotic	5.45	7.92	6.42	5.95
BASELINE FY14 PNA Avg Door to Antibiotic	4.42	4.11	4.79	4.97
FY16 PNA ON PW: Avg Door to Antibiotic	3.31	4.02	4.00	3.75
FY16 PNA OFF PW: Avg Door to Antibiotic	5.55	7.17	8.11	7.29

# Pathway Expected Outcomes

Pathway Review

Switch Pathways ▾
 Document Outcomes
 Manage Pathways
 Care Plan
 Patient Story

**INTERDIS PW: PNEUMONIA-ADULT, ADMIT TO MED SURG**

Pathway Day 1	Pathway Day 2	Pathway Day 3	Pathway Day 4
<p>Current Today at 0836 1 Day</p>	<p>Future Tomorrow at 0836 1 Day</p>	<p>Future 09/09/16 0836 1 Day</p>	<p>Future 09/10/16 0836 1 Day</p>

Group by:  Order/Documentation Type  Pathway View

[\[-\] Collapse All](#)

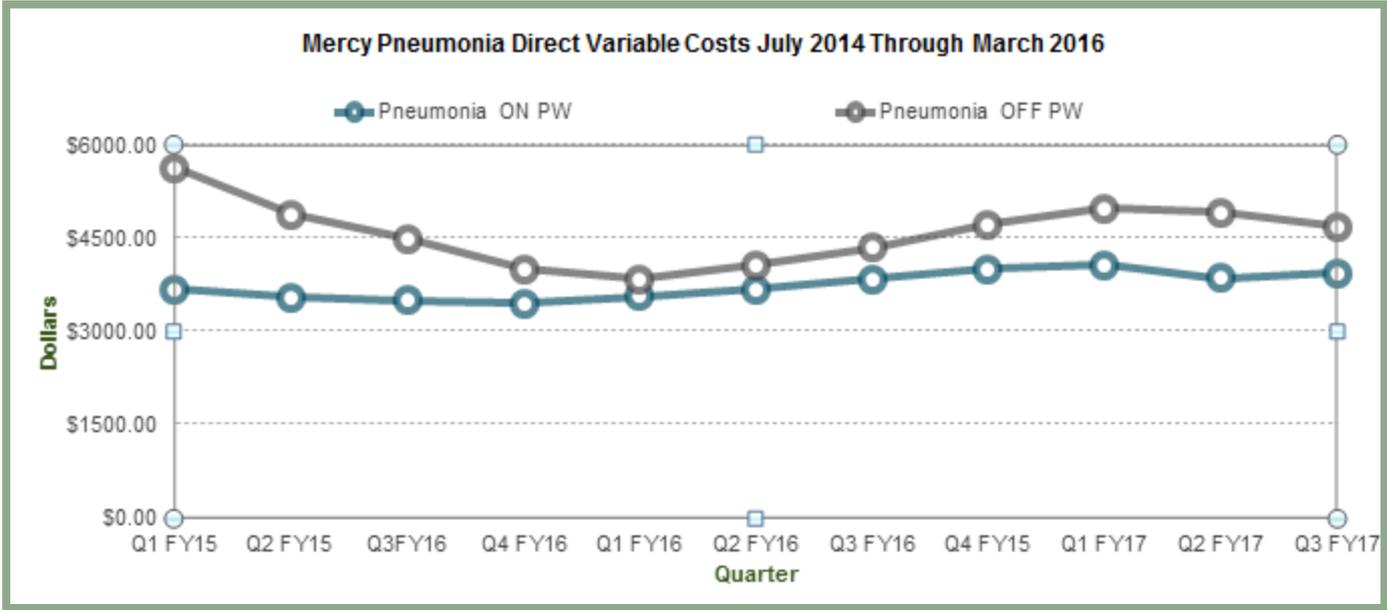
Day 1 Outcomes
 

- Outcomes
  - ! Hemodynamic: Temp  $\leq$  100.4F (38C), HR  $\leq$  100/min, Resp  $\leq$  24/min, SBP  $\geq$  90mmHg - Last documented as "Not Met" on 09/07/16 0841 by Som Inpatient, Physician, DO.
  - ✓ Respiratory: No signs and symptoms of respiratory distress. - Last documented as "Met" on 09/07/16 0841 by Som Inpatient, Physician, DO.
  - ✓ Respiratory: Patient's oxygen saturation maintained above 90% unless otherwise specified - Last documented as "Met" on 09/07/16 0841 by Som Inpatient, Physician, DO.
  - ✓ Symptom Management: Patient reports improvement in symptoms since arrival. - Last documented as "Met" on 09/07/16 0841 by Som Inpatient, Physician, DO.
  - ! Activity: Patient able to sit up in chair for greater than or equal to 20 minutes in the first 24 hours. - Last documented as "Not Met" on 09/07/16 0841 by Som Inpatient, Physician, DO.
- Documentation

# Pneumonia Pathway Utilization



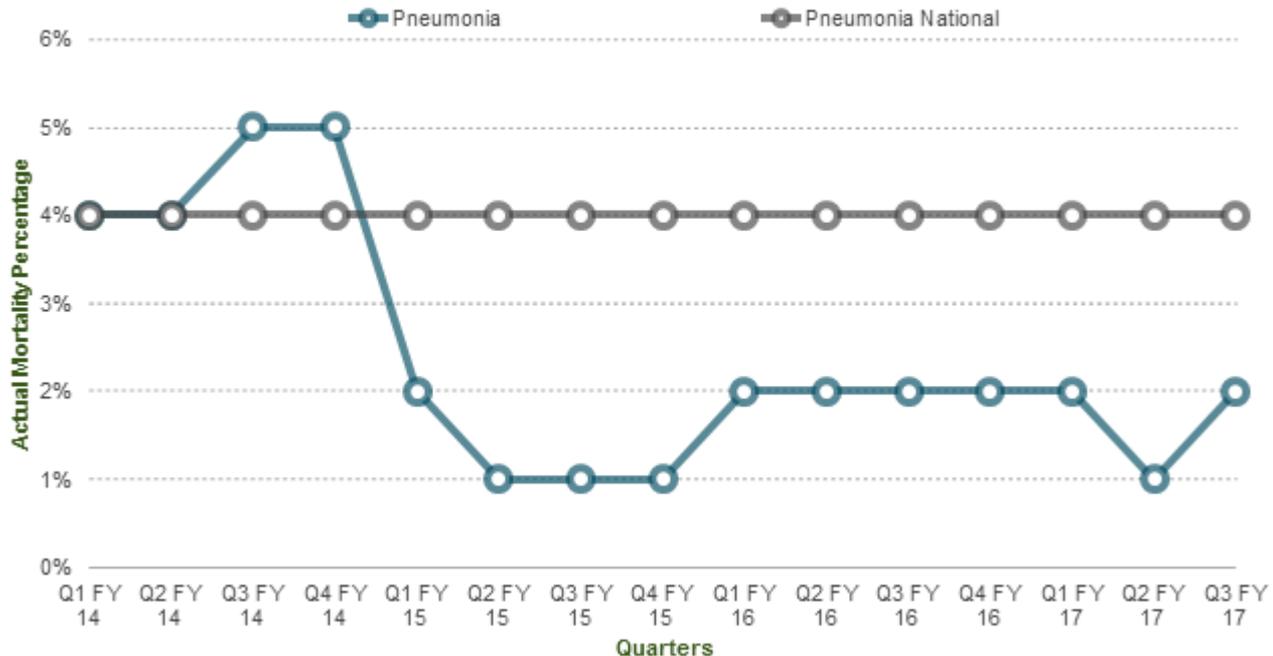
# Pneumonia Direct Variable Cost



# Pneumonia Mortality

Mercy Pneumonia Actual Mortality Rates July 2013 Through March 2017

Baseline: Whole PNA Population FY14    Measurement: Patients "On Pathway (PW)" PNA FY15-FY17



# Perioperative Dashboards

# Perioperative Dashboard

Through several metrics, provided opportunities for organization, surgeons and patients.

Mercy achieved \$9.42 million in cost reduction

- Eliminated or minimized the use of certain surgical products
- Reduced variation
- Established best practices across departments
- Ensured quality post-operative outcomes for patients

# Dashboard Key Components

## Cost per case

- By community, by service, by specialty and by procedure

## On-time starts

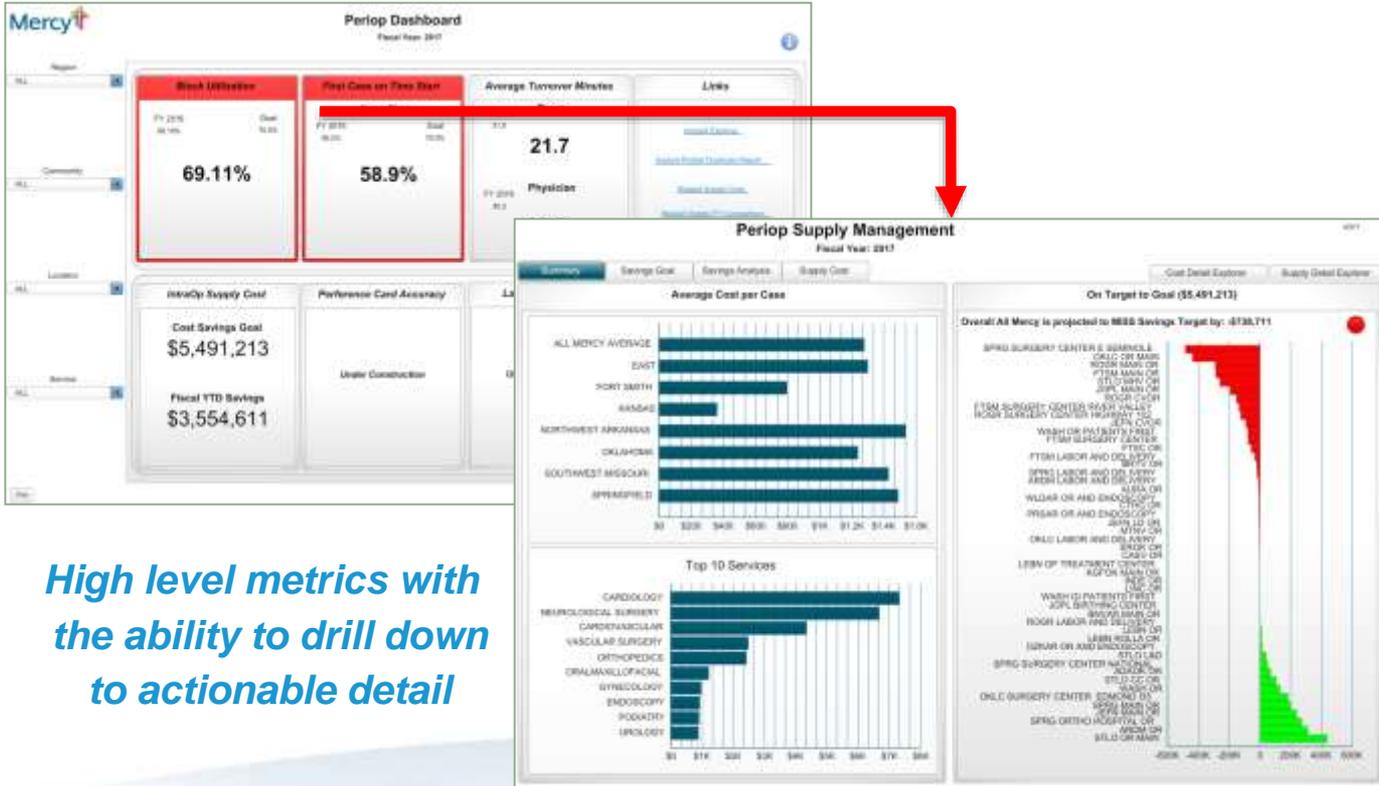
- By staff and individual surgeon

## Operating room turnover times

- Relative to each hospital's size for benchmarking

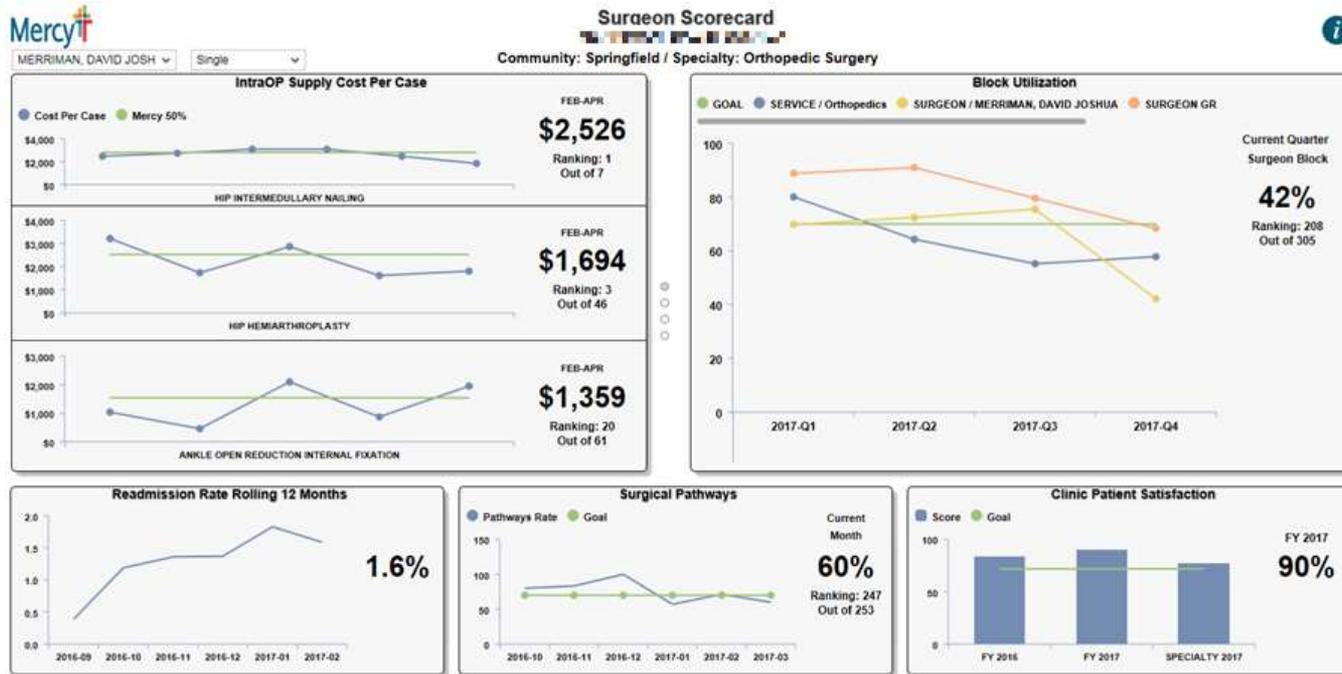
## Block utilization

# Perioperative Dashboard



*High level metrics with the ability to drill down to actionable detail*

# Surgeon Scorecard



- Provide information targeted directly at physicians
- Data “at a glance”. Surgeons can see where they stand immediately. Compare against their peers.

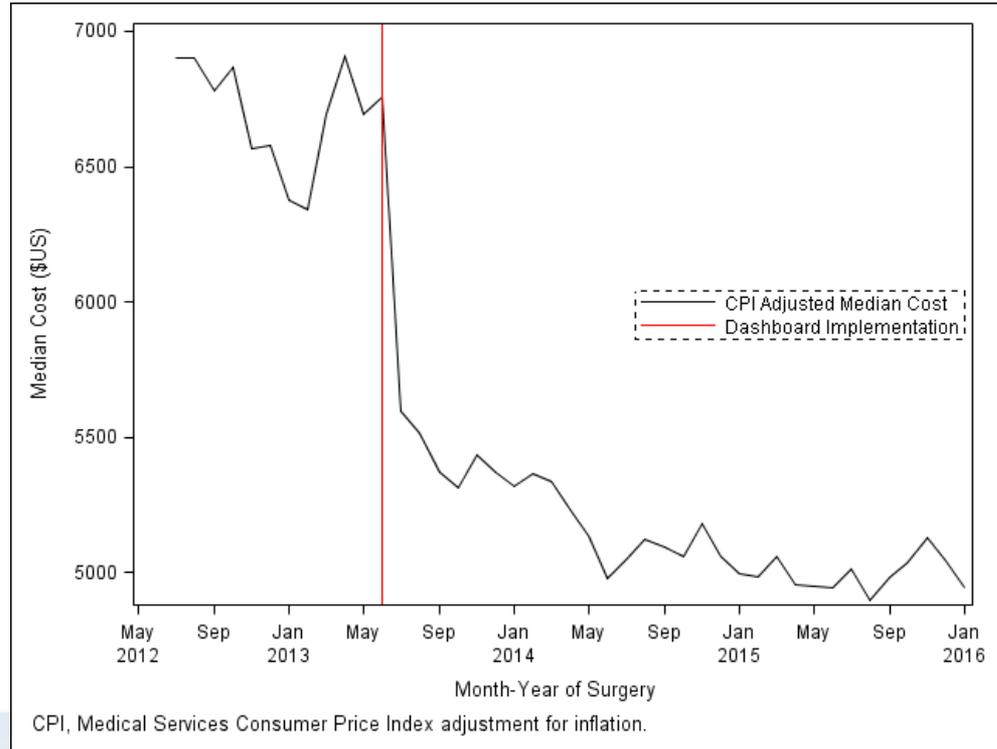
# Perioperative Results – Total Knee Arthroplasty

Total Knee Arthroplasty

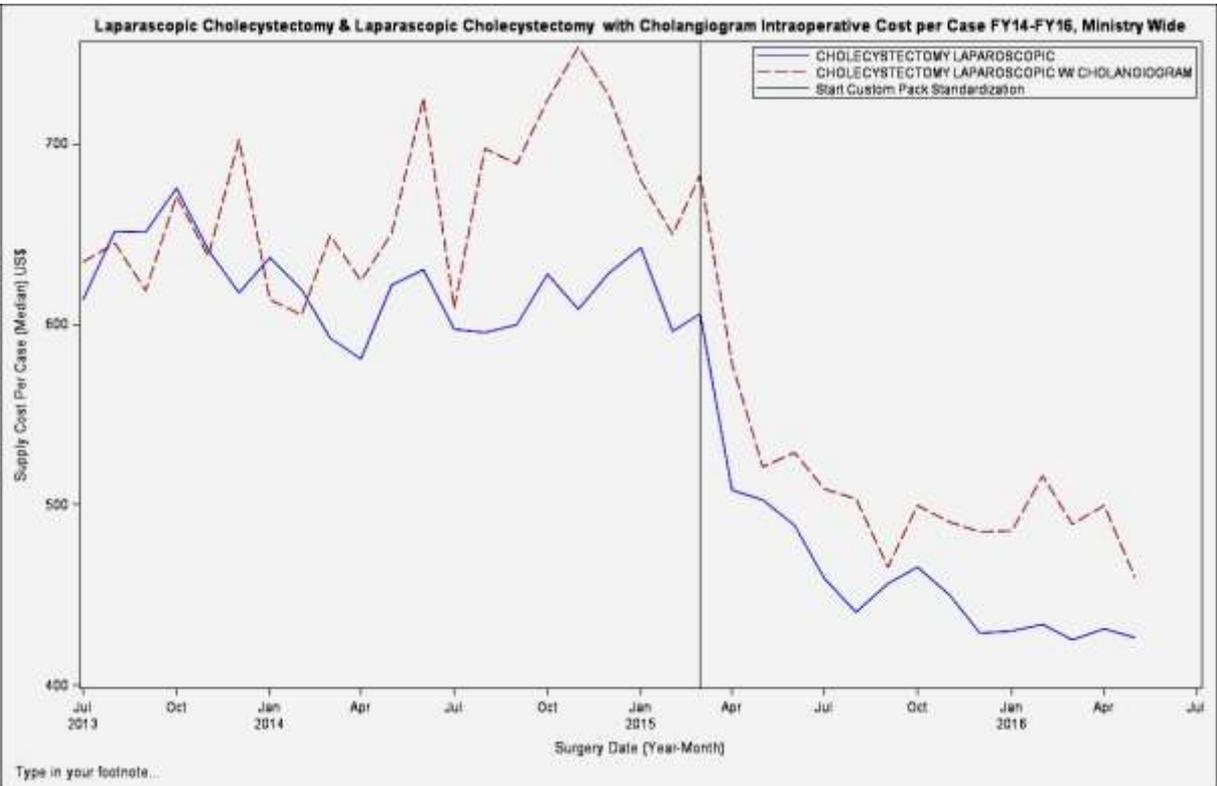
CPI Adjusted  
Intraoperative  
Supply Cost Per Case

Mercy Health

May 2012-Jan 2016  
(n=11,834)



# Perioperative Results - Cholecystectomy



# Perioperative Results – FY15 Savings

Cost Component	Annual Cost Reduction
High Cost, High Preference, Surgeon Specific Supplies (used in the O.R.)	\$5,700,000
High Cost, Low Preference, Surgeon Specific Supplies (used in the O.R.)	\$3,200,000
Wasted Supplies (wasted in the O.R.)	\$570,000
Sterile Processing Supplies	<u>\$12,000</u>
<b>TOTAL</b>	<b>\$9,482,000</b>

- Massive change management effort for Lap Chole procedures across Mercy
- Key physicians collaborated with Supply Chain to reduce care and product variation
- The Analytics Platform provided the critical real-time data to drive the initiative

# Coding and Documentation

# Medical Documentation Tells the Story

## POOR DOCUMENTATION



83 year old male presents with the following:

- SOB
- UTI with pneumonia
- Low blood pressure

OR

## ACCURATE DOCUMENTATION



83 year old male presents with the following:

- Acute Respiratory Failure
- Sepsis with septic shock
- Hypotension

(Same Patient)

MEDICAL DOCUMENTATION

# Every Word Counts

To your patients • To your reputation • To your co-workers

Aligned people, process, and analytics resulting in:

# Coding and Documentation Initiative

Case mix index (CMI) increased by 6.27%

Severity of illness (SOI) increased from 2.1 to 2.3

Risk of mortality (ROM) increased from 1.8 to 2.0

Major complications and co-morbidities (MCC) increased by 6.7%

# CDI Process

## Change Management Alignment of Goals

- With MDS team members, physicians, and coding

## Peer-driven change model

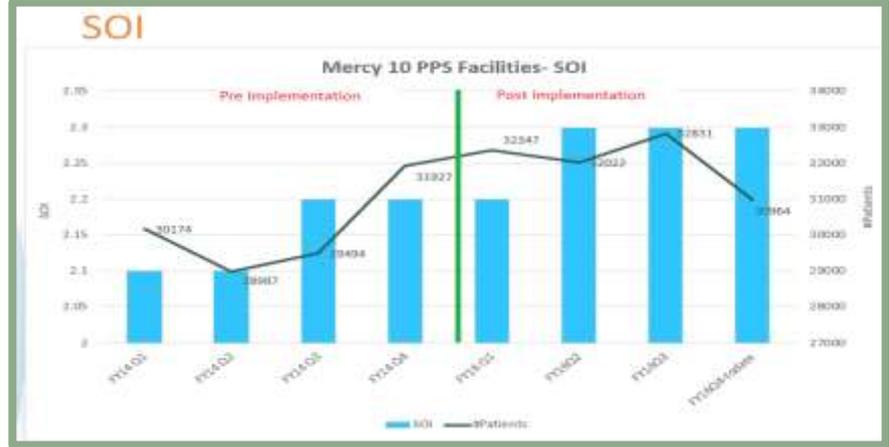
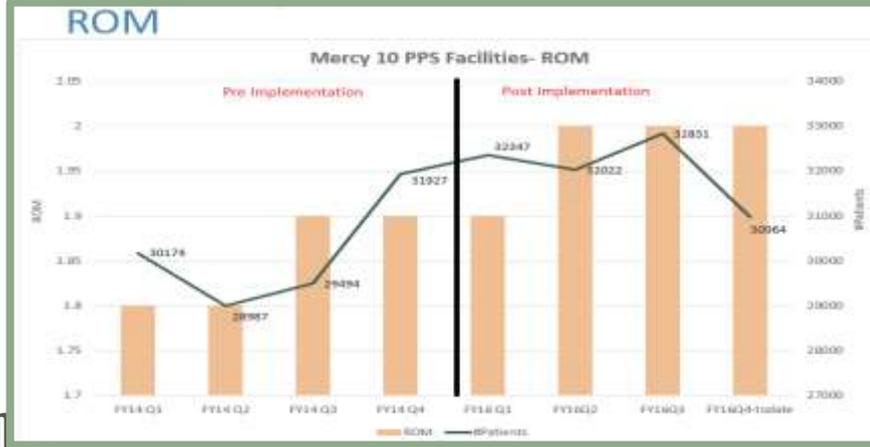
- Mercy used a bi-directional (versus top down) change process to enable engagement, adoption, and feedback
- We created a pilot group of MDS users in each of Mercy's inpatient facilities
- The pilot group performed testing and validation, provided recommendations, tweaked the rules, and incorporated filters and flags
- For the first time, this initiative would bring together physicians, MDSteamb members, and coding teams to act as a support system to the power users

## Face-to-face training

## Governance and communication

- Multiple weekly and monthly meetings were held involving physician advisors, MDS and coding leadership, and the analytics team

# CDI: Results



# How Benefits Were Realized for the Value of Health IT

## Treatment/Clinical

- Improvement in quality of care through reduction in mortality and advancement in efficiency by expediting administration of medications key to treatment, like antibiotics for pneumonia patients

## Electronic Information/Data

- Evidence-based pathways bring clinical decision support triggers and evidence-based links to the point of care for providers and interdisciplinary clinicians

## Savings

- Reduction in direct variable cost of care for patients on the pathway.
- Surgical Procedure Data and Improved Clinical Documentation resulted in cost savings



# Questions

Andrew Eilers BSN, RN, MBA

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Todd Stewart MD

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- *References available upon request*



*Your life is our life's work.*

# Appendix

# Periop – Cost per Case Dashboard

**Periop Supply Management**  
Fiscal Year: 2017

**Average Cost per Case**

Location	Average Cost per Case
KILL MEYER AVERAGE	~\$1,200
EAST	~\$1,150
SHORT SMITH	~\$1,100
WASDAS	~\$1,050
NORTHWEST ARKANSAS	~\$1,000
OKLAHOMA	~\$950
SOUTHWEST MISSOURI	~\$900
SPRINGFIELD	~\$850

**Top 10 Services**

Service	Cost per Case
CARDIOLOGY	~\$1,200
NEUROLOGICAL SURGERY	~\$1,150
CARDIOVASCULAR	~\$1,100
VASCULAR SURGERY	~\$1,050
ORTHOPEDIC	~\$1,000
ORALMAXILLOFACIAL	~\$950
GYNECOLOGY	~\$900
ENDOSCOPY	~\$850
PODIATRY	~\$800
UROLOGY	~\$750

**Overall: All Mercy is projected to MISS Savings Target by: \$138,711**

**Information Portfolio: Perioperative Intra-op Case Cost Dashboard**

**Data Explorer**

Year	Service	Region	Comments	Community Level	CLARITY_AVG_COST
2014-07	ORTHOPEDIC	WEST	0.7451	1	0.2918
2014-08	ORTHOPEDIC	WEST	0.7324	1	0.2918
2014-09	CENTRAL-SON...	CENTRAL	0.7024	1	0.2918
2014-10	CENTRAL-SON...	CENTRAL	0.6710	1	0.2918
2014-11	BAPT	BAPT	0.6324	1	0.2918
2014-12	BAPT	BAPT	0.6010	1	0.2918
2015-01	BAPT	BAPT	0.5724	1	0.2918
2015-02	BAPT	BAPT	0.5410	1	0.2918
2015-03	BAPT	BAPT	0.5124	1	0.2918
2015-04	BAPT	BAPT	0.4810	1	0.2918
2015-05	BAPT	BAPT	0.4524	1	0.2918
2015-06	BAPT	BAPT	0.4210	1	0.2918

**Data Explorer**

Provider	Total Cost per Case
PHYSICIAN, UROLOG...	~\$1,200
PHYSICIAN, UROLOG...	~\$1,150
PHYSICIAN, UROLOG...	~\$1,100
PHYSICIAN, UROLOG...	~\$1,050
PHYSICIAN, UROLOG...	~\$1,000
PHYSICIAN, UROLOG...	~\$950
PHYSICIAN, UROLOG...	~\$900
PHYSICIAN, UROLOG...	~\$850
PHYSICIAN, UROLOG...	~\$800
PHYSICIAN, UROLOG...	~\$750
PHYSICIAN, UROLOG...	~\$700
PHYSICIAN, UROLOG...	~\$650
PHYSICIAN, UROLOG...	~\$600
PHYSICIAN, UROLOG...	~\$550
PHYSICIAN, UROLOG...	~\$500
PHYSICIAN, UROLOG...	~\$450
PHYSICIAN, UROLOG...	~\$400
PHYSICIAN, UROLOG...	~\$350
PHYSICIAN, UROLOG...	~\$300
PHYSICIAN, UROLOG...	~\$250
PHYSICIAN, UROLOG...	~\$200
PHYSICIAN, UROLOG...	~\$150
PHYSICIAN, UROLOG...	~\$100
PHYSICIAN, UROLOG...	~\$50
PHYSICIAN, UROLOG...	~\$0

- Each dashboard has access to the data explorer tool
- All metrics are documented in the information portfolio

# Periop – Cost per Case Dashboard

**Mercy** **Periop Intra-op Case Cost** Print Explorer Views

Summary Analysis Provider Supply Management 08/30/2015 - 11/30/2015 Show Single Procedure Cost Detail Supply Detail

Community: Mercy Enterprise

Service Specialty Procedure

Service Name	Avg per Case	Case Count	Cost Used	Cost Wasted	Labor/Overhead
OBSTETRICS	178	29	5,157	7	14,809
ONCOLOGY	43	21	895	0	6,179
OPHTHALMOLOGY	617	2,530	1,561,350	20,208	680,317
ORALMAXILLOFACIAL	1,211	447	541,198	2,107	211,212
ORGAN PROCUREMENT	331	4	1,326	5	2,511
<b>ORTHOPEDICS</b>	<b>2,517</b>	<b>8,275</b>	<b>20,830,874</b>	<b>67,087</b>	<b>4,287,150</b>

IMPLC	Case Count	Avg Cost/Case	Case Count	Cost Used	Cost Wasted
ORTHO SURG IMP-KNEE	1,008,633	4,342	1,163	4,925,860	1,400
ORTHO SURG IMP-ORTHO	3,348,994	1,259	3,420	3,047,499	10,883
ORTHO SURG IMP-HEP J	2,761,048	4,007	666	2,722,475	4,149
**UNKNOWN**	2,660,368	1,401	1,834	2,569,651	6,297
ORTHO SURG IMP-SHOUL	1,000,239	8,239	131	883,658	2,990
ORTHO SURG IMP-SOFT	758,758	894	848	756,173	4,799

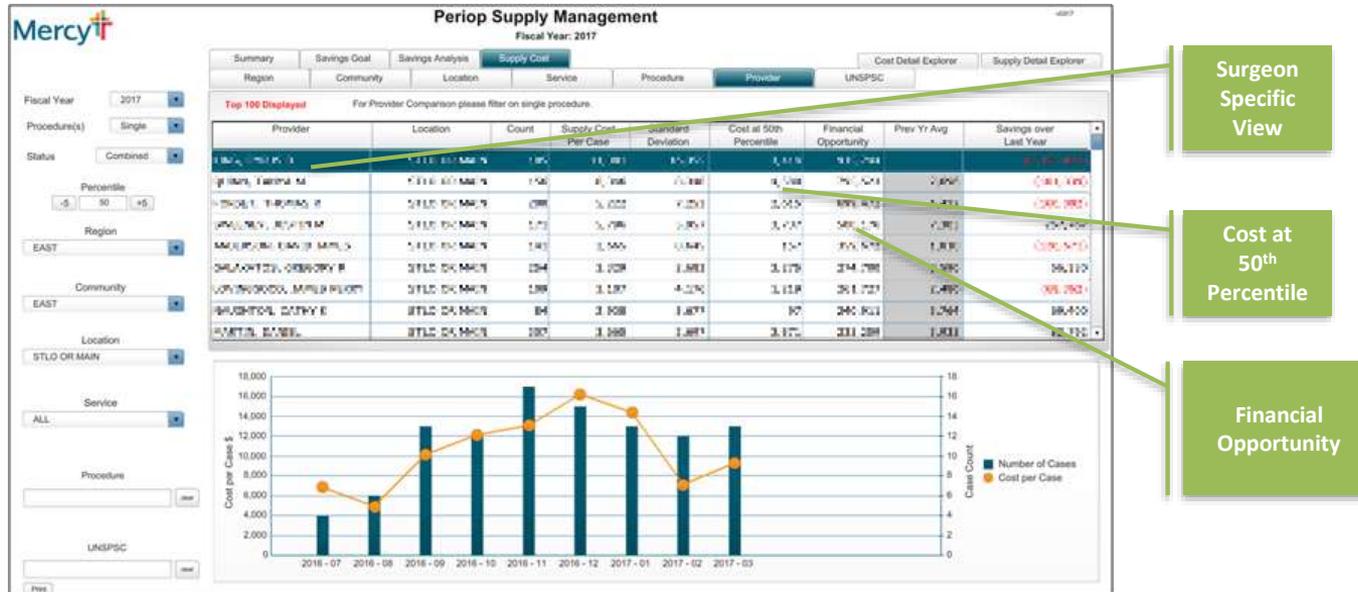
  

Item Used	Qty Used	Unit Cost	Qty Wasted	Cost Wasted	On Contract	Manufacturer	Manufacturer ID	Supply on the fly
COMP TIB TROATHLON CMNT 52	36	38,000	0	0	Y	STYRACER, INC	5520-B-400	
COMP FEM VNGRD CR INTRLK R	22	34,500	0	0	Y	BIOMET INC	183008	
COMP FEM VNGRD CR INTRLK L	20	31,250	0	0	Y	BIOMET INC	183026	
COMP TIB LOCK FINISH 75MM	30	33,288	0	0	Y	BIOMET INC	141234	
BRNG TIB VNGRD EPOLY CR EP-	12	19,500	0	0	Y	BIOMET INC	EP-183440	
COMP TIB 3RNY RCS IMPOR 524	19	19,450	0	0	Y	SMITH NEPHEW	74022224	

- EPISI
- Lawson
- EPIC
- GHX Nuvia
- Bravo Contract Mgmt

- The dashboards combine data from many different sources
- The dashboards provide an integrated holistic view of information for rapid decision making and action planning

# Periop – Cost per Case by Surgeon



- Reducing variability in practice is our major focus
- Showing surgeon costs in relationship to peers has proven to be an effective approach to drive behavior changes



Mercy 