



 **Duke University Hospital**

Clinical Care | Education | Research





# Singapore Healthcare Management Congress 2014

## HM 9 - Secrets of Performance Management

August 20, 2014

Mrs. Jennifer Rose,  
Senior Director,  
Performance Services,  
Duke University Health System



# Outline

- Introduction to Duke University Hospital
- What is Performance Management?
- Performance Management Secrets



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- **Introduction to Duke University Hospital**
- What is Performance Management?
- Performance Management Secrets



# Where is Duke University Hospital?

- Duke University Hospital is located in Durham, North Carolina, USA





# Duke University Hospital Overview

- 957 licensed beds
- Main campus (Over 1 million square feet):
  - Duke North inpatient bed tower
  - Duke Cancer Center
  - Duke Medicine Pavilion
  - Duke South Clinics
  - Eye Center
  - Children's Health Center
- Off Campus
  - Ambulatory Surgery Center
  - Adult Bone Marrow Transplant
  - ~25 primary and specialty care clinics





# Duke University Hospital Expansion

- 2012: 267,000 square foot Duke Cancer Center
- 2013: Duke Medicine Pavilion
  - ~100 new inpatient Intensive Care and Stepdown beds
  - 16 new operating rooms
  - Ancillary services including imaging and labs





# Duke University Hospital Key Statistics

## *Fiscal Year 2014 (July 2013 through June 2014)*

- 39,614 adult inpatient discharges
- 6.60 adult average length of stay
- 716 average daily census
  - 749 average daily census with observation patients
  - 81.5% occupancy rate
- 66,860 Emergency Department visits
- 1,026,501 outpatient visits
- 38,106 operating room cases
- Staff:
  - 7,132 FTEs (Full Time Equivalents)
- Physicians:
  - 1,690 credentialed physicians
  - 981 GME (Graduate Medical Education) learners





# Outline

- Introduction to Duke University Hospital
- **What is Performance Management?**
- Performance Management Secrets



# What is Performance Management?

- Wikipedia: Performance management includes activities which ensure that goals are consistently being met in an effective and efficient manner.
- Dr. Aubrey Daniels: Formal definition of performance management is "a scientifically based, data-oriented management system. It consists of three primary elements-measurement, feedback and positive reinforcement."



# Benefits of Performance Management

- Balanced measurement across the organization
- Successful execution of organization strategy
- Financial improvement
- Improvement in key performance measures

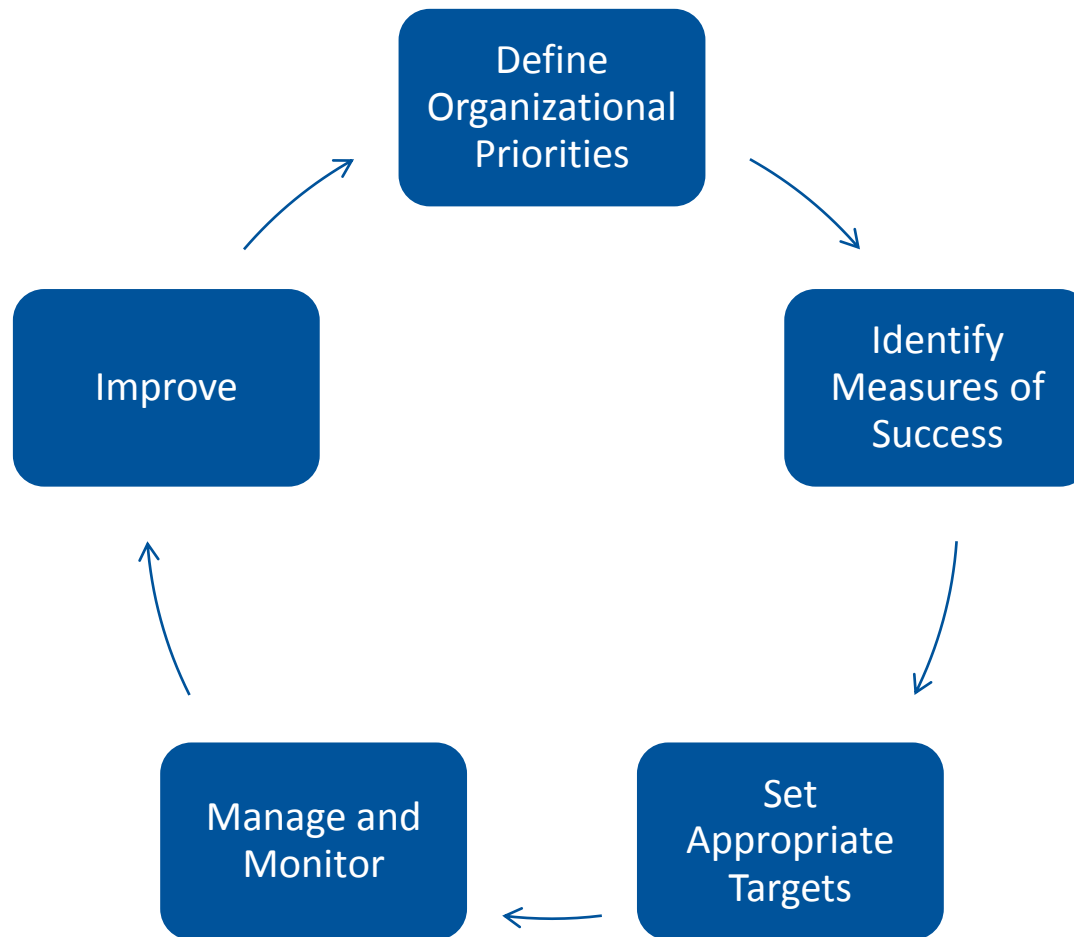


# Outline

- Introduction to Duke University Hospital
- What is Performance Management?
- **Performance Management Secrets**

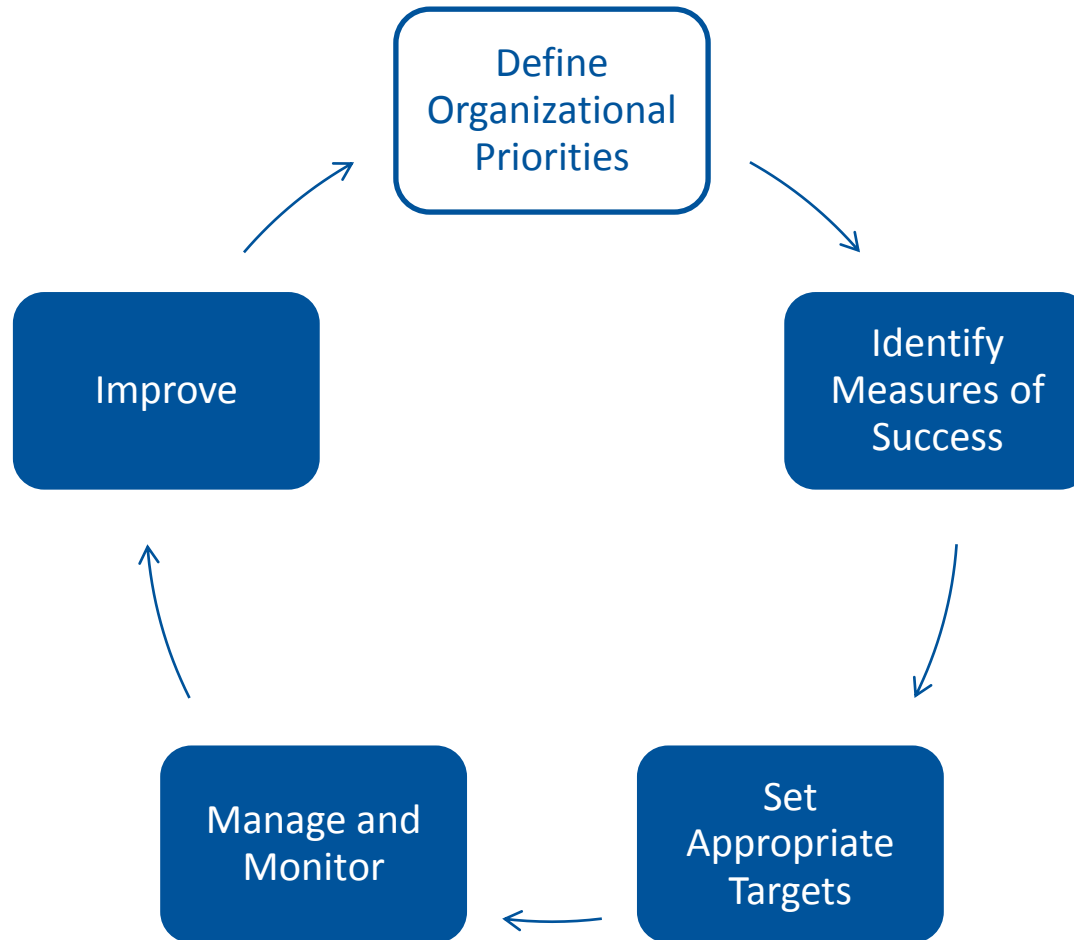


# Performance Management Process





# Performance Management Process





# Secret #1: Engage Leadership

- Develop an annual process for priority setting and goal alignment
- Ensure that the process occurs at the senior leadership level for buy-in and accountability



# Duke's Balanced Scorecard

## Key Steps

Define  
Organizational  
Priorities

Identify  
Measures of  
Success

Set  
appropriate  
targets





# Balanced Scorecard Process

JAN

- **Review/Set Annual DUHS Priorities**
  - Quality of care
  - Opportunities for consistent messaging

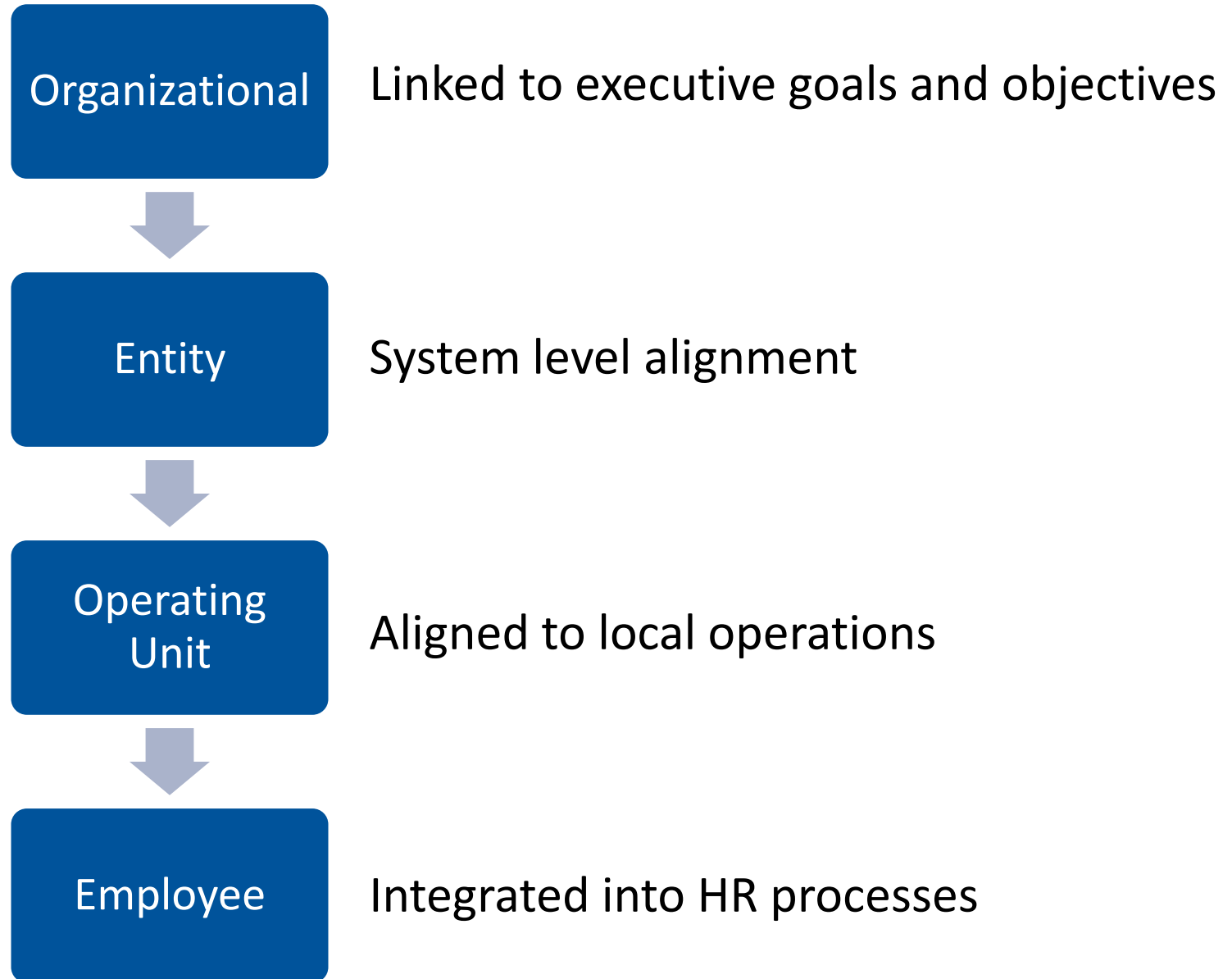
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- **Presentation of Critical Success Factors (CSFs)**
  - Alignment to priorities, consistency across system
  - Identification of benchmark sources, visions, & timelines

JUN

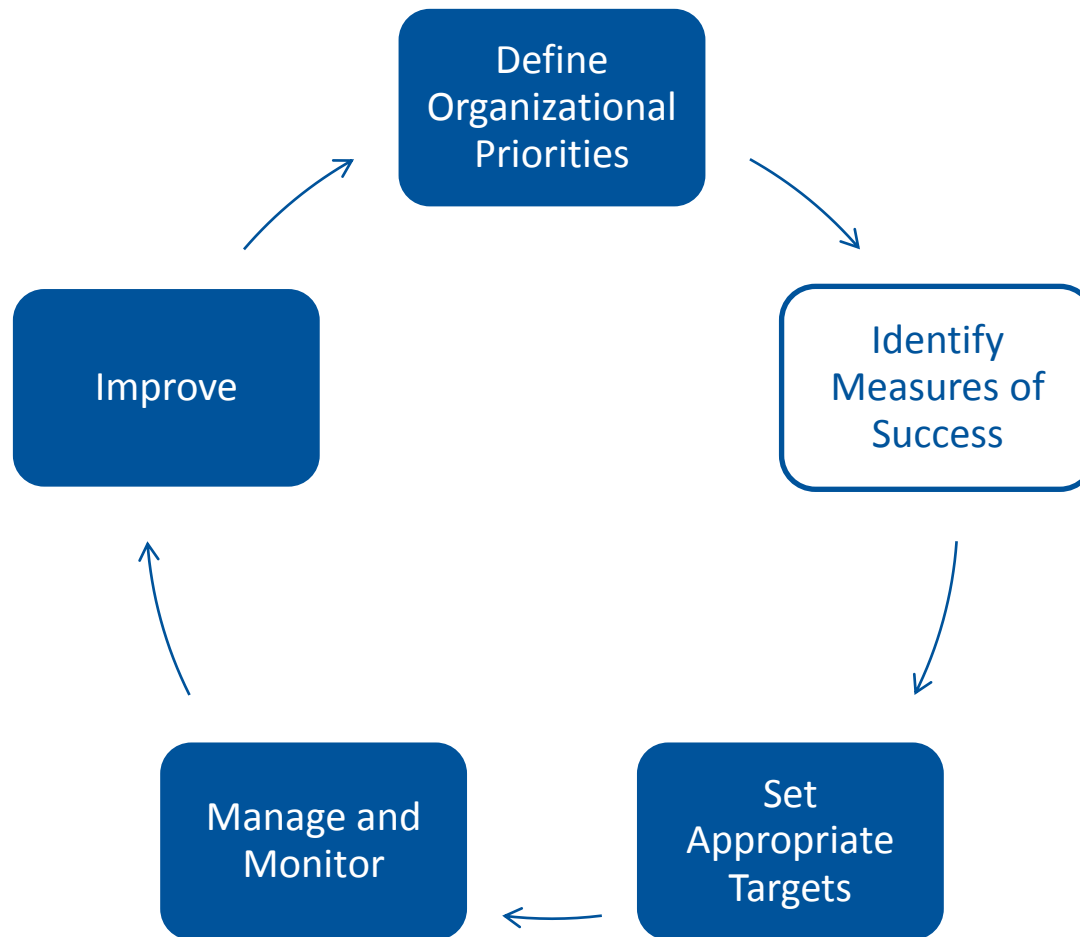
- **Presentation of Critical Success Factor Targets**
  - Calculation of Red Flag, Meets and Exceeds Targets for each CSF
  - Inputs for four color traffic lighting scheme.

# Duke's Organizational Alignment





# Performance Management Process



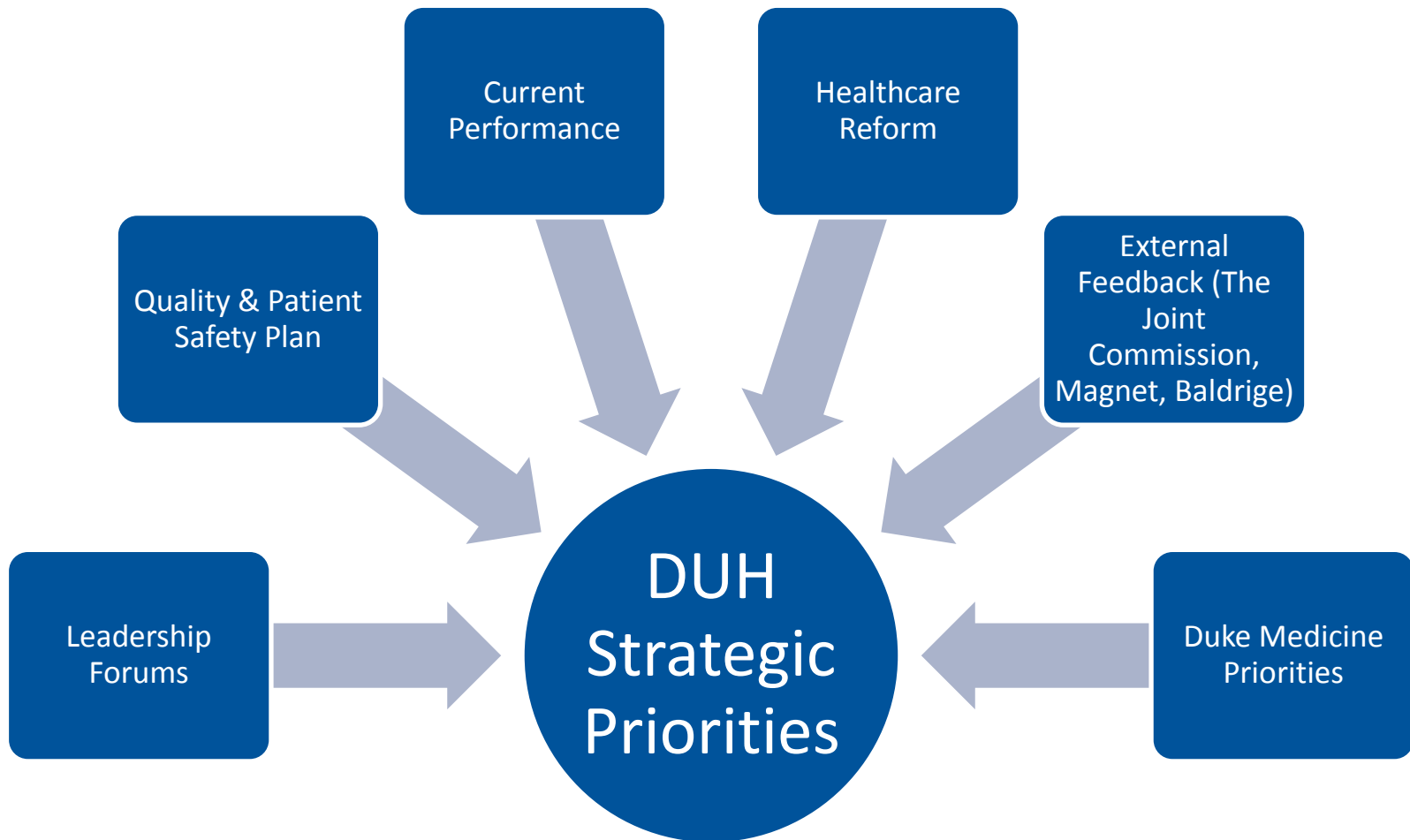


## Secret #2: Evaluate Inputs for Measure Selection

- Evaluate external and internal factors
- Determine how those factors can be measured
- Link the measures to your priorities

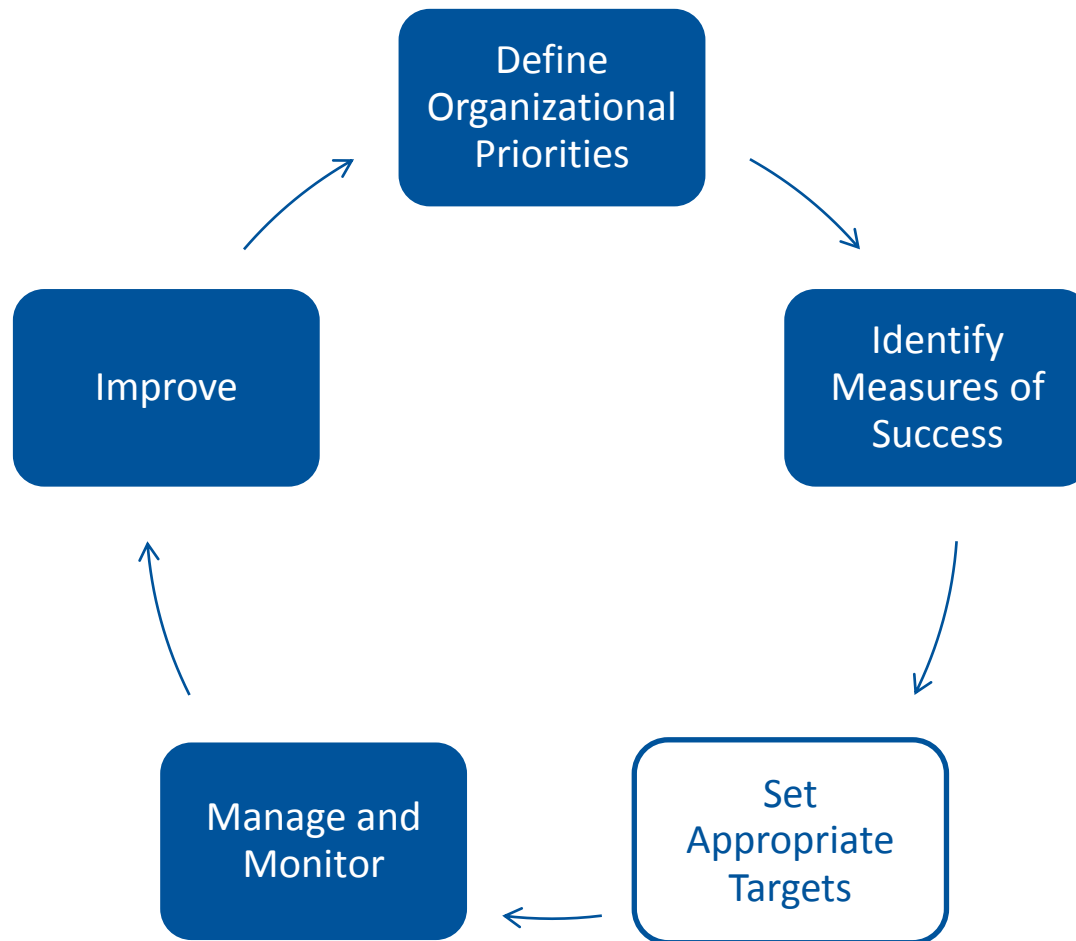


# Duke's Inputs to Priority Development





# Performance Management Process





## Secret #3: Use Benchmarks for Performance Goals

- Helps organizations understand where they have strengths and weaknesses
- Allows organizations to realize what level(s) of performance are really possible by looking at others
- Allows organizations to understand how much improvement can be achieved
- Stimulates continuous improvement
- Promotes change and improvement in quality, productivity and efficiency



# Duke's Benchmarks

- UHC (University HealthSystem Consortium)
- Includes US News & World Best Hospitals
- Allows selection of percentile performance targets for numerous outcome measures





# Readmission Within 30 Days

Definition	Proportion of all-cause readmissions to the same hospital within 30 days compared to total patient discharges. Excludes in-hospital deaths, AMAs, transfers to other acute facilities, rehab admissions, and psych admissions
<b><i>Strategic Objective</i></b>	<b><i>Provide coordinated care across all settings</i></b>
Calculation Detail	$\frac{\text{Eligible readmission encounters within 30 days of eligible index encounter}}{\text{Eligible index encounters}}$
Data Source	Clarity (EPIC)
Benchmark Timeframe	Most recent 4 Quarters of available data in UHC
Benchmark Source	Duke: UHC 30-day readmission rates for US News Honor Roll

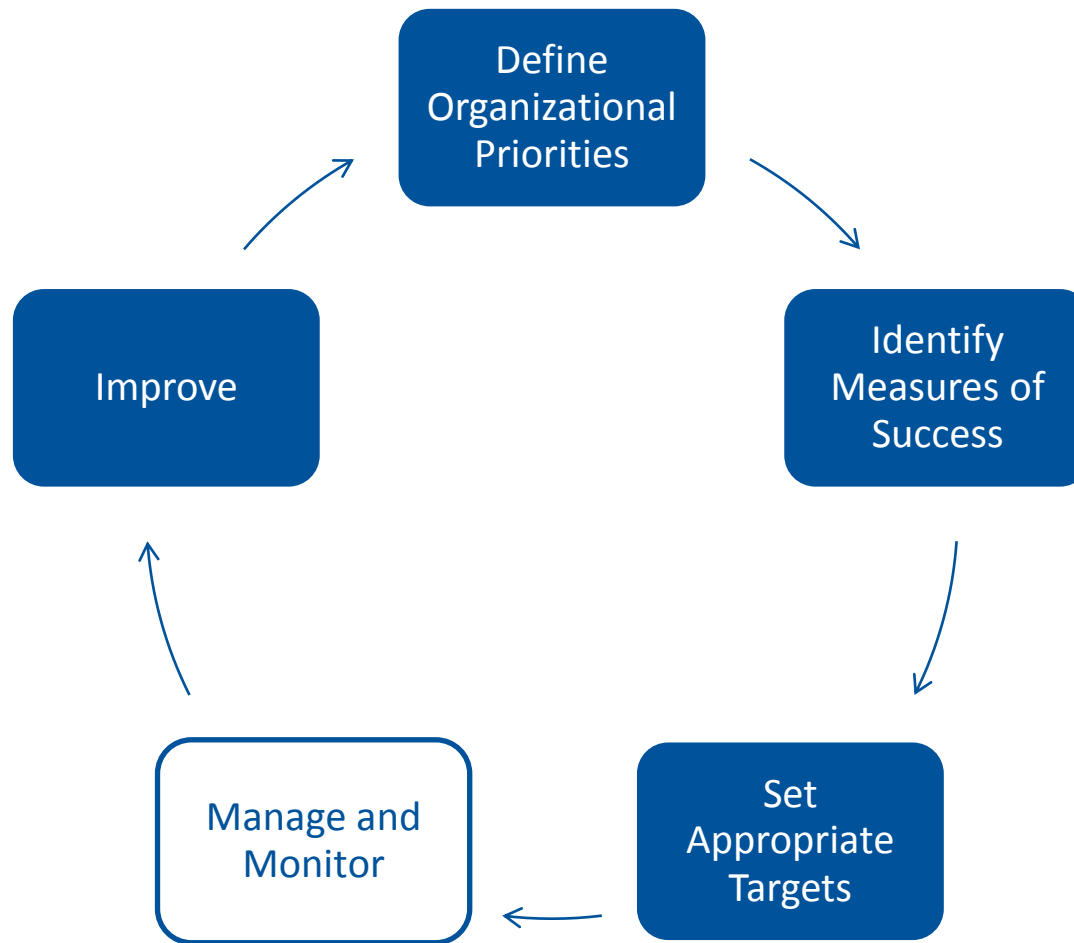


# Readmission Within 30 Days

<b>Entity</b>	<b>Benchmark Source</b>	<b>FY2014 Actual thru May</b>	<b>FY2014 Meets Target</b>	<b>FY2015 Red Flag</b>	<b>FY2015 Meets</b>	<b>FY2015 Exceeds</b>
<i>Methodology</i>			<i>Median of compare group</i>	<i>Lower Quartile of compare group</i>	<i>Median of compare group</i>	<i>Top Quartile of compare group</i>
DUH	UHC US News & Honor Roll Best Hospitals	14.17%	12.77%	15.26%	13.05%	11.06%



# Performance Management Process





## Secret #4: Manage with Performance Review Sessions

- Develop a framework for routine performance review sessions:
  - Communicate priorities
  - Define expectations
    - Quarterly performance review results in 90-day action plans
    - Hospital and Service Line workplans are modified
  - Accountability



# Duke's Performance Review Sessions

- Senior leadership drives the hospital's performance relative to the established Balanced Scorecard targets through the Performance Review
- Every Service Line rotates through a performance review session on a quarterly basis (four times per year per service line)
- The presentation schedule is set at the beginning of each calendar year



## Attendance at Duke's Performance Review Sessions

- Senior leader performance review committee members
  - Chief Executive Officer
  - Chief Medical Officer
  - Chief Nursing Officer
  - Chief Financial Officer
  - Chief Pharmacy Officer
  - Chief Human Resources Officer
  - Assistant Vice President, Performance Services
- Progress and updates provided by CSU leadership
  - Vice President
  - Medical Director
  - Associate Chief Nursing Officers, Clinical Operations Directors and Nurse Managers



# Sample 90-day Action Item Memo



## DUKE UNIVERSITY HEALTHSYSTEM

**Kevin W. Sowers, MSN, RN, FAAN**  
President, Duke University Hospital

### Memorandum

**TO:** Sean Sondej  
Yvonne Spurney  
Joseph Govert, MD  
Steven Vaslef, MD

**FROM:** Kevin Sowers, MSN, RN, FAAN

**DATE:** March 17, 2011

Thank you for your report March 17, 2011 on the Med-Surg-Critical Care CSU. As discussed during the presentation, the areas of focus are outlined below. Please plan on providing a progress report on these areas during our next quarterly meeting.

#### Clinical Quality/Internal Business

- Review of Arterial Venous Fistula (AVF) rate to achieve CMS targets
- Continue focused strategies for CABSI improvements
- Continue focused improvements for CAUTI
- Review focused hand hygiene strategies for dialysis, 2100, 2300, and 8300
- Continue focused strategies for patient falls improvement
- Execute on defined strategies for pressure ulcer improvements
- Implement discharge rounds pilot on General Medicine
- Analysis of inpatient mortality and understanding differences between General Medicine and General Surgery / development of strategies for improvement
- Identify readmission population and opportunities to engage community resources to support improvement efforts
- Execute on EMS triage model with Durham County by July 1, 2011

#### Patient Satisfaction

- Continue focused efforts for patient satisfaction improvement

#### Work Culture

- Continue focused efforts to improve work culture/NDNQI process

#### Finance

- Underlying trends in direct contribution margin for Medicare on General Medicine, General Surgery, and Pulmonary

Thanks again for your efforts.

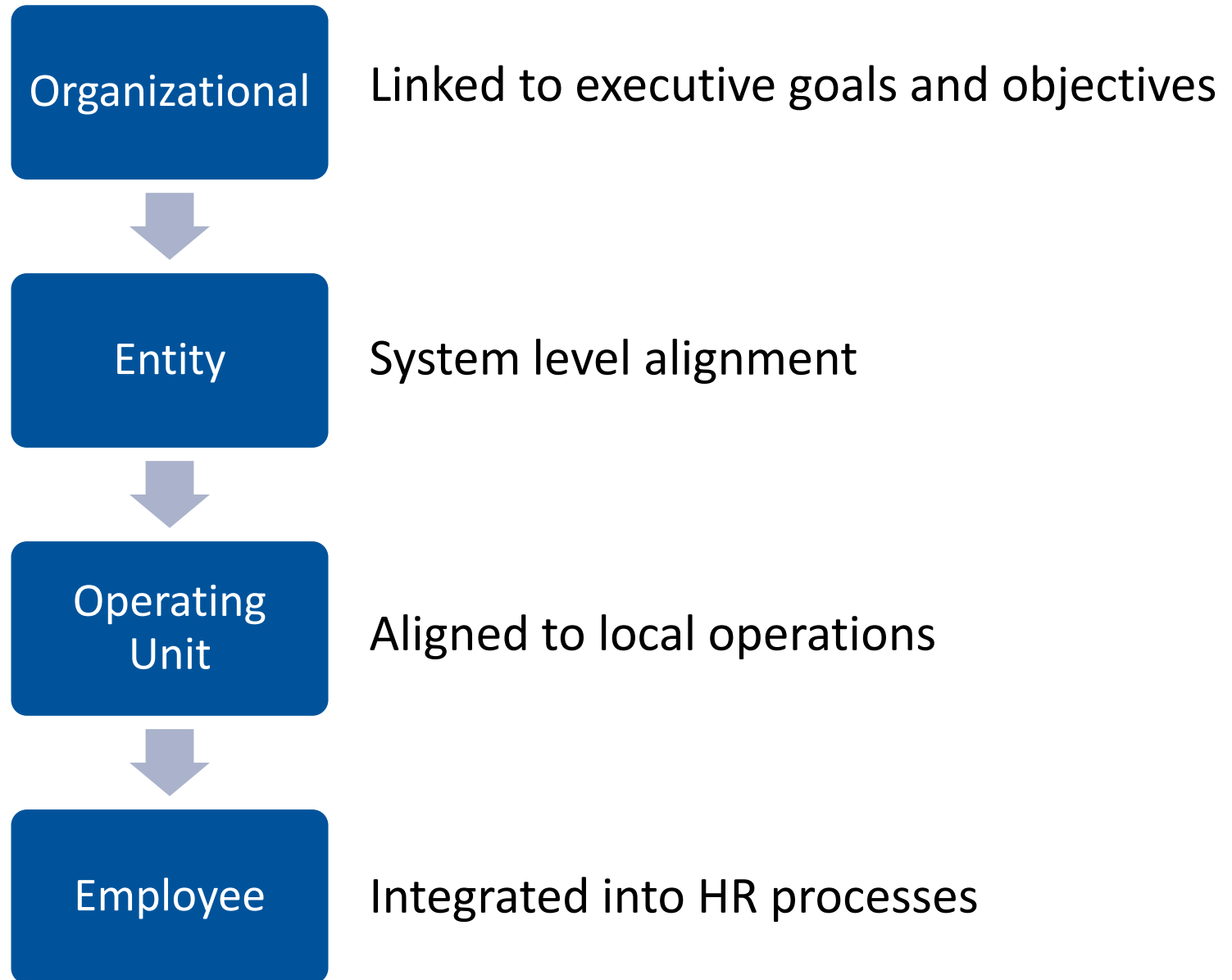


## Secret #5: Monitor with a Balanced Scorecard

- Routine reporting of critical success factors
- Translate to all levels of the organization: entity, service line, department
- Integrate with pay and performance
  - Balanced Scorecard targets become individual performance targets
  - Link to the pay for performance program at all levels



# Organizational Alignment



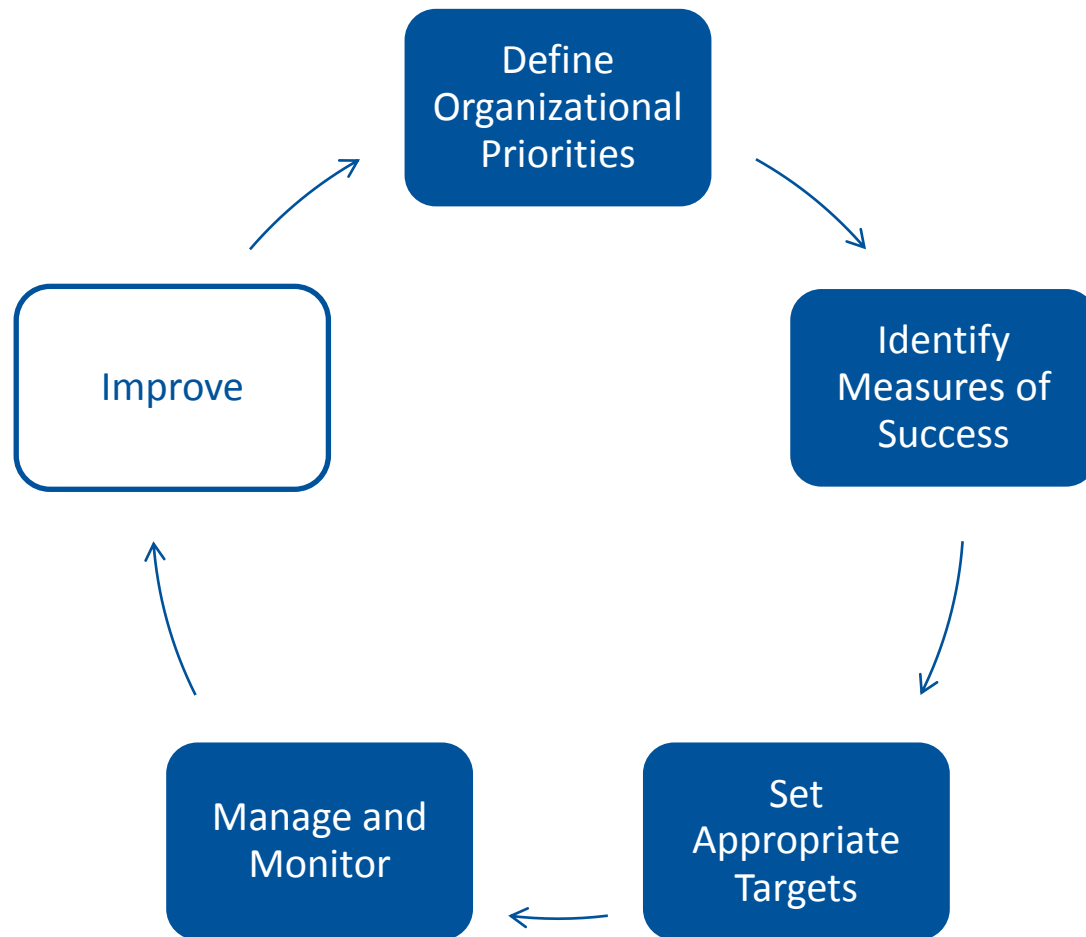


# Duke's Balanced Scorecard

 Duke University Hospital (2014-11 May) Balanced Scorecard - CSF					
Measure	Actual	Target	YTD Actual	YTD Target	Freq
<b>QUALITY AND PATIENT SAFETY</b>					
Average Length Of Stay (ALOS) CMI Adjusted: Excludes Newborns <sup>CSF</sup>	3.21	3.39	3.30	3.39	M
CMS Evidence-Based Care Score <sup>CSF</sup>	100.00%	95.50%	98.83%	95.50%	M
CMS Evidence-Based Care Score: OP Surgical <sup>CSF</sup>	100.00%	97.50%	98.22%	97.50%	M
CMS Process of Care: ED-1b Median Time from ED Arrival to ED Departure for Admitted ED Patients <sup>CSF</sup>	396	369	428	369	M
CMS Process of Care: IMM-2 Influenza Immunization <sup>CSF</sup>	88.97%	91.00%	59.09%	91.00%	M
CMS Process of Care: Left Without Being Seen <sup>CSF</sup>	7.0%	5.2%	7.4%	5.2%	M
CMS Process of Care: OP-18 Median Time from ED Arrival to ED Departure for Discharged ED Patients <sup>CSF</sup>	255	206	294	206	M
Infection Prevention: Hand Hygiene <sup>CSF</sup>	95.2%	90.0%	88.2%	90.0%	M
Infection Prevention: ICU Central Line Associated Primary Bloodstream Infection, NHSN Defined <sup>CSF</sup>	0.83	0.78	1.35	0.78	M
Inpatient Mortality Ratio <sup>CSF</sup>	0.82	0.74	0.85	0.74	M
PSI 90 - AHRQ Patient Safety Indicator Composite <sup>CSF</sup>		0.67	0.67	0.67	Q
Readmission Within 30 Days - Same Hospital, UHC Defined <sup>CSF</sup>	14.32%	12.77%	14.17%	12.77%	M
<b>CUSTOMER</b>					
CG CAHPS: Global Rating <sup>CSF</sup>	85.6%	83.1%	85.1%	83.1%	M
HCAHPS: Hospital Environment <sup>CSF</sup>	59.2%	64.0%	62.3%	64.0%	M
HCAHPS: Percent of Dimensions Meeting Achievement Threshold <sup>CSF</sup>	62.5%	87.5%	87.5%	87.5%	M
HCAHPS: Responsiveness of Hospital Staff <sup>CSF</sup>	60.1%	62.0%	62.5%	62.0%	M
Patient Satisfaction OP T & T Mean Score: CT <sup>CSF</sup>	92.7	94.6	93.2	94.6	M
Patient Satisfaction OP T & T Mean Score: MRI <sup>CSF</sup>	92.7	94.6	92.3	94.6	M
<b>FINANCE AND GROWTH</b>					
FTEs Per Adjusted Occupied Bed <sup>CSF</sup>	5.03	5.00	5.14	5.01	M
Operating Income <sup>CSF</sup>	\$21,327,050	\$11,247,678	\$115,913,345	\$108,541,907	M
Volume: Billed Technical Visits <sup>CSF</sup>					M
Volume: Discharges <sup>CSF</sup>	3,410	3,382	36,371	36,173	M
Volume: Outpatient Visits <sup>CSF</sup>	93,730	88,588	940,560	948,323	M
Volume: Surgical Procedures <sup>CSF</sup>	3,233	3,406	34,831	36,104	M
<b>WORK CULTURE</b>					
Diverse Hire Rate: Senior Level Positions <sup>CSF</sup>	0.00%	13.85%	17.65%	13.85%	M
Diversity: My entity values employees from different backgrounds <sup>CSF</sup>		4.25		4.25	YTD
Percent Terminations Annualized: Overall <sup>CSF</sup>	12.65%	13.10%	12.65%	13.10%	M
Work Culture: Commitment Indicator <sup>CSF</sup>		4.10		4.10	YTD
Work Culture: Percent Tier III Units <sup>CSF</sup>		20.23%		20.23%	YTD
Lighting Scheme: Blue = Exceeds Expectations; Green = Fully Achieves; Yellow = Between prior year's avg performance (or similar) and Fully Achieves; Red = Below prior year's avg performance, budget, or similar					
DUHS Performance Services, 7/29/2014 8:18:56 AM					



# Performance Management Process





## Secret #6: Use Comparative Data to Improve

- Stimulates continuous improvement
- Promotes change and improvement in quality, productivity and efficiency
- Helps organizations understand where they have opportunity
- Allows organizations to realize what level(s) of performance are really possible by looking at others
- Allows organizations to understand how much improvement can be achieved



# Duke's Comparative Data

- UHC (University HealthSystem Consortium)
  - Custom comparators
  - Transparency
  - Drill-down capability
  - Networking and collaboration



# Sample Benchmarks

Welcome Jennifer Rose!

Tuesday, July 29, 2014



Clinical Outcomes Report (Risk-Adjusted Mortality)

Report Resources

## Duke University Hospital Oct - Dec 2013 (Q4)

Hospital:

Quarters:  Performance:  Sort By:  Year  Quarter

### UHC Academic Medical Centers/Teaching Hospitals

	Oct - Dec 2013 (Q4)						Jan 2013 - Dec 2013 (recent year)					
	Relative Performance	Denom (Cases)	Obs Mort (%)	Obs/Exp Ratio	UHC Median	Rank	Relative Performance	Denom (Cases)	Obs Mort (%)	Obs/Exp Ratio	UHC Median	Rank
<b>Summary</b>												
Post-Surgical	⊙	3,316	1.84	0.84	0.89	46/116	⊙	12,712	1.93	0.87*	0.90	52/116
Quality and Accountability Aggregate	⊖	9,370	2.38	0.98	0.91	82/119	⊖	35,778	2.32	0.94*	0.91	71/119
Total Inpatient	⊖	10,605	2.21	0.94	0.90	72/119	⊖	40,462	2.16	0.92*	0.91	67/119
<b>Service Line</b>												
BMT	⊙	40	2.50	0.39	0.50	32/ 67	⊖	129	6.20	0.94	0.81	41/ 69
Burns	⊙⊙!	1	0.00	0.00	0.81						0.78	
Cardiology	⊖	989	3.54	1.12	0.87	101/122	⊖	3,858	3.16	0.94	0.92	68/122
Cardiac Surgery	⊙	336	1.49	0.49	0.86	23/107	⊙⊙	1,264	1.34	0.49**	0.99	9/107
Thoracic Surgery	⊙	234	1.28	0.64	0.87	43/120	⊖	921	2.39	1.10	0.87	91/120
Gastroenterology	⊙	671	1.19	0.74	0.80	49/122	⊖	2,420	1.65	0.99	0.90	81/122
Gynecology	⊙⊙!	38	0.00	0.00	0.00		⊙⊙!	154	0.00	0.00	0.00	
Gynecology/Oncology	⊖	27	3.70	2.12	0.00	66/ 84	⊙	108	0.93	0.32	0.87	22/ 92
Heart Transplant or Implant of Heart Assist System	⊙	35	8.57	0.67	0.81	27/ 70	⊙⊙	162	4.32	0.37**	0.91	3/ 68
HIV	⊙	15	13.33	0.84	0.86	43/ 89	⊙	64	6.25	0.70	0.91	31/ 94
Kidney/Pancreas Transplant	⊙⊙	24	0.00	0.00	0.00	39/ 60	⊙⊙	82	0.00	0.00	0.00	37/ 64
Liver Transplant	⊖	19	5.26	1.22	0.25	37/ 54	⊙	54	1.85	0.42	0.73	16/ 54
Lung Transplant	⊖	35	2.86	0.51	0.00	26/ 41	⊖	125	4.00	0.77	0.71	22/ 40

### Legend

- ⊖ Substantially Worse than Target Range Performance > 90th percentile of peer group
- ⊖ Worse than Target Range Performance > 50th percentile of peer group
- ⊙ Within Target Range Performance <= 50th percentile of peer group
- ⊙⊙ Substantially Better than Target Range Performance < 10th percentile of peer group
- ! Interpret with Caution Low volume, excluded from top-10
- \* Significant difference from expected at .05 level of significance
- \*\* Significant difference from expected at .01 level of significance
- ▶ Quality Alert Warning Quality alert screening criteria triggered (only for current quarter)
- Quality Alert Screening Criteria:
  - Most recent 8 quarters mortality higher than expected and one of the most recent 4 quarters has O/E Ratio >= 1.4
  - Any 2 data points in the most recent 4 quarters have O/E Ratio >= 1.4
  - 6 of the most recent 8 quarters trending upwards



# Benchmark Drill-Down

## Duke University Hospital Oct - Dec 2013 (Q4) Cardiac Surgery

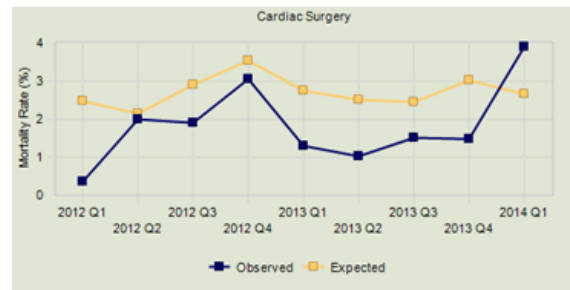
### Definition - Cardiac Surgery

Service lines are defined by UHC and displayed in the CDB. This service line includes inpatient discharges in MS-DRGs 216-221, 228-236 (base MS-DRGs 75-76, 80-83). This list is based on the effective MS-DRGs for the reported current quarter. Trauma, burn, and cases with any ICD-9 procedure code 33.27, 33.28, 37.61, 38.7 are excluded. Bad data, nonviable neonates, hospice, and records with a null expected mortality are excluded. For prior periods, service line assignments were based on the effective MS-DRGs at that time.

Data Source: UHC  
CDB  
Related Report: VIP

	Relative Performance	Denom (Cases)	Obs/Exp Ratio	UHC Median	Rank
Current Quarter	⊖	336	0.49	0.86	23/107
Recent Year	⊖⊖	1,264	0.49	0.99	9/107

	Current Quarter	Last Quarter	Recent Year
Cases (denom.)	336	331	1,264
Observed Deaths	5	5	17
Expected Deaths	10.20	8.14	34.11
Observed Mortality (%)	1.49	1.51	1.34
Expected Mortality (%)	3.04	2.46	2.70
Observed/Expected Ratio	0.49	0.61	0.49



Benchmarks:	Compare Group (n)	Percentile	Percentiles:				
			10th	25th	50th	75th	90th
Current Quarter	UHC Primary Population (107)	21	0.09	0.53	0.86	1.31	2.48
Recent Year	UHC Primary Population (107)	7	0.50	0.74	0.99	1.27	1.69

Recent Year Five Base MS-DRGs with Highest Excess Deaths (>=25 cases)	Cases	O/E Ratio	Excess Deaths
YNHHS_BRIDGEPORT	120	1.00	5.00
SANTACLARA	113	1.44	14.16
ILLINOIS	70	1.24	14.29
LOYOLA_MEDCTR	601	0.93	8.24
MINNESOTA	374	1.18	8.13
CLEVELANDCLINIC	3,921	1.00	8.20
AHS-MORRISTOWN	1,404	1.00	8.66
MAYOCLINIC_MN	2,225	0.82	6.89
VANDERBILT	1,280	0.94	10.71
DUHS-DUKEHOSPITAL	1,264	1.12	9.21

Recent Year UHC Top-10 Mortality O/E in Cardiac Surgery	Mort O/E	Cases	LOS O/E	Readmit Rate
YNHHS_BRIDGEPORT	0.00	120	1.00	5.00
SANTACLARA	0.00	113	1.44	14.16
ILLINOIS	0.00	70	1.24	14.29
LOYOLA_MEDCTR	0.23	601	0.93	8.24
MINNESOTA	0.41	374	1.18	8.13
CLEVELANDCLINIC	0.42	3,921	1.00	8.20
AHS-MORRISTOWN	0.43	1,404	1.00	8.66
MAYOCLINIC_MN	0.48	2,225	0.82	6.89
VANDERBILT	0.49	1,280	0.94	10.71
DUHS-DUKEHOSPITAL	0.49	1,264	1.12	9.21



# Summary of “Secrets”

1. Engage Leadership
2. Evaluate Inputs for Measure Selection
3. Use Benchmarks for Performance Goals
4. Manage with Performance Review Sessions
5. Monitor with a Balanced Scorecard
6. Use Comparative Data to Improve





# Questions?

Jennifer Rose

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