Data Driven Excellence: Leveraging Quality Data to Optimize Health System Performance

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Learning Objectives

- Describe the interprofessional governance group structure that drives improvement for prioritized patient outcomes.

- Identify key variables to achieve system integration of quality and safety across a health system.

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REFLECTION

UCHealth: University of Colorado Hospital (UCH)

University of Colorado is the largest academic health center in the Rocky Mountain region

University of Colorado Hospital

- 1,931,055 outpatient visits
- 179,926 ED visits
- 52,072 inpatient and observation admissions
- 31,404 surgeries
- 3,714 babies delivered
- 894 available beds

About UCHealth

14 Hospitals

4 Northern Colorado
4 Metro Denver
6 Southern Colorado

+2K Available beds

579 Northern Colorado
989 Metro Denver
852 Southern Colorado

Poudre Valley Hospital
Fort Collins

Medical Center of the Rockies
Loveland

Greeley Hospital
Greeley

Longs Peak Hospital
Longmont

Broomfield Hospital
Metro Denver

University of Colorado Hospital
Metro Denver

Highlands Ranch Hospital
Metro Denver

Memorial Hospital North
Colorado Springs

Grandview Hospital
Colorado Springs

Memorial Hospital
Colorado Springs

Pikes Peak Regional Hospital
Woodland Park

Yampa Valley Medical Center
Steamboat Springs

Parkview Medical Center
Pueblo

Parkview Pueblo West Hospital
Pueblo

More than:

33K employees

119K surgeries

2.7M unique patients

8.6M outpatient, urgent care and emergency room visits

16K babies delivered

7K affiliated or employed providers

973 new patients per day

174K inpatient admissions and observation visits

National and Colorado Quality Programs

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Vizient	USNWR	CMS				Colorado Programs		Leapfrog
Vizient Q&A Hospital Ranking	US News and World Report	Value- Based Purchasing	Star Ratings	Hospital Acquired Condition Program	Hospital Readmission Reduction Program	Colorado HQIP Medicaid Program	Colorado HTP Program	Leapfrog Safety Grade

Vizient	USNWR	Value-Based Purchasing	Star Ratings	HAC	HRRP	Colorado HQIP	Colorado HTP	Leapfrog
Mortality (13 service-lines)	30 day mortality (11 specialties)	30 Day Mortality measures (AMI, HF, PN and COPD)	30 Day Mortality (AMI, HF, PN and COPD)	Patient Safety Indicators – PSI 90	30 Day Readmission Stroke AMI COPD HF Pneumonia CABG THA/TKA	Maternal Health and Perinatal	Readmissions LOS Core Populations: Ischemic stroke, Post-partum, Behavioral Health/ SUD	Patient Safety Indicators – PSI-90/PSI-4//HACs
Patient Safety Indicators	Discharge to home	Infections	Patient Safety Indicators – PSI-90/PSI-4					Infections
Infections			Infections			Quality: C-diff	ED Measures	
Adverse Drug Events – Lab measures	Patient Experience	THA/TKA Complication	Core measures			Patient Safety Education, zero suicide, antibiotic stewardship …		Patient Experience
Patient Experience								
Readmissions/ Excess days	Process (expert opinion, number of patients)	Patient Experience	30-day Readmission	Infections			Other (telemedicine, e-consults, energy certification, leadership diversity)	Process Measures Safety/CPOE / ICU Staffing
LOS and Direct Cost			Excess Days - AMI, HF and PN					
Equity	Structure	Medicare Spending per Beneficiary	Patient Experience			Patient Experience		

UCH Strategy for Prioritizing Quality and Safety Measures

- **Patient-centered**
  - Consider number of patients impacted
  - Consider patient harm

- **Impactful**
  - Consider measures that cross several areas of impact/ several programs – "cross-cutting"

- **Actionable and benchmarkable**

- **Sustainable**
  - Consider **performance-over-time**, sustainability and consistency. Represents value to organization for at least 2-3 years

REFLECTION

UCH Strategy for Prioritizing Quality and Safety Measures

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Safety Measures
Falls with Injury
PSI-03: Pressure Injury Rate
CLABSI SIR
CAUTI SIR
C-Diff SIR
Hypoglycemia and Insulin Use

Perioperative Safety
SSI HYST SIR
SSI COLO SIR
PSI-09- Post-op Hemorrhage or Hematoma
PSI-12- Perioperative PE or DVT
PSI-13- Postoperative sepsis

Mortality

Patient Centeredness
Improve Patient Safety Culture

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UCH Quality Data to Track Effectiveness

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	Baseline Performance		FY Goal			Current Performance*	
	Performance	Number of Events	Target Performance (less than)	Threshold Number of Events (annually)	Threshold Number of Events (monthly)	Number of Events/ Index	% to FY Goal On target to reach goal
Safety							
Falls with Injury Rate							
PSI-03 Pressure Injuries Index							
CLABSI SIR							
CAUTI SIR							
C-DIFF SIR							
Hypoglycemia in Insulin Use Rate							

- Current performance is the number of events identified as of the current date.
  On track progress to goal is determined by comparing % of days through year to % to threshold: On track = <90%, on watch = 90-110, off track= >110%

	FY25 (Year-to-Date)					
	Falls with Injury	HAPI: PSI-03	CLABSI	CAUTI	C-Diff	Hypoglycemia and Insulin Use
Acute Care						
AC Unit A	0	0	0	0	0	0
AC Unit B	2	2	1	0	1	1
AC Unit C	1	0	1	0	0	0
Critical Care						
CC Unit A	2	0	0	0	0	0
CC Unit B	0	0	0	0	0	2
FY25 Total To-Date	28	6	6	1	10	29
FY25 Threshold/ Goal # of Events	106	19	30	17	72	180
% to Threshold Goal / On Track to Reach FY25 Target?^	26.4%	31.6%	16.6%	5.9%	13.9%	20.0%

* All numbers displayed are for internal tracking purposes and may differ from reportable events. Delay in microlab results may affect infection measure reporting *
^ On track progress to goal is determined by comparing % of days through year to % to threshold: on track = <90%, on watch = 90-110, off track= >110%

Benchmark key:

Bottom 50%	Top 50%	Top 25%	Top 10%

Current Performance Key:

On Track	On Watch	Off Track

Goal is to "color up"

Index/ SIR changed to # of patient events

Events tracked in real-time

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Operational and Clinical Engagement Strategy
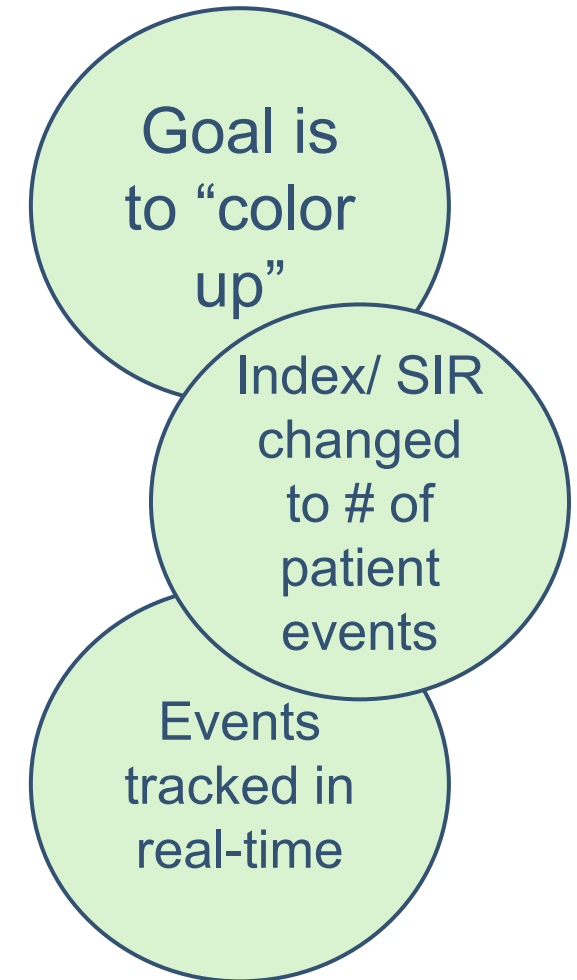
- Executive leadership involvement (executive sponsors)

- Physician and Nurse Dyad Partners (process owners)

- Clinical Quality Specialist (facilitator)

- Hospital governance groups (steers)
    - Connection to system governance groups (clinical effectiveness groups)

- Multidisciplinary and interprofessional subject matter experts and frontline clinicians (project team)

Governance Group Roles and Responsibilities

Executive Sponsors

- Responsible for overall performance
- Assists with project scoping and authorizes project charter approval
- Attends and sponsors key events such as kick off and milestones updates
- Reviews and approves team tactics and milestones
- Removes barriers and controls team resistance to solutions
- Receive updates on project progress from process owners
- Ensures projects are impacting key outcomes as planned
- Celebrates results improvement
- Provides accountability

Process Owners (Dyad Partners)

- Co-leads project team
- Leads project charter build
- Identifies SMEs and project team members
- Communicates project intent (why) to involved team members and stakeholders
- Supports the scheduling of meetings
- Leads project meetings
- Holds team accountable to implementation plans and control plans
- Escalates barriers/resistance to solutions to Executive Sponsor(s)
- Partners with quality department to develop needed data and action plans
- Provides accountability for team
- Provides updates on project progress to executive sponsor and reports performance to CEPS when requested

Clinical Quality Specialist

- Partners with UCH Leadership, local departments and CUSOM Departments/Divisions, to identify areas of key quality and patient safety opportunities
- Identifies trends and root causes to target interventions to drive outcomes towards the top decile
- Measures, analyzes and facilitates improvement in outcome and process metrics
- Performs process analysis, identifies best practices and works with stakeholders to improve processes
- Facilitates Process Improvement and Project Management initiatives when indicated

Project Team Member

- Participates as active member and subject matter expert of project team
- Participates in project charter build
- Communicates project intent (why) to stakeholders
- Participates in a majority of project meetings
- Partners with process owners and quality department to analyze data and develop action plans
- Provides updates on project progress to executive sponsor and reports performance to CEPS when requested
- Helps to implement action plans
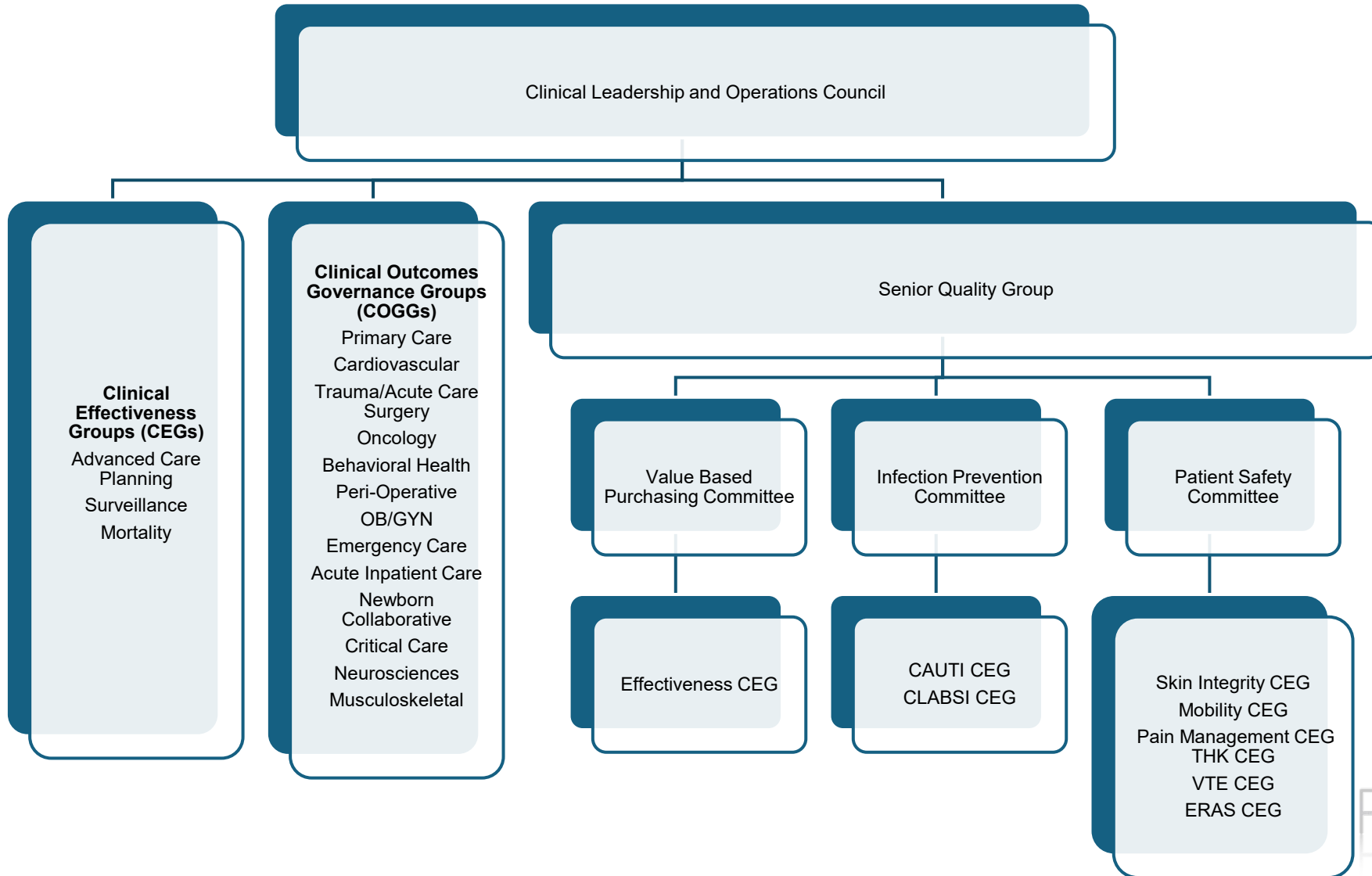- Ensures success of project
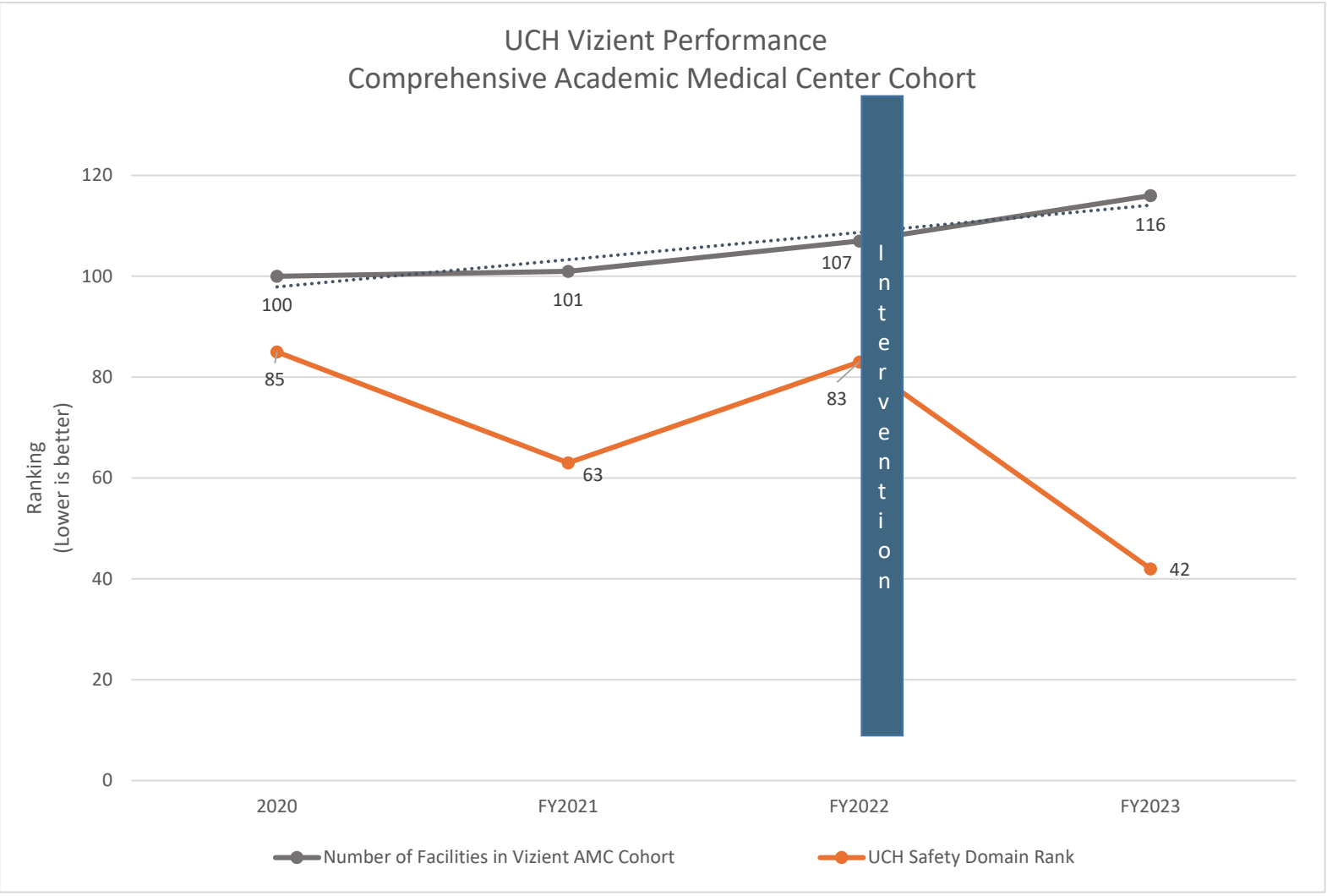
UCH Quality Governance: Metric Performance

vizient.

Board of Directors

Senior Management Group

Clinical Effectiveness & Patient Safety (CEPS) Committee

Medical Executive Committee

Environment of Care Committee

Metrics (mortality, PSI, HAPI, Falls, CLABSI, CAUTI, C-diff, SSI Colon, SSI Hyst)

Patient Safety Committee

Regulatory Committee

Infection Control Committee
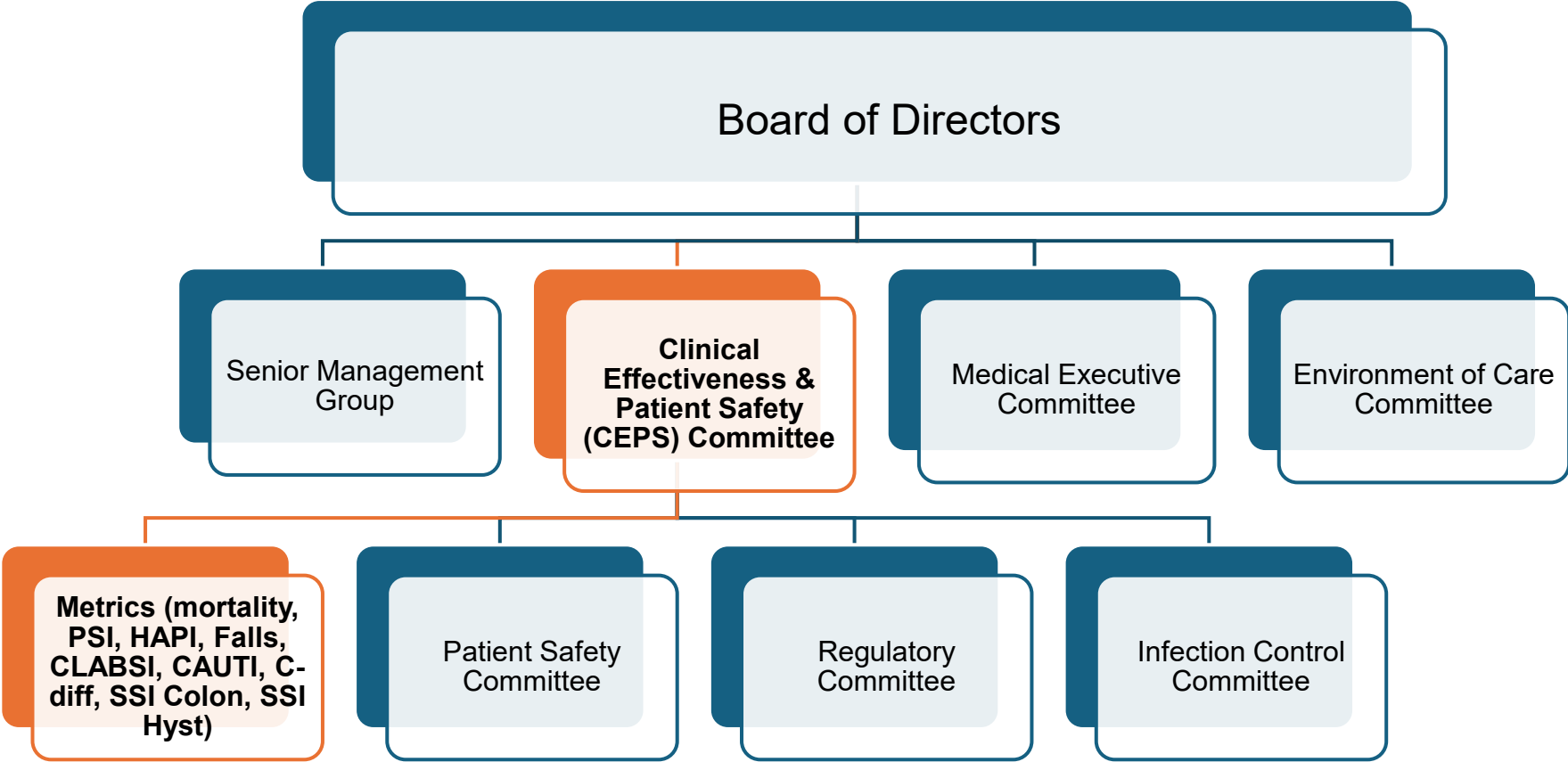
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UCHealth Quality Governance: System Integration

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Clinical Leadership and Operations Council

Clinical Effectiveness Groups (CEGs)
Advanced Care Planning
Surveillance
Mortality

Clinical Outcomes Governance Groups (COGGs)
Primary Care
Cardiovascular
Trauma/Acute Care Surgery
Oncology
Behavioral Health
Peri-Operative
OB/GYN
Emergency Care
Acute Inpatient Care
Newborn Collaborative
Critical Care
Neurosciences
Musculoskeletal

Senior Quality Group

Value Based Purchasing Committee

Infection Prevention Committee

Patient Safety Committee

Effectiveness CEG

CAUTI CEG
CLABSI CEG

Skin Integrity CEG
Mobility CEG
Pain Management CEG
THK CEG
VTE CEG
ERAS CEG

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Data Driven. Patient Centered.

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UCH Vizient Performance
Comprehensive Academic Medical Center Cohort

Intervention

Ranking (Lower is better)

- 2020: 100
- FY2021: 101
- FY2022: 107
- FY2023: 116

- 2020: 85
- FY2021: 63
- FY2022: 83
- FY2023: 42

—●— Number of Facilities in Vizient AMC Cohort   —●— UCH Safety Domain Rank

65%
(11 of 17) measures improved

64
Fewer safety events

41
Improved rankings in Vizient Safety Domain

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Lessons Learned

- Further refinement to include **levels of prioritization**
- Strategy to **reprioritize or deprioritize**
- Establish objective and measureable **tactics**
- Focus on **strength of implementation strategies**

- Always start and end with the **patient**

- Create **structure**

- Set clear **expectations**

- Ensure **accountability**

- Cannot forget about **culture**
  - *Culture eats strategy for breakfast – Peter Drucker*

About M Health Fairview

23M PATIENT ENCOUNTERS IN 2023
1.2M UNIQUE PATIENTS

8 HOSPITALS INCLUDING AN ACADEMIC MEDICAL CENTER

26 PHARMACIES

100+ SPECIALTIES

3.3k PROVIDERS

80+ PRIMARY & SPECIALTY CARE CLINICS

1,140+ ACTIVE CLINICAL TRIALS

40,000 PATIENT PARTICIPANTS

PART OF THE SYSTEM WITH THE LARGEST HEALTHCARE GEOGRAPHIC FOOTPRINT IN MINNESOTA

34,000+ EMPLOYEES 3RD LARGEST IN THE STATE

A collaboration among the University of Minnesota, University of Minnesota Physicians and Fairview Health Services

HEALTH FAIRVIEW

Top-ranked Children's Hospital in the Twin Cities (USNWW 2023-2024)
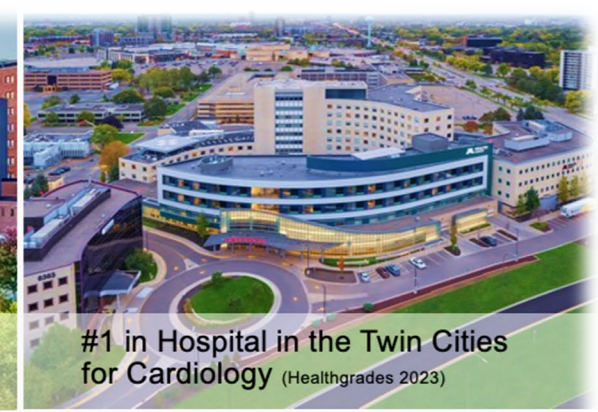
#1 in Hospital in the Twin Cities for Cardiology (Healthgrades 2023)

HEALTHCARE FOUNDED IN ACADEMICS

A partnership between University of Minnesota, University of Minnesota Physicians and Fairview Health Services combines the University's deep history of clinical innovation and training with Fairview's extensive roots in community medicine. This means you'll always have access to the latest techniques and advances in medicine - when and where you need them.

HIGH PERFORMING NATIONALLY IN

CANCER CARE | GERIATRICS | UROLOGY

GASTROENTEROLOGY AND GASTROINTESTINAL CARE

NEUROLOGY AND NEUROSURGERY

PULMONOLOGY AND LUNG SURGERY

HOME TO **200 + TOP DOCTORS** IN **73 MEDICAL SPECIALTIES**

M HEALTH FAIRVIEW RIDGES HOSPITAL, SOUTHDALE HOSPITAL, AND UNIVERSITY OF MINNESOTA MEDICAL CENTER WERE RECOGNIZED AMONG THE TOP HOSPITALS IN THE STATE (USWR – 2024)

A System Measure of Quality
"System Total Performance Score "

- Roll up of Total Performance Scores at each hospital

- Weighted by discharge volume

- Able to drill down on opportunities, optimal performance

- Visual line of site for local teams contributing to the system as a whole

TPS

TPS

TPS

TPS

TPS
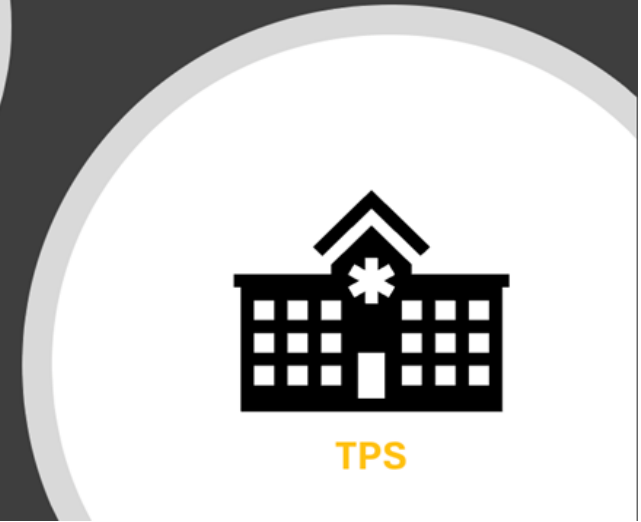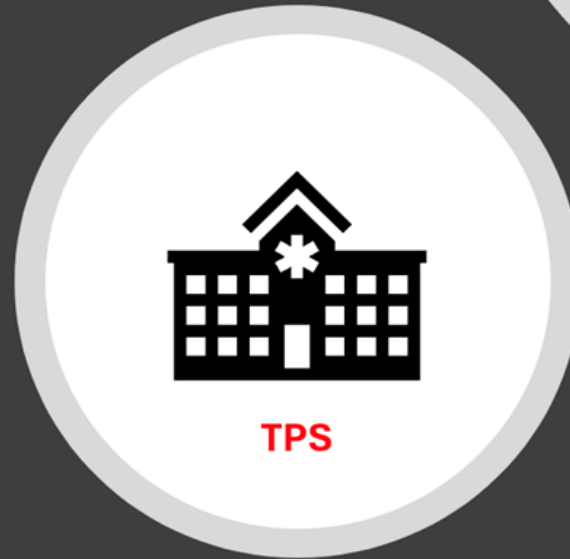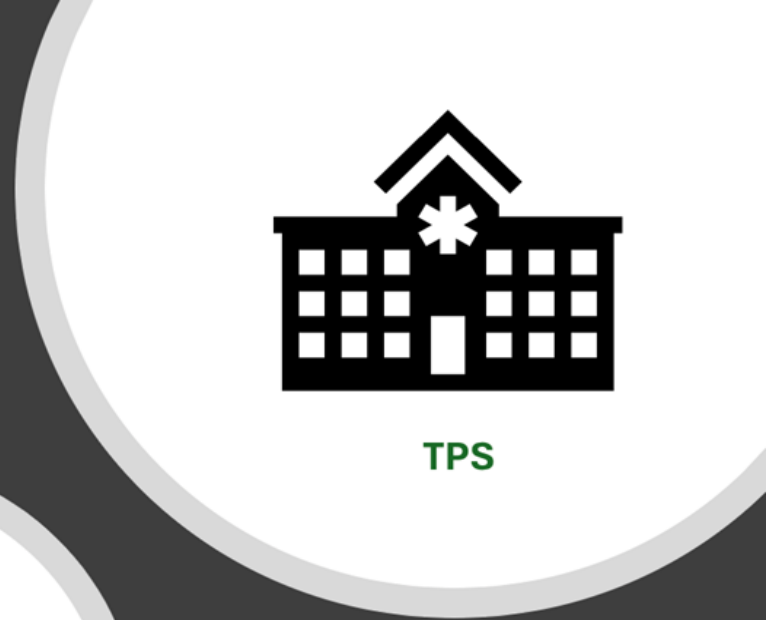
Total Performance Score Report

Developed an in-house reporting & analytics tool to identify areas of opportunity and excellence as it relates to Q&A scorecard on a monthly cadence.

- Collaborative and iterative process- Board/Leadership/Operations

- Four of the six Q & A scorecard domains included

- Volume-based weighting system

- Benchmarked with appropriate hospital cohort

- Target setting yearly by site and across the system for all metrics
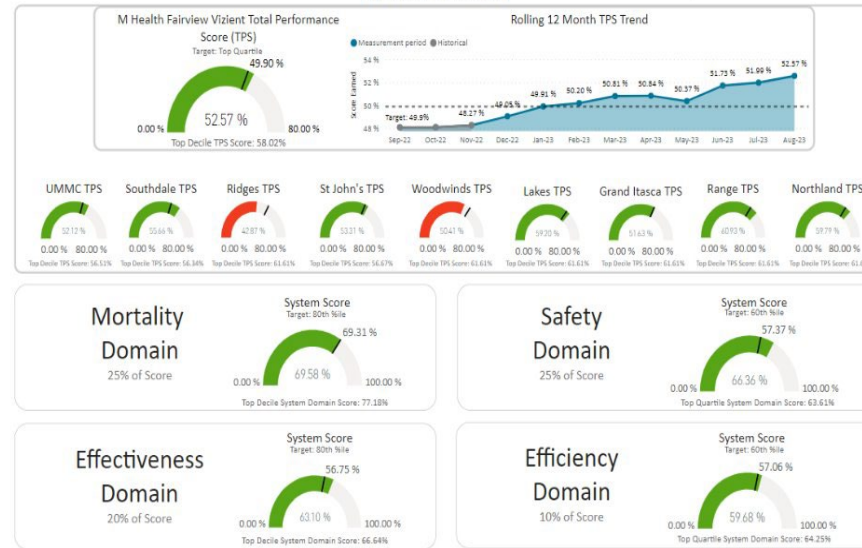
Total Performance Score Report
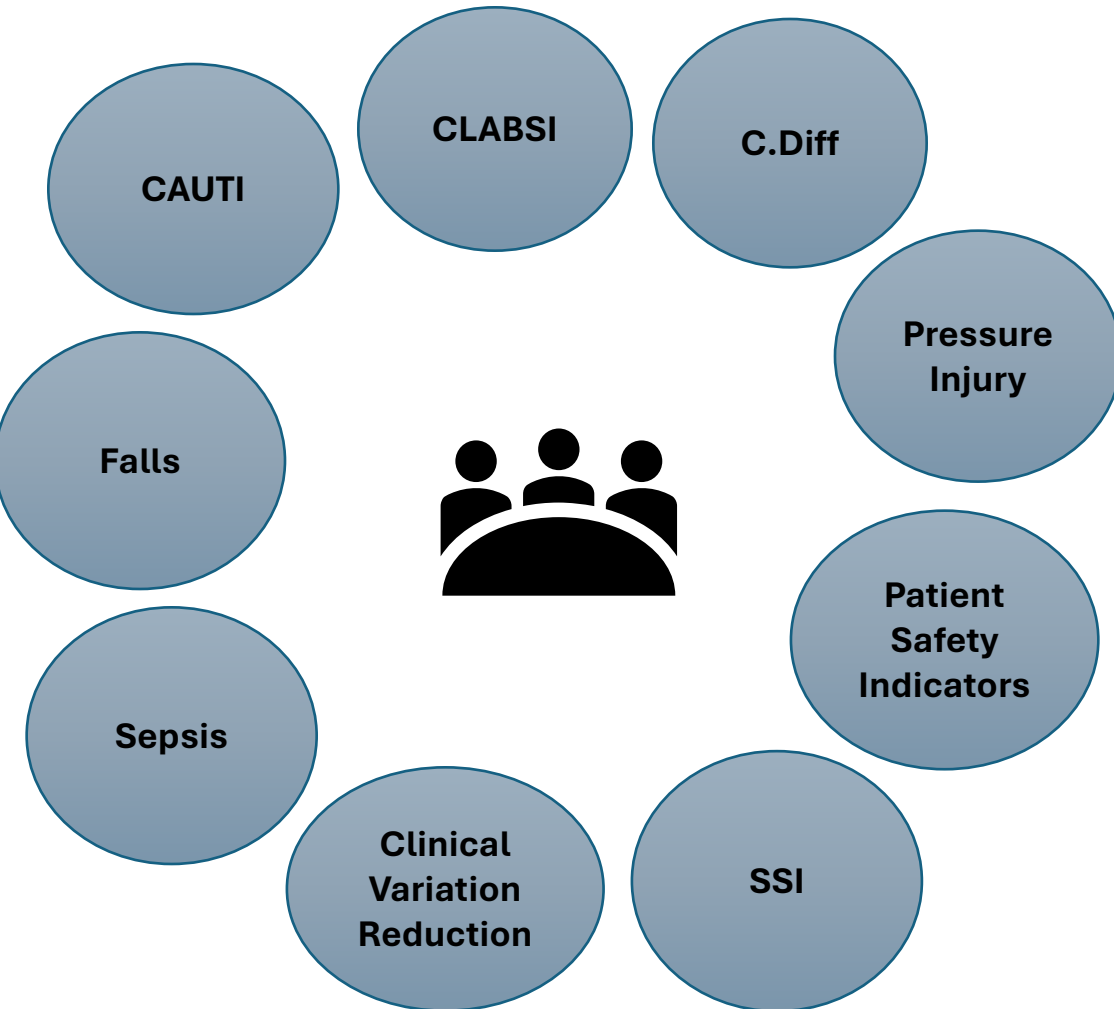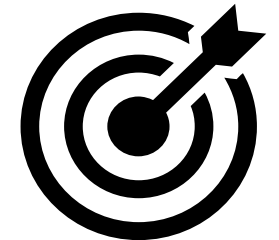

Early version of TPS (2021)

TPS (2022)

TPS (2023)

Goal Setting/Strategy Development

- Performance Dimension A3

- Catch ball

- Aligning Quality Assurance and Process Improvement (QAPI) Plans

Vision TPS

Environmental Analysis

Past Years Reflection

Synthesis Analysis

Annual System Plan

Capture plan on System Performance Dimension A3

Implementation/Strategy Deployment

- Implement system teams
- Develop focused plans and projects (ex. Sepsis)
- Involve the Daily Engagement System
- Escalate obstacles through tiered huddles

Capture plans/projects on System Team A3s

Align frontline metrics

Create new system standards

1. Check results
2. Adapt system standards
3. Adjust plan
4. Capture and spread learnings

System Teams and Key Accountabilities

- CAUTI
- CLABSI
- C.Diff
- Pressure Injury
- Falls
- Patient Safety Indicators
- Sepsis
- Clinical Variation Reduction
- SSI

→

- Interdisciplinary and multi-hospital representation
- Committee charters
- Plan and project A3s
- Customized Power BI applications and reports
- Performance monitoring
- Annual goal setting
- Project prioritization
- Site and system alignment
- System standards and bundles
- Policy development
- Communicate and share results

Outcomes and Impact

M Fairview O-E Mortality System
October 2019 - May 2024

Over 70 clinical pathways implemented

Inpatient Procedures

SSI Bundle Individual element compliance
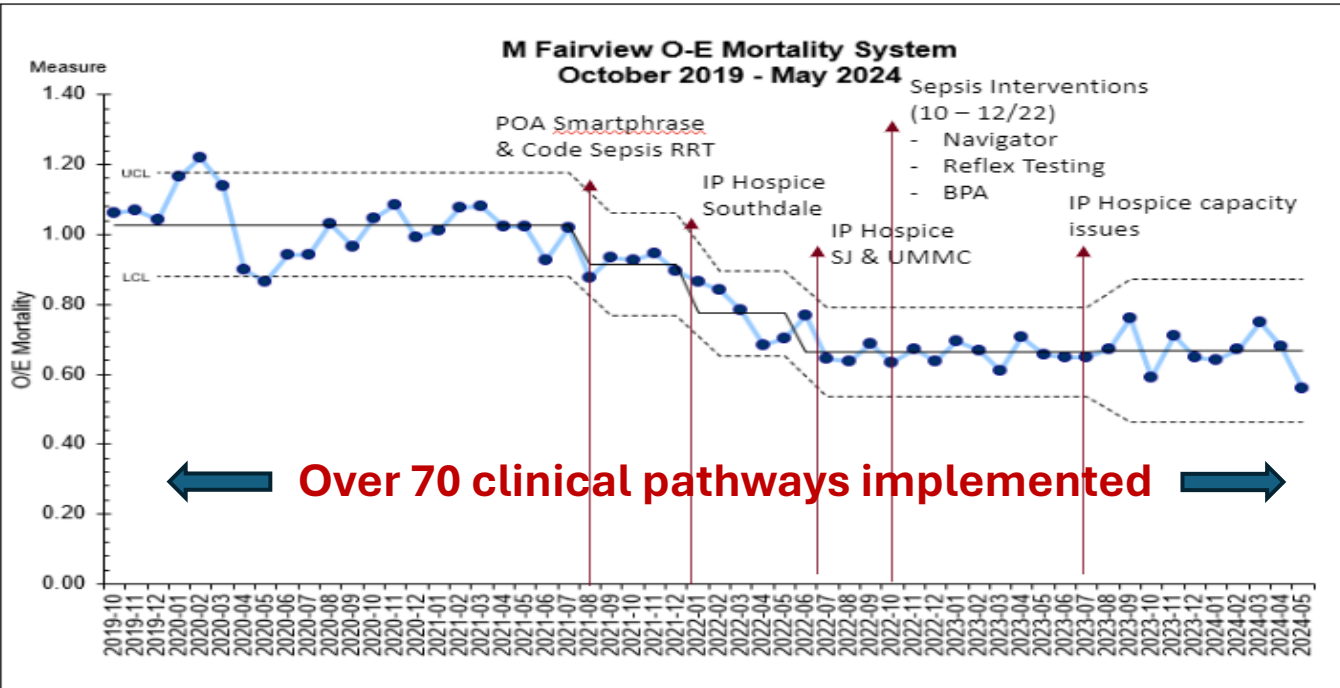
- **Mortality**
  - 58% improvement TPS Mortality Domain
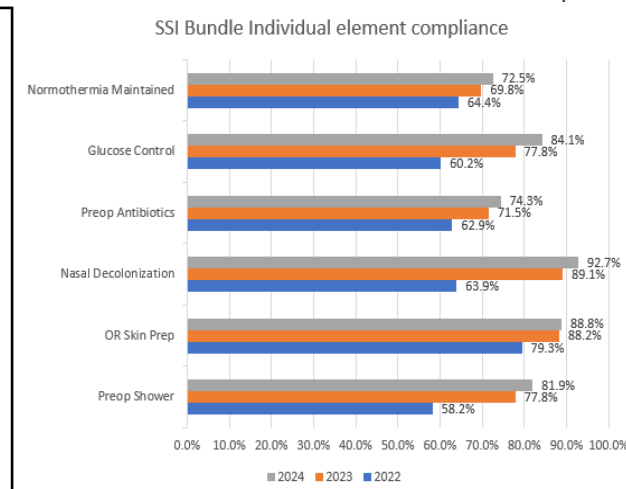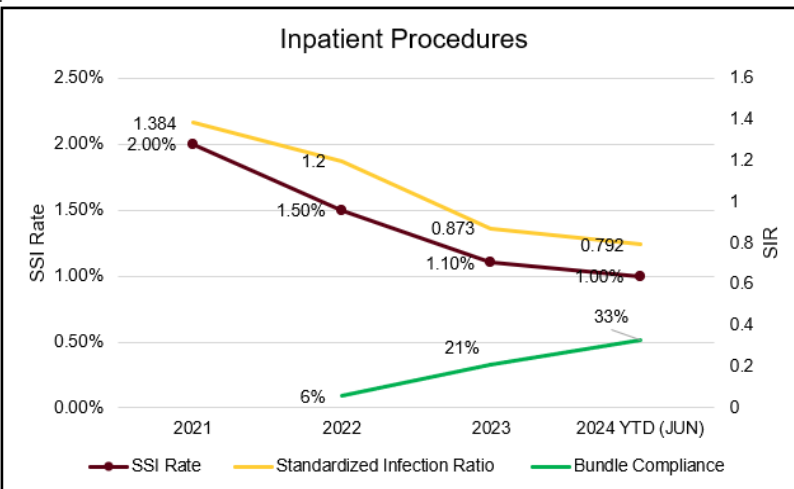 - O/E Mortality reduced >1.0 to .58

  Key Strategies: Sepsis, Care Pathways, Risk Variable Capture (Smartphrases), POA Utilization, Inpatient Hospice

- **Surgical Site Infections**
  - 34% reduction in SSI rate and SIR
  - Improved bundle compliance

  Key Strategies: SSI Bundle, SSI Dashboard, Patient Optimization

Lessons Learned

- Close collaboration between analytics and key stakeholders is required

- Process around prioritization of projects is key to drive alignment toward goals

- Setting system standards reduces clinical variation, drives high reliability, and helps with discipline around improvement despite significant factors like the global pandemic

- Setting multi-year consistent targets helps with alignment and focus across the system

- Leverage system service lines and strategy deployment structure to cascade information

Key Takeaways

- System approach to identifying trends helps drive improvement at multiple levels within a healthcare system.

- Setting attainable goals, tied to the strategic planning process, and aligned to the Vizient Q & A benchmarks, was critical to success.

- Utilizing a system structure & visualization for deployment.

- Interactive nature of the tool allows customized drill down capabilities allows easy identification of improvement opportunities improvement.

Questions?

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