2017 Value Report
Mercy Quality and Patient Safety
Value Highlights

Your life is our life’s work.
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, ensuring 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

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.

Awards and Honors Across the Landscape

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

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.

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.
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.

IBM Watson Health (Truven Health Analytics)

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.”

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.”

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:

<table>
<thead>
<tr>
<th>Measure Group</th>
<th>Star Rating Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>22%</td>
</tr>
<tr>
<td>Safety of Care</td>
<td>22%</td>
</tr>
<tr>
<td>Readmission</td>
<td>22%</td>
</tr>
<tr>
<td>Patient Experience</td>
<td>22%</td>
</tr>
<tr>
<td>Effectiveness of Care</td>
<td>4%</td>
</tr>
<tr>
<td>Timeliness of Care</td>
<td>4%</td>
</tr>
<tr>
<td>Efficient Use of Medical Imaging</td>
<td>4%</td>
</tr>
</tbody>
</table>

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

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).

<table>
<thead>
<tr>
<th>Mercy Community</th>
<th>Total Annual Estimated Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>$4,683,000</td>
</tr>
<tr>
<td>North Central</td>
<td>$962,000</td>
</tr>
<tr>
<td>South Central</td>
<td>$1,456,000</td>
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<tr>
<td>West</td>
<td>$339,000</td>
</tr>
<tr>
<td>Total</td>
<td>$7,440,000</td>
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</tbody>
</table>
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

EHR-driven testing
Best Practice Alerts (BPAs) and order set questions
The Joint Commission’s TST hand hygiene methodology

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

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

Hand hygiene improved from 58% to 92%
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 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

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.”

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.”

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.”

Inpatient Mortality:
17 – Conditions with better mortality on pathway
21 – Conditions with same mortality on pathway
1 – Conditions with worse mortality on pathway
Mercy Education Materials
Creating one message

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

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

- 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

Creating a Culture of Safety in the Hospital
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

- Emergency Department: 10%
- Tobacco: 23%
- Immunization: 36%
- Outpatient: 35%
- Substance Abuse: 52%
- Perinatal Care: 55%
- Hospital-Based Inpatient Psychiatric Services: 69%
- Stroke: 80%
- Venous Thromboembolism: 84%
- Children’s Asthma Care: 100%
- Venous Thromboembolism: 84%
- Children’s Asthma Care: 100%
- Venous Thromboembolism: 84%
- Children’s Asthma Care: 100%

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%
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.

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.”

<table>
<thead>
<tr>
<th>Cases Reviewed for NSQIP</th>
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<tbody>
<tr>
<td>St. Louis Pediatrics</td>
</tr>
<tr>
<td>Oklahoma City</td>
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<tr>
<td>Springfield Pediatrics</td>
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<tr>
<td>NW Arkansas</td>
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<tr>
<td>Washington</td>
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<tr>
<td>St. Louis</td>
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<tr>
<td>Springfield</td>
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<tr>
<td>Joplin</td>
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<tr>
<td>Fort Smith</td>
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<tr>
<td>Jefferson</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
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.”

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.

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.
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.

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.

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

<table>
<thead>
<tr>
<th>Population Source</th>
<th>Severe Sepsis (87% PPV Overall)</th>
<th>Severe Shock (95% PPV Overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedside and Mercy Virtual</td>
<td>98%</td>
<td>99%</td>
</tr>
<tr>
<td>Bedside Only</td>
<td>67%</td>
<td>92%</td>
</tr>
<tr>
<td>Mercy Virtual Only</td>
<td>92%</td>
<td>82%</td>
</tr>
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</table>
Quality and Safety Financial Benefit and Vision for the Future

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

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.

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.

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.

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
- Preoccupation with failure
- Reluctance to simplify interpretations
- Sensitivity to operations
- Commitment to resilience
- Deference to expertise

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
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

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

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.
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 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. Schulte
  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
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 Brever
Barbara Brinkman
Melyssa Byrge
Kari Casey
Barbara Brinkman
Melyssa Byrge
Kari Casey

Ministry Quality Co-workers

Ada
Jennifer Brown
Lisa Brown
Joni Moore
Wendy Potter
Angela Walker

Ardmore
Beverly Darner
Pamela Kimbrough, MD
Tori Roberts
Jan Shines
Lori Smith
Kimberly Walterscheid
Susan Young

Aurora
Valerie Davis
Jessica Shelton

Carrighage
David Winnett

Cassville
Valerie Davis
Jessica Shelton

Fort Scott
Brenda Stokes

Fort Smith
Lucinda DeBruce
Debbie Hall
Missy Hanna
Kathy Winsker
Jodi Zengel
Michelle Zunheide

Jefferson
Linda Ferrera
Kathy Hesketh
Mary Leonard
Julie Lucas
Marina Moore
Lana Pettitbone
Susan Priest
Lori Scholtes
Lori Schultz
Annette Vioz

Joplin
Bill Chism
Jennifer Johnson
Christina Loggatt
Tammy McIlee
Melanie McNell
Donna O’Keefe
Jill Overman
Donna Stokes

Kingfisher/El Reno
Patricia Wehring

Lebanon
Angela Adams
Deborah Latham
Janelle Sheets

Lincoln
Angela Gardner
Carrie Lawrence

Logan County
Shannon “Jody” Ahnssbrak

Oklahoma City
Jennifer Booms
Terri-Anne Bone
Rebecca O’Reilly
Laura White

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

Springfield
Debra Appleby
Carrie Barton
Stephanie Dawson
Becky Ggyax
Jessi Hawkins-Alts
Diana Henderson
Brenda Huddleston
Audrey Kroencke
Amy Jones
Alex Peak
Robin Plumb
Teresa Phillips
Tonya Rinehart
Lori Scholtes
Lori Schultz
Annette Vioz

St. Anthony’s
Barbara Archevald
Cathy Bower
Alexa Clark
Linda Cromeens
Sarah Drake
Jean Duffy
Christine Fitzgerald
Wendy Forsy
Dee Fout
Andrea Gray
Jean Jaffe
Lori McNaughton
Linda Marz
Rebecca Osburn
Emily Ostmann

Washington
Phyllis Cassette
Sharon Hollmeyer
Amber Koertbyann
Maire Lingenfelter
Amelia Payne
Kim Rulledge
Dayne Tucker
Cayla Wallace
Ingrid Weaver

Watonga
Jennifer Manuel

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Daryl Bergman
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Kerri Brever
Barbara Brinkman
Melyssa Byrge
Kari Casey
Paula Clinton
Marie Collins
Paige Cockriel
Jennifer Cridar
Heather Cruise
Susan Duff
Andrew Eilers
Jean Edwards
Rita Erglish
Tiffany Feldkamp
Liz Gibbs
Christine Gleeson
Leigh Grant
Wendy Griffith
Kathryn Hampton
Fran Hoxson
Todd Hogue
Mary Huff
Lisa Hutchinson
Anne Juandt
Linda Kubla
Melissa Liehr
Aaron Lombardo
Jane Mao
Chris Massaro
Celia McGraw
Connie Mariscal
Mitch Miller
Mike Monnier
Terri Morris
Libby Oswald
Christie Overkamp
Kelly Pasha
Gina Perkins
Mike Rachman
Linda Ratlaff
Theresa Reisinger
Deena Saporito
Mike Sarli
Scott Shade
Muhammad Shahab
Becky Sidberry
Linda Sieve
Howard Smith
Vicky Sottile
Kimberly Stretcher
Sheryl Tetter
Patricia Ugo-Hlafka
Kathy Vonckx
LaRena Smith
Amanda Sutterfield
Lisa Townsend

St. Louis
Eileen Arrington
Sean Balagna
Ashley Bell
Julie Binder
Karen Call
Jessica Chestnut
Sarah Daugherty
Gil Diesel
Joanne Dunstan
Becky Elfer
Lisa Finley
Meagan Gray
Ann Hengst
Talley McCurdy
Alyssa Miley
Katie Nelson
Debbie Nihill
Ann Perry
Jen Ryder
Amanda Schmittling
Terri Tucker
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Thank you for a successful year.