



2017 Value Report  
Mercy Quality and Patient Safety  
Value Highlights



*Your life is our life's work.*

Watson Health<sup>™</sup>  
**15 TOP**  
HEALTH SYSTEMS  
2018

## Introduction

### “Health care today is a team sport”

The good intentions of hard work, intuition and training of individuals cannot guarantee quality or effectiveness. Quality improvement provides the expertise around measurement and processes, insuring that effective, evidence-based care is delivered by Mercy’s people and technology for each and every patient. Patient safety guarantees that within the complexity of care today, work is organized to deliver care without patient harm. Analytics allow us to move from reactive work in safety and quality to proactively developing clinical excellence each and every time. Mercy Quality and Safety is designed to realize the above.

Throughout this report you will find examples of Quality and Safety being an integral part of Mercy delivering clinical excellence across the care continuum. Our never-wavering commitment to evidence-driven standards helped propel Mercy to being named a Top 5 large health system by IBM Watson Health (formerly Truven Health Analytics) for the third year in a row and why eight Mercy hospitals received best in class “A” grades from the Leapfrog group. Our whole system approach to reducing hospital acquired infections and providing point of care best practice through our clinical pathways has saved hundreds of lives, millions of dollars, and equipped and empowered our providers to deliver the right care to each patient at the right time. Critically important to our growth this year has been our commitment to data-driven insight. These interactive dashboards, including the Mercy Performance Dashboard, provide dynamic reports and performance analysis that supports our reporting efforts to CMS and other public-facing entities. Equally important, these dashboards put actionable insights directly into the hands of Mercy leaders, from executives to point of care providers. Executing our department’s newly developed vision will ensure we continue to drive highly reliable, patient-centric clinical excellence across Mercy in the years to come.

Keith Starke, MD  
*Senior Vice President and Chief Quality Officer, Mercy*



# Mercy Quality and Safety: Purpose Statement

## Table of Contents

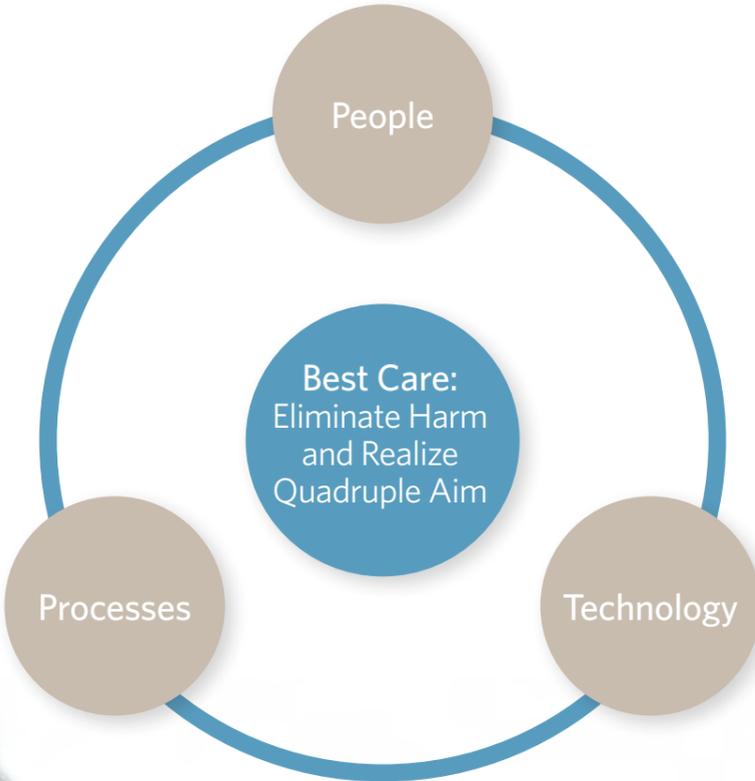
- Mercy Quality and Safety: Purpose Statement .....5
- Senior Leader Vision: Achieving the Quadruple Aim .....6
- Awards and Honors Across the Landscape .....7
- Major Clinical Quality and Safety Projects .....10
- Public and Regulatory Reporting.....16
- Securing Safety; Eliminating Harm.....21
- Data-Driven Insight ..... 22
- Quality and Safety Financial Benefit and Vision for the Future.....26
- 2017 MLT Innovation Hall.....28
- Quality and Safety Community Benefit ..... 31
- Mercy Health Quality Committee of the Board ..... 32
- Mercy Quality and Safety Team.....34

Mercy Quality and Safety will drive high reliability outcomes, accountability, clinical excellence and remove unnecessary variation.

The effective alignment of people, processes and technology will provide the best care to our patients by eliminating harm and realizing the quadruple aim.

**Quadruple Aim:**

- Improve the health of populations
- Improve the provider and co-worker experience
- Improve the patient experience of care (quality and satisfaction)
- Reduce the cost of care



# Senior Leader Vision: Achieving the Quadruple Aim

Donald Berwick, former CEO of the Institute for Healthcare Improvement (IHI), first introduced the concept of the “Triple Aim” in 2008, and in the subsequent decade Mercy has relentlessly pursued its objectives of: Improving the health of populations, improving the experience of care (including quality and satisfaction) and lowering the cost of care. Throughout the ministry there are wonderful examples of us living this vision, including our participation in two Accountable Care Organizations, standardizing Care Pathways, forming one of the largest clinically integrated organizations and taking action to lower the cost of care. However, recent literature recognizes a missing component of IHI’s model and suggests a fourth aim: “The goal of improving the work life of health care providers including clinicians and staff.”

As Mercy approaches its bicentennial year, we lead with an emphasis on embracing the quadruple aim and by doing so eliminating harm events and creating a joyful work environment.



Peter Brawer, PhD  
VP, Clinical Quality  
and Patient Safety



Li Ern Chen, MD  
VP, Business Innovation  
and Patient Safety

# Awards and Honors Across the Landscape

*Leapfrog*  
*IBM Watson Health (Truven Health Analytics)*  
*Hospital Compare*  
*Contractual Benefit Related to Quality and Safety Measures*

## Leapfrog

- Leapfrog is one of the preeminent sources for identifying top-performing hospitals across the U.S. by providing transparency regarding a hospital’s quality and safety.
- Leapfrog’s findings are a key resource for informing individuals, corporations and health plans about the quality and value of a hospital’s care.

## The Challenge and Opportunity

Historically, there was wide variation in the approach individual Mercy facilities used to assess and report quality and safety to Leapfrog. Quality and Safety leaders looked for a way to learn about what facilities are doing successfully and help ensure reporting would be consistent with Mercy best standard practice.

“We believe bringing together co-workers from across the ministry to share best practices for assessing and reporting quality and safety results spurs alignment and support across facilities and promotes adherence to Mercy’s reporting standards,” said Denise Williams, Patient Safety Lead.



2017 Leapfrog Summit Attendees

## The Results: Leapfrog, Winter 2017

Community	Grade
Joplin*	A
St. Louis*	A
St. Anthony’s	A
Fort Smith	A
Jefferson	A
NW Arkansas	A
Oklahoma City	A
Washington	A
Springfield	B
Ada	B
Ardmore	C

\* Top hospital, identified as having elite quality and safety.

## The Response: Leapfrog Summit, April 2017

Quality and Safety reporting teams from Mercy’s acute care hospitals gathered together to educate, engage and equip each other for success.

The summit focused on sharing knowledge, best practices and barriers to success.

Quality and Safety leaders provided guidance and support to ensure accurate reporting by providing standards for centralized data reporting for facilities.

## IBM Watson Health (Truven Health Analytics)

For the third year in row, Mercy was named a Top 5 large health system and a Top 15 overall health system by IBM Watson Health (former Truven Health Analytics). The Top Health Systems program combines rigorous individual hospital metric performance analysis into system-level data to identify the best health systems in the nation. Health systems do not apply for consideration, and winners do not pay to market their award.

### The Role of Quality and Safety in Watson Health's Analysis

When reflecting on how our efforts to elevate quality across Mercy have influenced Watson Health's evaluation of Mercy, Vance Moore, Mercy's president of Business Integration, noted, "Quality is the foundation of value in any organization. Commitment to intentional and aligned work in quality, associated with patients, co-workers and providers has allowed us to enhance transparency, candor and teamwork in solving the really big problems that we face."

### How This Connects to Our Mission

When asked what this recognition means to and for Mercy, Vance Moore replied, "We do what is right for those in our care and it is rewarding to see that our efforts are being reflected in recognition by respected entities like IBM Watson Health."



### Mercy Outperformed Our Peers:

- Saved more lives
- Caused fewer patient complications
- Lower cost of care
- Readmitted patients less frequently
- Shorter emergency department wait times
- Shorter hospital stays
- Better patient safety
- Higher patient satisfaction

## Hospital Compare

### 5-Star Rating

- The overall rating of a hospital summarizes 57 quality measures reflecting common conditions that hospitals treat, such as heart attacks and pneumonia.
- They are grouped into the following seven categories with associated weighting:

Measure Group	Star Rating Weights
Mortality	22%
Safety of Care	22%
Readmission	22%
Patient Experience	22%
Effectiveness of Care	4%
Timeliness of Care	4%
Efficient Use of Medical Imaging	4%

## Contractual Benefit Related to Quality and Safety Measures

Many payers have followed the lead of CMS and are linking quality measure performance to reimbursement.

- Based on 2017 contract years, these are the total annual estimated incentive payments based on quality measures (i.e., HEDIS/5 Star or other contracted quality metrics).

Mercy Community	Total Annual Estimated Payments
East	\$4,683,000
North Central	\$962,000
South Central	\$1,456,000
West	\$339,000
<b>Total</b>	<b>\$7,440,000</b>



# Major Clinical Quality and Safety Projects

*Fighting Clostridium difficile (C. diff): A Whole System Approach*  
*Clinical Pathways: Driving to Excellence*  
*Glycemic Control*

## Fighting C. diff: A Whole System Approach

### Why It Matters

Health care-associated infections (HAIs), such as Clostridium difficile (C. diff), are common, deadly and costly, but preventable.

C. diff rates across Mercy were higher than acceptable despite well-intentioned efforts at individual facilities and across different Mercy domains.

### Key Tenets of a Ministry-Wide Transformative Journey to Reduce C. diff

- People
- Organizational buy-in across the leadership matrix
- Process
- Evidence-driven, whole-system focused processes
- Technology
- Optimization of Epic to provide point of care support for C. diff testing



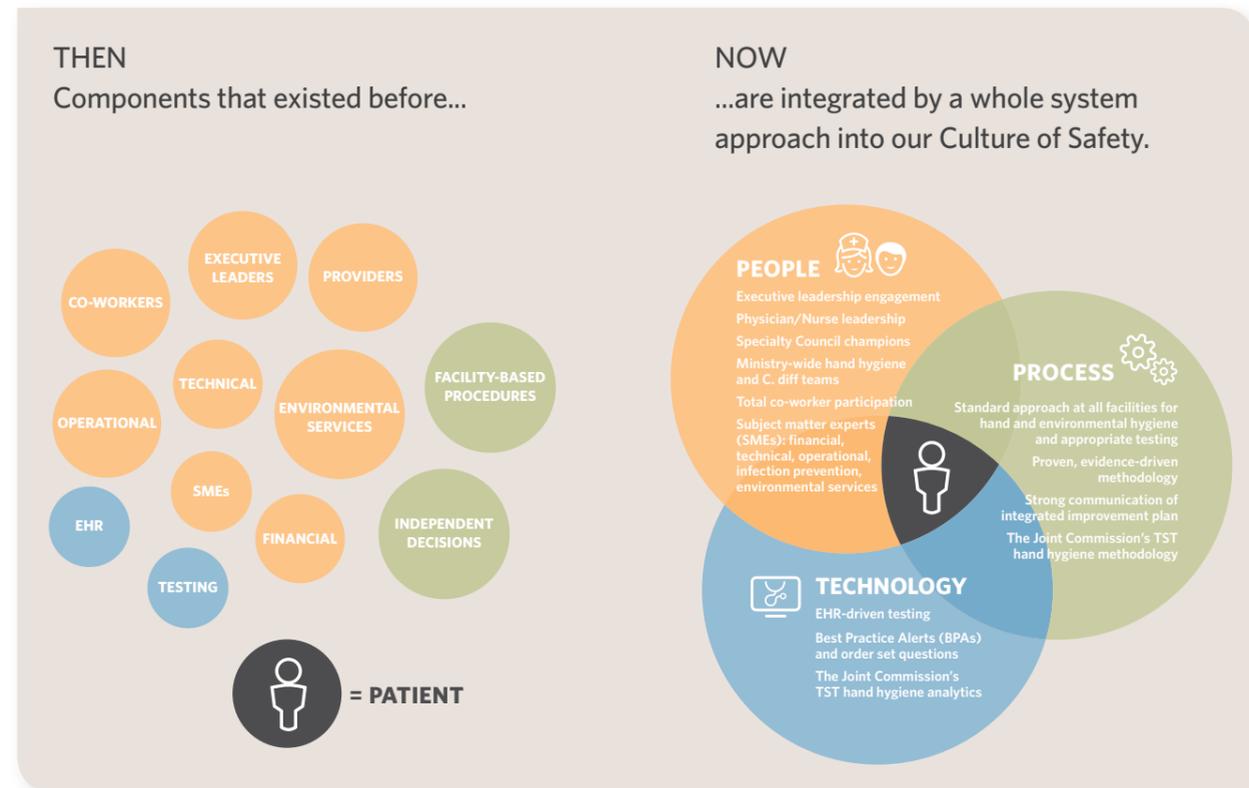
Hand hygiene improved from 58% to 92%



C. diff is being found nearly one day sooner



Mercy-wide C. diff Standard Infection Ratio (SIR) has dropped by 50% and is below the Mercy Benchmark



C. diff Cases Per Quarter and Year



\$8.15 million C. diff related costs avoided due to total case reduction

## Clinical Pathways: Driving to Excellence

### The Need for Care Delivery Standardization via Clinical Pathways

Delivering care to communities of varied size and culture helps us achieve our mission as Mercy. It also can potentially lead to care delivery that varies in its quality and value for the patient.

To ensure that all patients who come to Mercy are provided excellent, patient-centric care, Quality and Safety is standardizing and optimizing clinical care delivery via pathways that live within Epic.

### The Process and Value of Clinical Pathways

Ursula Wright, executive director of Clinical Performance Acceleration, described the pathway process at Mercy: "The pathway development cycle process engages clinical, financial, operational and technical expertise across the ministry to produce the standardized automated tools, process metrics and adherence monitoring that accelerates differentiated performance in quality, cost and patient experience."

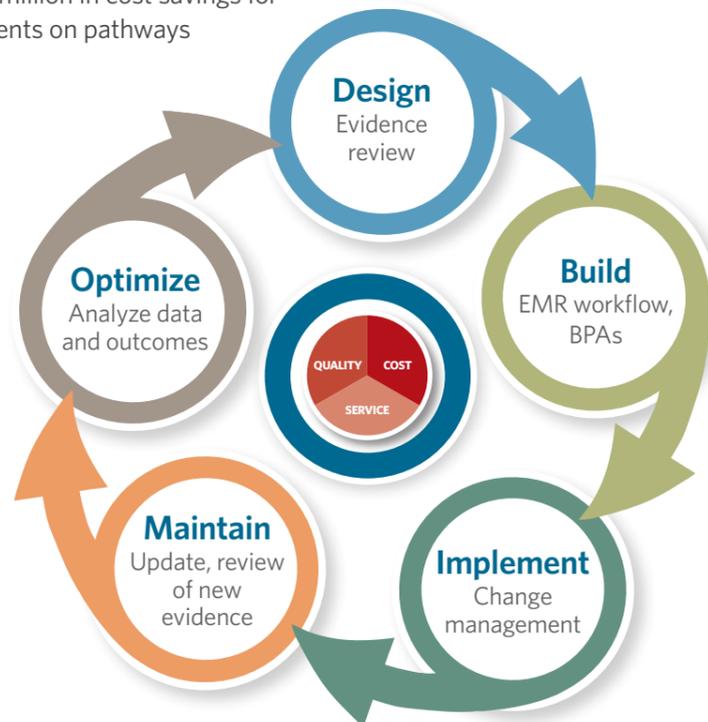


Ursula Wright

She notes that "pathways provide best practice insight" at the point of care via Epic and promote "team-based care that empowers care team providers to make the necessary decisions to get health care right for every patient."

### The Results

- 42 pathways across medical, surgical, pediatric, critical care, cardiac and labor/postpartum care
- 119,013 patients received care on a pathway
- \$19 million in cost savings for patients on pathways

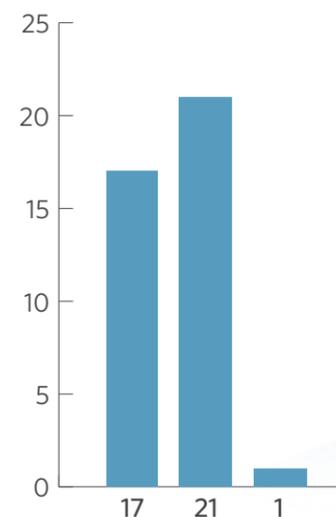


### Inpatient Mortality:

17 - Conditions with better mortality on pathway

21 - Conditions with same mortality on pathway

1 - Conditions with worse mortality on pathway



## Glycemic Control

### Diabetes Summit: Uniting Mercy Experts

#### Focus:

- Improving the health of our patients with diabetes
- Provider and patient resources shared:
  - Mercy Diabetes Prevention Programs
  - Outpatient diabetes programs
  - E-pharmix
  - EMMI
  - Diabetes smart set

Becky Sidberry, manager of Diabetes Care, describes the exciting work being done: "The 2017 Mercy Diabetes Summit sky-rocketed the work around diabetes care across the continuum. For the first time a multi-disciplinary group came together to share their expertise and listened to our Mercy leaders talk about diabetes strategic goals. The diabetes educators, partnering with the endocrine specialty council, have worked tirelessly on eliminating unnecessary variation, improving patient access to care, developing standardized patient-centered education materials and igniting a Mercy diabetes

presence virtually. The inpatient focus included a standardized approach to managing blood sugars, eliminating patient harm and engaging the patient in their care. In October 2017, Mercy launched the Inpatient Glucometrics Dashboard, providing actionable insights to our Mercy leaders. Successful management of diabetes across the continuum must be a team approach with the patient in the center; the foundation established in 2017 will provide Mercy the infrastructure needed to continue our pursuit of engaging excellence in diabetes management."



## Mercy Education Materials Creating one message

- Pediatric education workbook (St. Louis only)
- Adult education workbook
- Insulin pump troubleshooting tips
- Diabetes Action plan

**TOP 10 TIPS Dealing with Diabetes**

You can do it. Mercy can help. There are so many tips for dealing with diabetes, but it can be managed. Mercy Certified Diabetes Educators will work with you to create a plan for managing your diabetes and living your life. Here are some tips to keep in mind.

- 1 Breathe.** Take a deep breath. Don't panic. You can manage your diabetes.
- 2 Eat smart.** Always consult your dietitian for a balanced diet with lots of fruits and vegetables.
- 3 Stay hydrated.** Get enough fluids and eat down on caffeine and alcohol. Water, coffee, sugar-free tea and herbal teas are great alternatives to sugary drinks.
- 4 Get moving.** Make exercise part of your daily life. Find an activity you enjoy and do it with friends and family.
- 5 If you smoke - quit.** Call 800.QUIT.NOW (800.QUIT.NOW) for help to connect to your doctor. Quitting now can greatly improve your health and reduce your risk of complications.
- 6 Keep track.** Your health care team will help you track and track your blood sugar levels.
- 7 Learn the meds.** Research your medications, ask your doctor how they work and what to do if you miss a dose.
- 8 De-stress.** Stress can make your symptoms worse. Explore coping mechanisms, meditation, yoga and spending time with friends and family.
- 9 Stay alert.** Diabetes can cause confusion. Get your blood sugar levels healthy weight back. Many great resources are available to help you stay alert.
- 10 See it!** Always remember - you are not alone.

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mercy.net/ManagingDiabetes

**Pump Troubleshooting Guide: Unexplained Blood Sugar 250 mg/dL or Higher**

Check for Ketones

**Ketones are NEGATIVE**

- Make a correction dose with your health pump.
- Review insulin pump settings.
- Check for air in the line.
- Change the infusion set and reservoir.
- Change the insulin reservoir.
- Change the insulin reservoir.

**Ketones are POSITIVE**

- Do not take a correction dose until ketones are negative.
- Do not take a correction dose until ketones are negative.
- Do not take a correction dose until ketones are negative.
- Do not take a correction dose until ketones are negative.
- Do not take a correction dose until ketones are negative.
- Do not take a correction dose until ketones are negative.

Mercy  
15 TOP  
15 TOP

**Your Diabetes Action Plan**

This three-part action plan is a guide to help you manage your symptoms of diabetes. Take action now to manage your diabetes.

ZONES	SYMPTOMS	ACTIONS
<b>Green Zone CARRY ON</b> Consult with your physician for your blood sugar range: 70-130 mg/dL	• Blood sugar is 70-130 mg/dL before meals and 70-130 mg/dL 1-2 hours after meals • No symptoms • No frequent urination • No excessive thirst	• Continue checking your blood sugar • Continue your medication • Continue to monitor healthy foods • Monitor your blood sugar range • Keep your blood sugar in your target range
<b>Yellow Zone CAUTION</b> Contact your physician if you have these symptoms	• Blood sugar is 130-180 mg/dL before meals and 130-180 mg/dL 1-2 hours after meals • High blood sugar often after meals • Frequent urination • Excessive thirst • Fatigue	• Check your blood sugar range • Check your blood sugar range
<b>Red Zone NEED HELP NOW</b> Your symptoms are visible and you need help. Contact your physician immediately	• Blood sugar is 180-250 mg/dL before meals and 180-250 mg/dL 1-2 hours after meals • Very high blood sugar • Frequent urination • Excessive thirst • Fatigue • Nausea • Vomiting • Confusion	• Call your health care provider right away • Call your health care provider right away

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mercy.net/action



## Creating a Culture of Safety in the Hospital

- Insulin Pen Needles
  - Safest for our patients and nurses
  - Automatic dual-protection shield to prevent needle stick exposure for Mercy nurses



- Dual Nurse Signature

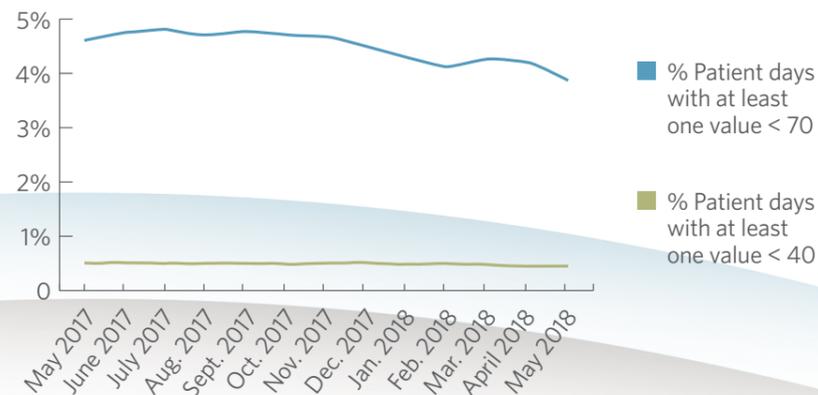
- Hypoglycemia Documentation
  - A clear, streamlined tool was enhanced to provide nurses clear direction on how to treat and re-check the blood sugars
- Lab Standardization
  - Create standard inpatient lab values, such as the anion gap, to prevent nurse and physician confusion and create standardization with our order set content
  - Create standardized critical call serum glucose lab values for hypo and hyperglycemia, alerting the bedside nurse at a higher/lower value, initiating treatment sooner and reducing patient harm
- Engaging the Perioperative Patient
  - Joining forces with the Colon Surgical Site Infection team to implement a safe, standardized, evidenced base approach to optimize patient blood sugars pre, intra and post-operatively to reduce infections and hospital readmissions
- Standardizing Inpatient Glycemic Control
  - Utilizing evidence-based clinical order sets and pathways

## Glucometrics Dashboard

- Introduced in October 2017
- First glimpse at inpatient blood sugars
- Utilizing data to impact patient lives, develop organizational goals and improve the quality of patient care and satisfaction

Due to increased monitoring and associated interventions, Mercy has seen a decrease in hypoglycemic events of approximately 6% at an estimated cost of \$3,000 per case. This equates to cost savings of \$174,000 in first 2 months. An estimated annualized cost savings is \$1.7 million.

% of Patient Days with Any Hypoglycemia



# Public and Regulatory Reporting

Centers for Medicare and Medicaid Services (CMS) Core Measures  
 Ongoing Professional Practice Evaluation (OPPE)  
 National Surgical Quality Improvement Program (NSQIP)  
 Collaborations for CMS-Related Reports

## CMS Core Measures

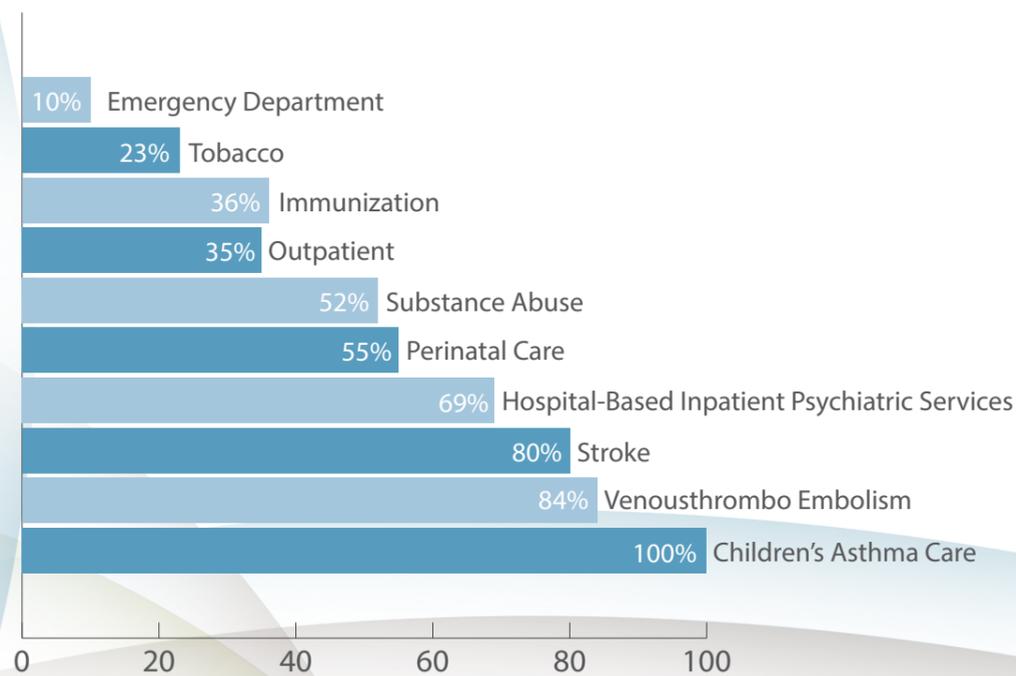
Performance evaluation reporting for CMS Core Measures is a resource intensive process. This can put undue burden on the reporting team and may limit the value of the report beyond meeting the basic reporting requirements.

Quality and Safety's data team created interactive dashboards to support Mercy's people and processes involved in reporting to ensure timely, accurate CMS core measure submissions.

The dashboards provide transparent, visible insights into automated and abstracted data that puts the core measure team "in the driver's seat" for reporting and delivering actionable insights.

## Core Measures

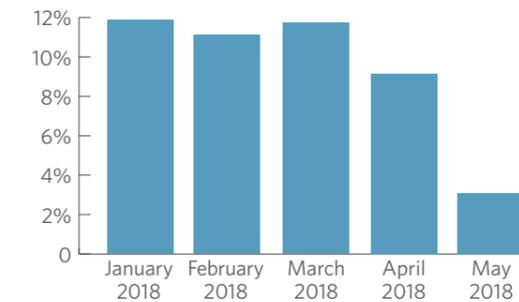
% by month benchmark achieved January 2016 - April 2018



## Ongoing Professional Practice Evaluation (OPPE) via Mercy Clinical Performance Metrics

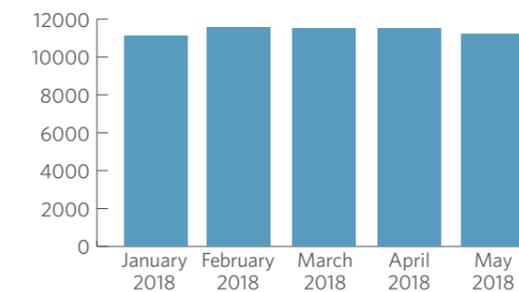
- OPPE is a standard of practice mandated by The Joint Commission (TJC) for the purpose of assessing a practitioner's clinical competence and professional behavior to ensure quality patient care in the hospital setting.
- Commercially available OPPE services come at a high cost (> \$1 million annually) yet only provide basic reporting and do not allow for tailored, dynamic data insight.
- Quality and Safety and Decision Support worked collaboratively to develop a Mercy Clinical Performance Metrics tool to produce data to support OPPE reporting and provide insights tailored to a Mercy leader's needs.
- Equally important, Mercy now has a dynamic tool to evaluate physician performance at a global and granular level.

### Patient Care Metrics - 30 Day Readmissions



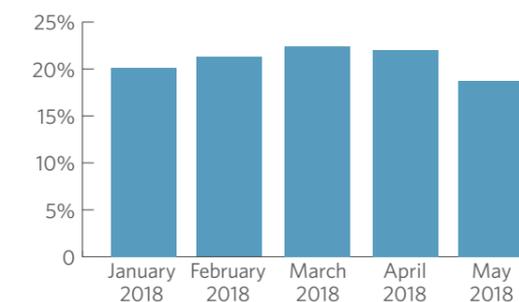
Current and Previous Trend ▼ 7.87%

### System-Based Practice Metrics



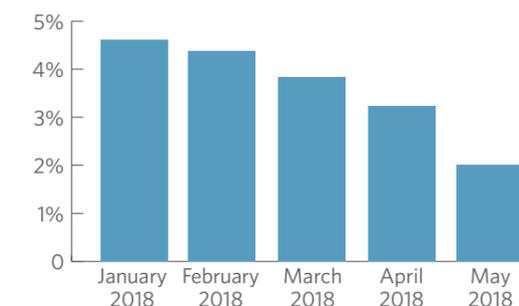
Current and Previous Trend ▲ \$11,452.64

### Appropriate Documentation Metrics



Current and Previous Trend ▲ 21.31%

### Patient Care Metrics - 30 Day Mortality



Current and Previous Trend ▼ 2.97%

## National Surgical Quality Improvement Program (NSQIP)

- The American College of Surgeons NSQIP program provides hospitals across the country with risk-adjusted, outcomes-based performance scores to help hospitals recognize their opportunities to reduce preventable postoperative occurrences.

### In 2017, Quality and Safety improved Mercy's ability to leverage NSQIP and included these initiatives:

#### Centralizing/standardizing the review process

- Surgical Clinical Reviewers work as a collaborative community to ensure standard and complete data.

#### Mercy NSQIP collaborative meeting

- Data-driven insights for reducing surgical site infections and venous thromboembolism.
- Collaborative work with surgeon champions, perioperative leaders, infection prevention, performance acceleration and quality leaders.

#### Early Recovery After Surgery (ERAS)

- Three sites have enrolled in this AHRQ partnership project with NSQIP.
- Designed to identify quality opportunities for colorectal patients.

#### NSQIP for Pediatrics

- Developing disseminating plan for pediatric data
  - Presented to Mercy Kids Board about our participation, results and first steps towards process improvement.
- When thinking about how to best leverage NSQIP data to drive performance moving forward, Anne Jundt, director of Clinical Quality Measures, noted, "As our engagement with NSQIP matures, we will leverage the findings to inform strategies aimed at improving the quality of surgical care and optimizing patient outcomes."

## 10 Implementations (8 Adult, 2 pediatrics)

Cases Reviewed for NSQIP	
St. Louis Pediatrics	1,131
Oklahoma City	1,935
Springfield Pediatrics	699
NW Arkansas	1,640
Washington	1,640
St. Louis	3,280
Springfield	3,951
Joplin	749
Fort Smith	630
Jefferson	585
<b>Total</b>	<b>16,240</b>

## Collaborations for CMS-Related Reports

In 2017, Quality and Safety led collaborative efforts among clinical, financial, operational and technical experts to ensure that Mercy was positioned to provide appropriate reporting regarding quality-related efforts to CMS. Doing so highlighted processes that promote excellence and ensured we wisely steward Mercy resources.

### Meaningful Use

- Total Meaningful Use benefit for hospital, provider and quality was \$17.7 million.
- Mercy was at risk for not receiving \$7.4 million of the \$17.7 million from CMS related to attestation.
- Quality and Safety led collaborative efforts with finance, clinical informatics and local clinical champions to address this issue and ensure full payment.

### Electronic Clinical Quality Measures (eCQM)

- Partnering with MTS, we led efforts to build eCQM reports within Epic that allow Mercy to report certain ED metrics and prevalence of venous thromboembolism prophylaxis.
- Doing so saved Mercy \$1 million that would have been spent using an outside firm to produce these reports.

**\$18.7 MILLION**

Value from Quality and Safety-led collaborations related to CMS reporting





## Regulatory Leadership

Holding ourselves accountable and delivering excellent care with dignity to all our patients ensures we give patients our best in all things great and small. Commitment to excellence, a hallmark of highly reliable systems, is a core principle of the Regulatory and Policy team within Quality and Safety.

### Survey Excellence

- In 2017, many of our Mercy hospitals were surveyed by The Joint Commission, the accrediting body that certifies our hospitals are performing at the highest level.
- Quality and Safety led hospital survey preparedness, provided methods for addressing improvement opportunities identified by The Joint Commission, and organized post-survey ministry wide calls so hospitals could collaboratively share insights for engaging with The Joint Commission.
- The Quality and Safety team also provides support during state and CMS surveys and guidance in generating plans of correction when issues emerge.
- When describing the value of such efforts, Debbie Zieroff, executive director of Regulatory and Accrediting Compliance, noted, "This shared community approach promotes a collaborative, transparent community engagement that produces successful surveys."

### Dignity for All

- In this past year we faced special challenges in ensuring that all of us at Mercy – physicians, front line providers and non-clinical support staff – treat each and every patient with the dignity they deserve.
- The Quality and Safety team led efforts to address emergent issues and establish algorithms for assessing potential patient harm, educating co-workers about best practices and generating policies to ensure we deliver care consistent with our mission.

### Policy Management

- In 2017, we began centralizing and standardizing methods for developing, deploying and maintaining policies. Doing so ensures co-workers across Mercy are fully equipped to be accountable and deliver clinical excellence to every patient, every time.

# Securing Safety, Eliminating Harm

## Safety for the Patient's Sake Standard, Centralized Infection Prevention

### Safety for the Patient's Sake

The Safety Accountability and Feedback for Everyone (SAFE) centralized reporting tool allows Mercy to process the nearly 40,000 safety events annually across Mercy involving falls, medication, laboratory, care coordination and communication.

Thorough event reporting allows us to identify issues and trends in order to develop appropriate interventions to prevent further patient harm.

### Standard, Centralized Infection Prevention

Infection prevention is critical to being a highly reliable organization aimed at eliminating harm and delivering clinical excellence. The challenge was how to do so consistently. Fran Hixson, clinical quality manager and primary lead for organizing ministry-level initiatives, noted, "Collaboratively, Mercy's infection prevention leaders felt that by standardizing processes, equipping co-workers and leveraging technology we could create Mercy standards that promote excellence everywhere."

By participating in a Patient Safety Organization, Mercy is empowered to discuss sensitive issues in a more frank manner than ever before to ensure we are providing patients with clinical excellence.

As a result, facilities are communicating with each other, co-workers have a bias for action and providers are able to fully focus on the patient.

#### Isolation Practice and Signage

Standardizing best practice for isolation procedures and signage equips co-workers and providers to deliver patient-centric care when the patient must be isolated for their and others safety.

#### ICON (Infection Control Module of Epic)

- Infection-related data informs our organizational goal of reducing hospital acquired infections.
- Historically, reports came from an outside vendor, were static and cost nearly \$1 million.
- The data team collaborated with other Mercy experts to create ministry-wide, customizable reports that monitor at-risk patients and staff's exposure to infection.

#### Infection Prevention (IP) Mentoring

- Quality and Safety has established a centralized mentoring program to improve onboarding, training and performance of IP co-workers across Mercy.
- This allows existing IPs to share knowledge and skills about best practices and ensures new IPs understand Mercy processes.

# Data-Driven Insight

Catalyzing Mercy to High Reliability Outcomes  
 Mercy Performance Dashboard  
 Comprehensive Joint Replacement (CJR)  
 Bundled Payment Program  
 Sepsis Task Force

## Data: Catalyzing Mercy to High Reliability Outcomes

Executing Quality and Safety's vision of driving high reliability outcomes, providing accountability, identifying unnecessary variation and ensuring clinical excellence requires transforming data into meaningful information.

This is critical as data shapes our perspectives and informs our decisions.

Ultimately, the right information presented to the right team at the right time can be a catalyst for delivering differentiated performance.

### From a Certain Point of View: The Analytics Team's Perspective

Analytics team members shared their perspectives on how their efforts support the initiatives of the department.

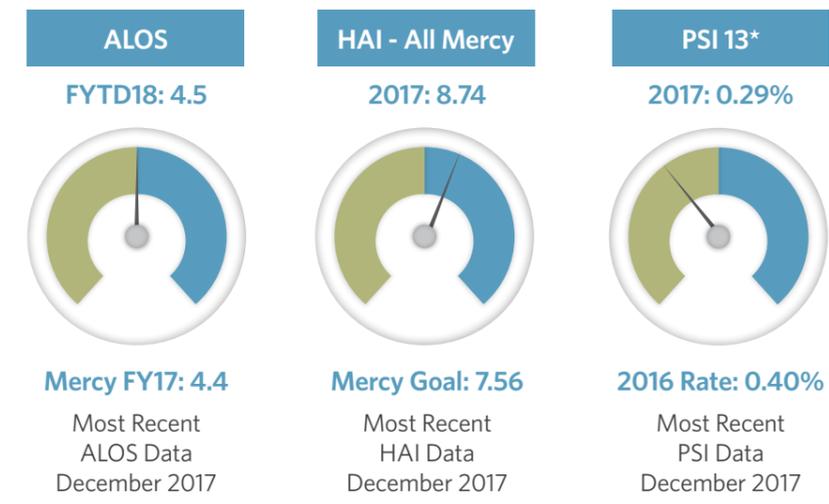
- "Other health systems partner with vendors to generate the analyses and reporting of inpatient quality outcomes that the Mercy Quality and Safety Analytics team generates internally for the ministry."
- "If Mercy were to partner with a vendor for what the team does, it would cost the organization millions and we would lose the intimate knowledge of our data."
- "Being responsible for the data and analytics allows us to respond quickly to changes in quality measure specifications and code set updates."

### The Analytics Team Differentiator: Collaborative Patient-Focused Data Solutions

When asked about what differentiates the Quality and Safety Analytics team, Mike Sarli, director of Clinical Quality Outcomes and Analytics, noted, "Our team prides itself on collaboration and co-develops solutions with clinical, financial and operational leaders that reveal insights and opportunities to improve the care of the patients we serve."

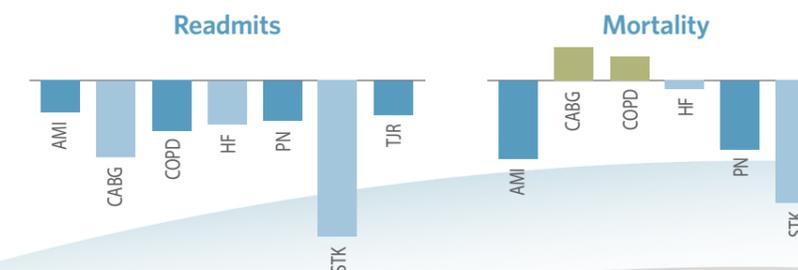
## Mercy Performance Dashboard

- Quality and Safety data is complex with little standardization. The move to value-based care is amplifying this challenge.
- Quality and Safety created a unified data visualization structure, the Mercy Performance Dashboard.
- This dashboard provides rapid analysis of current performance and identify growth opportunities and will help Mercy leaders navigate quality and safety challenges across the continuum of care.



## Medicare Readmissions and Mortality\*

Variance from Top 10% Benchmark  
 Year Ending December 2017



\*Acute care hospitals only

## Comprehensive Joint Replacement (CJR) Bundled Payment Program

### Background

The CMS CJR model holds participant hospitals accountable for the quality and cost of care for Medicare patients who have a total hip or total knee replacement starting with the hospital stay and ending 90 days after discharge.

Mercy increased coordination of care across the care continuum to deliver the highest quality and help manage the cost of care for these patients.

In the first year of the program, three of five participating Mercy hospitals achieved shared savings of \$100,000 and are projected to achieve shared savings for the second year.

### Collaboration and Value

The Quality and Safety team collaborated with David M. Chalk, MD, Dave Globig and the Orthopedic Specialty Council to develop internal tracking and reporting of the Total Hip Arthroplasty/Total Knee Arthroplasty complication rate by hospital and at the ministry level.



David Chalk, MD  
CJR Executive Physician Champion



Dave Globig

The team also collaborated with clinical decision support and local facility leaders to establish a process for providing performance-based insight to Mercy leaders to help them determine the value of continuing in the CJR bundled payment program.

Beyond the value gleaned from knowing which facilities would want to continue participation, experience with CJR has sparked interest among leaders related to other voluntary CMS voluntary bundled payment programs.

## Sepsis Task Force

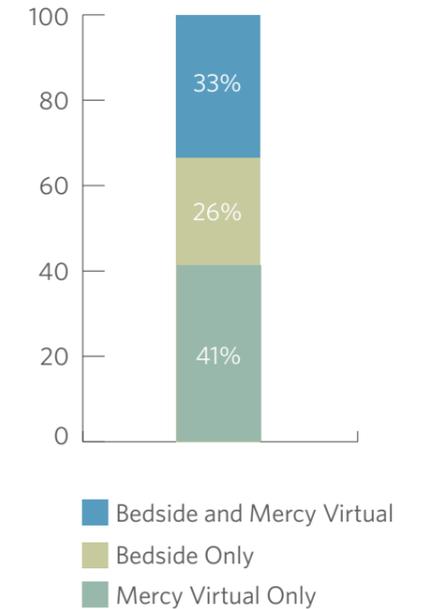
### Why Sepsis?

Sepsis is the most costly and deadliest hospital related condition and is the most prevalent diagnosis upon readmission. Early detection/treatment could prevent a majority of Sepsis-related deaths.

### Potential Population Variation

Mercy struggled to implement care rapidly in a manner consistent with CMS requirements. Mercy Virtual Sepsis program was designed to augment the bedside in rapid identification and intervention, but there was concern the populations identified by these two groups did not align. Quality and Safety led an interdisciplinary Sepsis Task Force to identify prevalence of and reasons for population identification variance and its clinical, operational and financial impact for Mercy over a 30-month period.

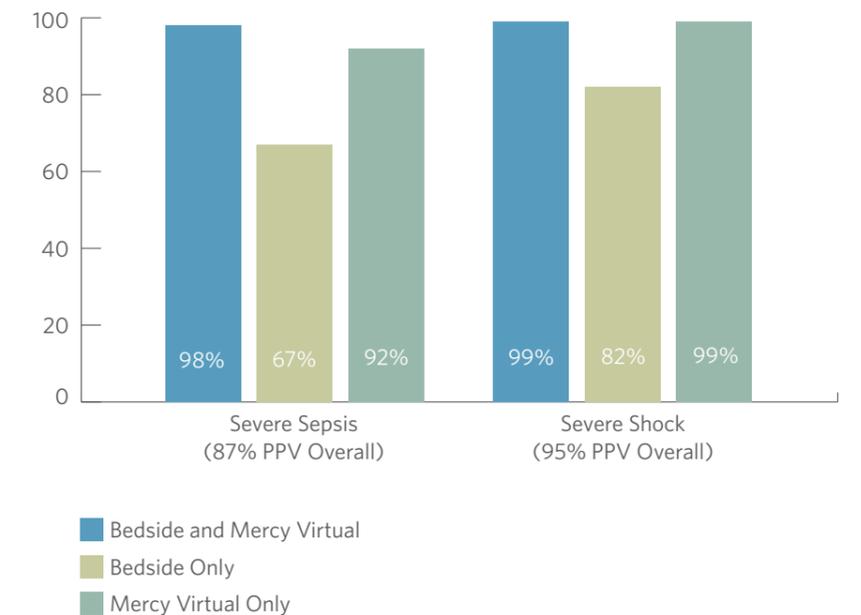
### Population by Source



### Findings and Next Steps

- Only 40% of patients were identified by both bedside and Mercy Virtual
- Mercy Virtual is a highly reliable and valid means for early identification of Sepsis types
- There is a \$3-9 million annual opportunity through better alignment and care
- The results of this task force have led to Sepsis Task Force 2.0
- This was an impetus for Mercy Virtual to design a new patient identification engine and process workflow

### Positive Predictive Value (PPV: Higher is Better) by Population Source



# Quality and Safety Financial Benefit and Vision for the Future

Initiative	Estimated Benefit
Contractual Quality Incentives/Penalty Reduction	\$7,400,000
C. diff Cost Avoidance	\$8,150,000
Catheter Associated Urinary Tract Infection (CAUTI) Cost Avoidance	\$561,000
Pathways Savings	\$19,000,000
Internally Developed Tools:	
Glycemic Control Dashboard	\$50,000
Mercy Performance Dashboard	\$500,000
Electronic Clinical Quality Measures	\$1,000,000
ICON Reports	\$1,000,000
Reduction in Glycemic Events (Annualized)	\$1,700,000
Ongoing Professional Practice Evaluation	\$1,000,000
Meaningful Use	
Hospital	\$9,500,000
Provider	\$5,000,000
Quality	\$3,200,000
Centralized Infection Prevention Reporting	\$1,000,000
Comprehensive Joint Replacement (CJR)	\$100,000
<b>Total Benefit</b>	<b>\$59,160,000</b>

## Where We Are Going

### CaRevolution

- CaRevolution will bring together clinical optimization, care progression and care management to deliver the most efficient and effective patient care across the continuum of care.
- 2017 marks the development of care pathways into the ambulatory setting including malnutrition and pneumonia.

### Reducing Hospital Readmissions

- Hospital readmission penalties will approach \$5 million next year for Mercy.
- A interdisciplinary, task force is working to ensure Mercy is best positioned to re-engineer the inpatient and discharge process to mitigate unnecessary readmissions.

### Quality and Safety

#### Administrative Fellowship

- From its inception in 2016, the Administrative Fellowship program has identified young leaders in health care.
- This year we received more than 50 applicants for three positions in this highly competitive program.

### Engaging Mercy Virtual

- Mercy Virtual provides unique opportunities for delivering clinical excellence across Mercy.
- We will be looking for ways to integrate Mercy Virtual into everyday care for patients from hospital to home and everywhere between.

### Addressing the Social Determinants of Health

- The social determinants of health have been demonstrated to be some of the most influential factors impacting the health of individuals and populations.
- The Quality and Safety Department will further explore ways to consider social determinants to mitigate disease and improve the health of our patients.

### Enhancing Patient Safety Reporting

- Optimization of the SAFE reporting tool and process to promote complete and accurate reporting
- Encourage reporting of all events
- Enhancement and standardization of post event follow-up and intervention

### Expanding the Depth and Increasing the Clinical Expertise of Data Analytics

- Gaining better understanding of Epic's capabilities
- Leveraging statistical analyses
- Analyzing metrics and outcomes across the entire continuum of care
- Enhancing partnerships with finance and operations
- Adding nurses and other clinical experts to the team to further increase clinical collaboration

### Driving to Zero Patient Harm Events using High Reliability

- Focus on overcoming:
- Preoccupation with failure
  - Reluctance to simplify interpretations
  - Sensitivity to operations
  - Commitment to resilience
  - Deference to expertise



# 2017 MLT Innovation Hall

Community Excellence Honorees  
 Service Excellence Honorees  
 Quality and Safety Honorees  
 Innovation Honorees

## Innovation Hall

Innovation Hall is Mercy's annual assemblage of entrepreneurial endeavors designed to deliver patient-centric care and drive differentiated performance.

In October 2017, more than 100 teams of clinical innovators, community champions and service delivery groups across Mercy presented their work at the Ministry Leadership Team (MLT) Innovation Hall.

Among these, the top innovators in Quality and Safety, Community Excellence and Service Excellence were selected to orally present their teams' work.



## 2017 Community Excellence Honorees

**\*Engaging Patient and Community to Transform Diabetes Care**  
 Author: Laura Tuschhoff, Washington

**McAuley Clinic Without Walls: Providing Access to Primary Care for Uninsured NWA Residents**  
 Author: Lisa Low, MD, NW Arkansas

**Physician Mentorship Program: Helping New Physicians Become Mercy Physicians While Reducing New Physician Turnover**  
 Author: Jason Hand, MD, St. Louis



## 2017 Service Excellence Honorees

**\*Use of Structural Modeling to Assess the Factors Associated with the Timing and Patient Outcomes of Clinical Ethics Consultation**  
 Author: Mary Homan, Oklahoma City

**Mercy Kids in Schools - St. Louis**  
 Author: Katie Muschinske, St. Louis

**Supply Stewardship with the use of Qlik Supply Tool**  
 Author: Andy Rohn, Oklahoma City



\* Denotes first place in award category

## 2017 Quality and Safety Honorees

### \*Improving Transition of Care and Reducing Hospital Readmissions for Total Hip and Knee Arthroplasty

Author: Chandra Hazen, Springfield

### Severe Sepsis and Septic Shock Alignment Across Mercy: Clinical, Operational and Financial Impact

Author: Rob Nicholson, Ph.D., Ministry

### Implementing a Best in Class Patient Blood Management Program across Mercy Health

Author: Will Sistrunk, MD, Springfield



## 2017 MLT Innovation Honorees

### \*McAuley Clinic Without Walls: Providing Access to Primary Care for Uninsured NWA Residents

Author: Lisa Low, MD, NW Arkansas

### Engaging Patient and Community to Transform Diabetes Care

Author: Laura Tuschhoff, Washington

### Physician Mentorship Program: Helping New Physicians Become Mercy Physicians While Reducing New Physician Turnover

Author: Jason Hand, MD, St. Louis

### Supply Stewardship with the use of Qlik Supply Tool

Author: Andy Rohn, Oklahoma City



\* Denotes first place in award category

## Quality and Safety Community Benefit

### Community Benefit

#### Mercy Sock Drive

- The NSQIP team coordinated a sock drive to assist with Mercy Neighborhood Ministry's social service goals.
- The goal was 300 pairs of socks and 734 pairs were collected!



#### Friday Jean Donations

- Every Friday donations were collected from co-workers to wear jeans on Friday.
- This year over \$1,000 was raised and donated to the Mercy co-workers crisis fund.



#### Food Drives

- Every year Quality and Safety conducts a Thanksgiving food drive and a food drive for Ronald McDonald House.



# Mercy Health Quality Committee of the Board

The Quality Committee of the Board (the "Committee") is a committee of the Mercy Health Ministry Board of Directors that assists the board by providing oversight for clinical quality and safety across all Mercy venues of care. The Committee discusses key topics and makes recommendations related to areas that impact Mercy's ability to achieve exceptional clinical quality and safety including inpatient, ambulatory, post-acute, sub-acute, mental and behavioral care and spiritual care as elements of holistic care excellence, in a manner that furthers the mission and purpose of Mercy.

## Members of the Committee:

**Lynn Britton (Ex-Officio)**  
President and CEO, Mercy

**Sister Mary Jeremy Buckman**  
Professor Emeritus and Volunteer  
Mercy Center

**Sister Mary Chabanel Finnegan, RSM**  
Ethicist, Catherine's Manor

**Timothy I. Morgenthaler, MD (Chair)**  
Division of Pulmonary and Critical Care Medicine, Mayo Clinic

**David Pratt (Ex-Officio)**  
Rex Realty Co.

**David G. Schulke**  
Vice President, Research Programs  
Health Research and Educational Trust  
American Hospital Association

**Patricia Folcarelli, RN, PhD**  
Director, Patient Safety  
Silverman Institute for Health Care Quality and Safety  
Beth Israel Deaconess Medical Center

**John Harvey, MD**  
President, Oklahoma Heart Hospital

**Patti Harvey, RN, MPH, CPHQ**  
SVP, Medicare Clinical Operations and Population Care  
Executive Director, Care Management Institute  
Kaiser Permanente

**Michael Shabot, MD**  
Executive Vice President,  
Chief Clinical Officer  
Memorial Hermann Healthcare System

**Steven L. Solomon, MD, FACP, FIDSA**  
RADM, Asst. SG (Ret), U.S. Public Health Service  
Global Public Health Consulting, LLC

**Terri-Anne Bone**  
Vice President, Performance Improvement, Mercy

**Peter Brawer, PhD**  
Vice President, Clinical Quality  
Mercy

**Robert M. Cavagnol, MD**  
Chief Physician Officer  
Mercy

**Li Ern Chen, MD**  
Vice President, Business Innovation and Patient Safety  
Mercy

**Fred McQueary, MD**  
President, Ambulatory Care/  
Chief Clinical Officer  
Mercy

**Gavin Helton, MD**  
President, Mercy Virtual-Clinical Integration, Mercy

**Kathryn Nelson**  
Vice President, Performance Improvement  
Mercy Hospital St. Louis

**Betty Jo Rocchio**  
Chief Nursing Optimization Officer  
Mercy

**Philip Wheeler**  
Senior Vice President/General Counsel, Mercy

**Marc Gunter, MD**  
President, Mercy Clinic

**Joseph Kahn, MD**  
President, Mercy Kids

**Jon Lakamp, Pharm D, BCPS**  
Vice President, Pharmacy  
Mercy

**Mike McCurry**  
Executive Vice President and COO  
Mercy

**James T. Rogers, MD**  
Vice President, Adult Primary Care  
Mercy Clinic

**Keith Starke, MD**  
Senior Vice President/Chief Quality Officer, Mercy

**Jon Vitiello**  
Senior Vice President,  
Financial Operations and Analytics  
Mercy

**Robyn Weilbacher**  
Chief Nursing Officer  
Mercy Hospital St. Louis

"The names of the patients whose lives we save can never be known. Our contribution will be what did not happen to them. And, though they are unknown, we will know that mothers and fathers are at graduations and weddings they would have missed, and that grandchildren will know grandparents they might never have known, and holidays will be taken, and work completed, and books read, and symphonies heard, and gardens tended that, without our work, would never have been."

Donald M. Berwick, MD, MPP  
*Former President and CEO, Institute for Healthcare Improvement*



# Mercy Quality and Safety Team

## Quality and Safety Senior Leadership



Keith Starke, MD  
SVP, Chief Quality Officer



Peter Brawer, PhD  
VP, Clinical Quality  
and Patient Safety



Li Ern Chen, MD  
VP, Business Innovation  
and Patient Safety

### Ministry Office

Jessica Becker  
Susan Behal  
Sue Bell  
Daryl Bergman  
Shelly Bolon  
Kerri Brewer  
Barbara Brinkman  
Melyssa Byrge  
Kari Casey  
Paula Clinton  
Marie Collins  
Paige Cockriel  
Jennifer Crider  
Heather Cruise  
Susan Duff  
Andrew Eilers  
Jean Edwards  
Rita English  
Tiffany Feldhake  
Liz Gibbs  
Christine Gleeson  
Leigh Grant

Wendy Griffith  
Kathryn Hampton  
Fran Hixson  
Todd Houge  
Mary Huff  
Lisa Hutchison  
Anne Jundt  
Linda Kubiak  
Melissa Liehr  
Aaron Lombardo  
Jane Mao  
Chris Massaro  
Celia McGraw  
Connie Merseal  
Mitch Miller  
Mike Moonier  
Terri Morris  
Libby Oswald  
Christie Overkamp  
Kelly Pashia  
Gina Perkins  
Mikie Rachman

Linda Ratzlaff  
Theresa Reisinger  
Deena Saporito  
Mike Sarli  
Scott Shade  
Muhammad Shahab  
Becky Sidberry  
Linda Sieve  
Howard Smith  
Vicky Sottile  
Kimberly Stross  
Sheryl Tretter  
Patricia Ugo-Hlafka  
Kathy Vonckx  
Sr. Claudia Ward  
Denise Williams  
Jacquelyn Winscher  
Ursula Wright  
Jodi Zengel  
Debbie Zieroff  
Michelle Zurheide

## Ministry Quality Co-workers

### Ada

Jennifer Brown  
Lisa Brown  
Joni Moore  
Wendy Potter  
Angela Walker

### Ardmore

Beverly Darner  
Pamela Kimbrough, MD  
Toni Roberts  
Jan Shires  
Lori Smith  
Kimberly Walterscheid  
Susan Young

### Aurora

Valerie Davis  
Jessica Shelton

### Carthage

David Winnett

### Cassville

Valerie Davis  
Jessica Shelton

### Fort Scott

Brenda Stokes

### Fort Smith

Lucinda DeBruce  
Debbie Hall  
Missy Hanna  
Eva Haraway  
Onita Hurst  
Lori Langston  
Kym Peterson  
LaReina Smith  
Amanda Sutterfield  
Lisa Townsend

### Jefferson

Linda Ferrara  
Kathy Hesketh  
Mary Leonard  
Julie Lucas  
Marina Moore  
Lora Pettibone  
Susan Priest  
Lori Scholtes  
Lori Schultz  
Annette Viox

### Joplin

Bill Chism  
Jennifer Johnson  
Christina Leggett  
Tammy McBee  
Melanie McNeill  
Donna O'Keefe  
Jill Overman  
Donna Stokes

### Kingfisher/El Reno

Patricia Wehling

### Lebanon

Angela Adams  
Deborah Latham  
Janell Sheets

### Lincoln

Angela Gardner  
Carrie Lawrence

### Logan County

Shannon "Jody"  
Ahrnsbrak

### Oklahoma City

Jennifer Booms  
Terri-Anne Bone  
Terry Hankins  
Kasie Howland  
Laura White

### Rogers

Lindsey Abney  
Michelle Bass  
Heather Bumsted  
Cindy Crump  
Lisa Douthit  
Renee Holt  
Teri Koch  
Megan Peters  
Diana Rogers  
Karen Tanner

### Springfield

Debra Appleby  
Carrie Barton  
Stephanie Dawson  
Rebecca Gygax  
Jessi Hawkins-Altis  
Diana Henderson  
Brenda Huddleston  
Audrey Kroencke  
Amy Jones  
Alex Peek  
Robin Plumb  
Teresa Phillips  
Tonya Rinehart  
Loree Ryan  
Anita Sandwell  
Cheryl Wagstaff  
Linda Weaver  
Sabrina Wright

### St. Anthony's

Barbara Archevald  
Cathy Bowe  
Alexa Clark  
Linda Cromeens  
Sarah Drake  
Jean Duffy  
Christine Fitzgerald  
Wendy Forys  
Dee Fouts  
Andrea Gray  
Jen Jaffe  
Lori McNaughton  
Linda Merz  
Rebecca Osburn  
Emily Ostmann

Matthew Schweigert  
Meliha Sinanovic  
Stacy Veit

### St. Louis

Eileen Arington  
Sean Balagna  
Ashley Bell  
Julie Binder  
Karen Call  
Jessica Chestnut  
Sarah Daugherty  
Gil Diesel  
Joanne Dunstan  
Becky Eller  
Lisa Finley  
Meagan Gray  
Ann Hengst  
Tayler McCurdy  
Alycia Miley  
Kat Nelson  
Debbie Nihill  
Ann Perry  
Jen Ryder  
Amanda Schmittling  
Terri Tucker  
Amanda Varble  
Patti Warden  
Lauren Weilbacher  
Erica Wright

### Washington

Phyllis Cassette  
Sharon Holtmeyer  
Amber Koirtyohann  
Marie Lingenfelter  
Amelia Payne  
Kim Rutledge  
Dawn Tucker  
Cayla Wallace  
Ingrid Weaver

### Watonga

Jennifer Manuel

*Thank you for a successful year.*

