



UHC Overview and Capabilities of the Clinical Data Base

America's Essential Hospitals August, 2013

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Clinical Data & Informatics

What is UHC?





UHC Membership

Found throughout the US

118 Principal Members

Academic Medical Centers (AMC's)

General Members

Teaching hospitals & community affiliates of principal members



- Member-owned alliance of more than 95% of the nation's nonprofit AMCs and their affiliates
- Board of Directors are the CEOs from the Principal Members
- Profits go back to members
- Specific competencies in comparative data, performance improvement, networking, and supply chain



290

AEH Members in UHC

Boston Med Center

Cambridge Health Alliance

San Francisco General

Denver Health

Regents (GA)

Grady

Harris Health

Hennepin

Howard

Kern

LA County

Parkland

UMass

UMDNJ

Nevada

Riverside

Santa Clara

Shands

Stony Brook

SUNY Upstate

SUNY Downstate

Temple

Ohio State

Tampa General

Univ of Arizona

Univ of Kansas

UTMB

Truman

Univ of Kentucky

UAB

Metro Health (OH)

UCLA

UC San Diego

UC Irvine

UC Davis

UCSF

Santa Monica

Univ of Colorado

Poudre Valley

Memorial (CO)

UIC

South Alabama

Univ of Utah

Univ of New Mexico

Univ of Washington

VCU

WVU



Performance Improvement in 2013

- Process Improvement = Data + Change
- Useful data moves organizations to acceptance and action

Stages of Grief Quality Measurement

Kübler-Ross	Shannon Sims, MD, PhD
Denial	There's not a problem
Anger	Data is <i>completely</i> wrong
Bargaining	Need different metrics
Depression	My patients are sicker
Acceptance	OK, maybe we can do better



UHC Performance Improvement & Data Competencies

Clinical Data Base

Transparent, Risk Adjusted Patient Data (n = 235) Inpatient & Outpatient, By Physician Tool, Core Measures Intermediary (n=160)

> Imperatives for Quality (n = 91) **Analysis & Research Support**

UHC **Practice** Intelligence™ Intelligence™

Physician practice productivity data (N = 96)

UHC Safety

Voluntary reporting system for medical errors (n = 107)

Operational Data Base

Hospital department budget & productivity data (n = 120)

Resource Manager

Drugs, lab & radiology, resp., accomm., blood, ancillary & med/surg supply utilization (n = 125)

UHC Supply Chain

Intelligence™

Supply chain analytics (n = 80)

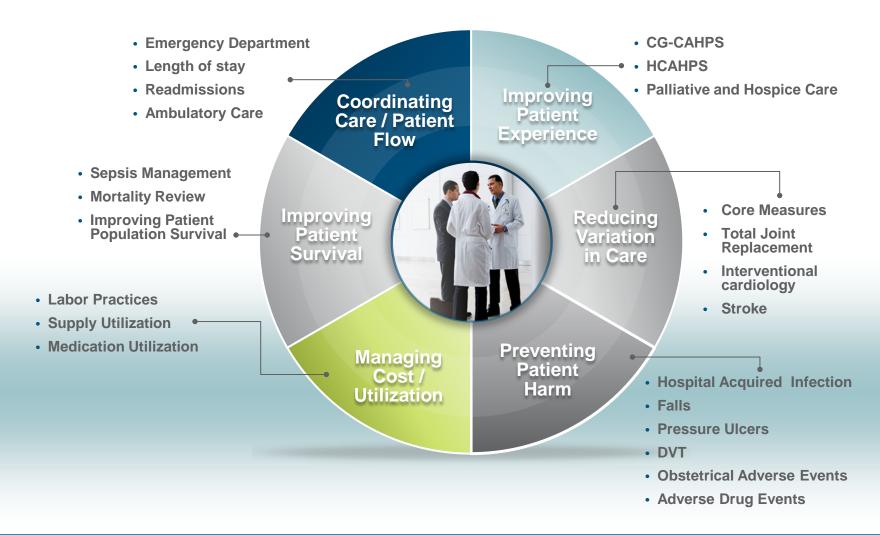
Nursing Quality **Data Base**

NDNQI magnet data (n = 74)



Imperatives for Quality – Core Imperatives

Improving Patient Outcomes And Financial Operations





Unique Features of UHC's CDB / RM for Members

15

16

17

Prestigious Comparators

- All of the 2012-2013 U.S.News & World Report Honor Roll Hospitals
- 95% of all major not-for-profit academic medical centers

Transparency

- You can see other participants' data by name
- You can see and react to the models
- You drive the database enhancements
- You have access to networking among all participants

U.S.Ne	U.S.News Hospital Honor Roll						
Rank	Hospital						
1	Massachusetts General						
2	Johns Hopkins						
3	Mayo Clinic						
4	Cleveland Clinic						
5	Ronald Reagan UCLA						
6	Barnes-Jewish						
7	NY-Presbyterian						
8	Duke University						
9	Brigham and Women's						
10	UPMC						
11	NYU Langone						
12	Northwestern Memorial						
13	UCSF Medical Center						
14	Mount Sinai Medical Center						

University of Pennsylvania

Indiana University Health System

University of Michigan

II S News Hospital Honor Roll



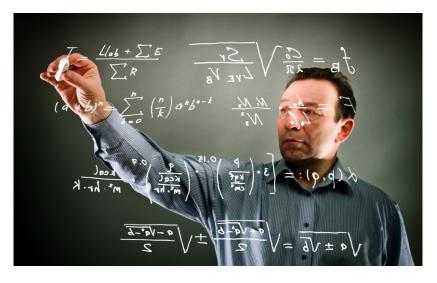
Customized Services to Meet Your Unique Needs

Expert Analytics

- We are not sales people; instead we are analysts, researchers, statisticians, clinicians and administrators
- We consider ourselves an extension of your staff

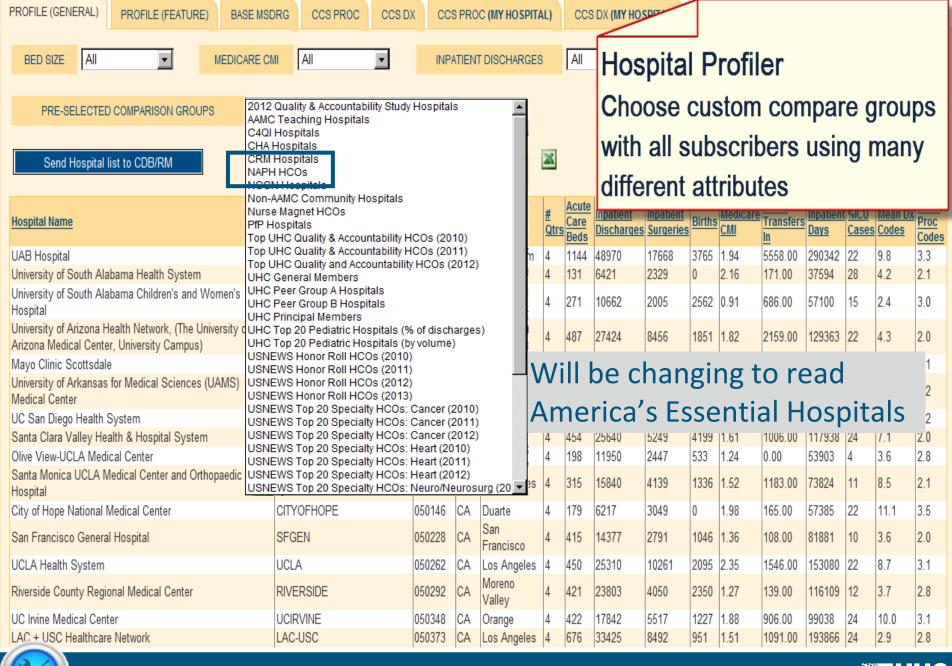
Training and Support

There is no extra cost for training, analysis support, research support



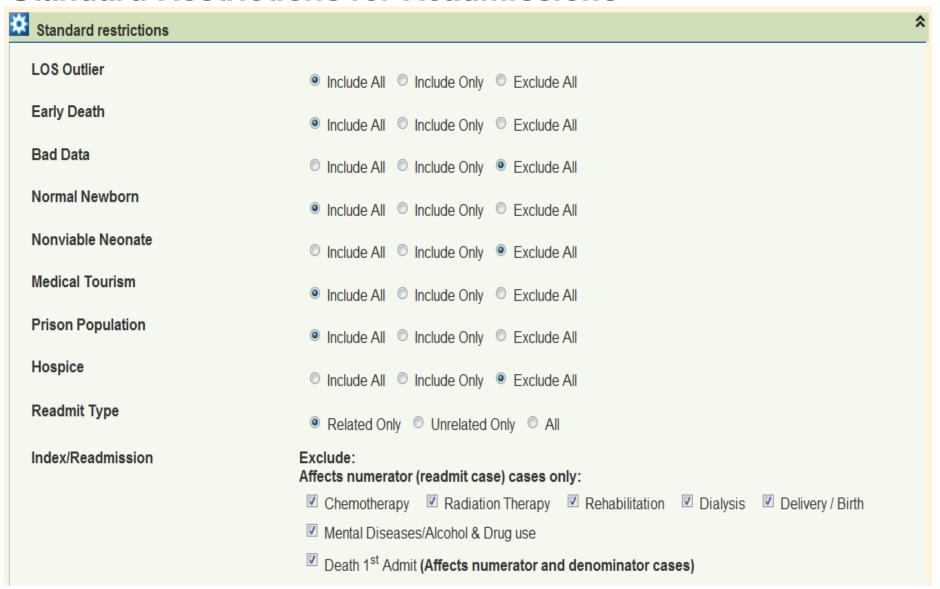






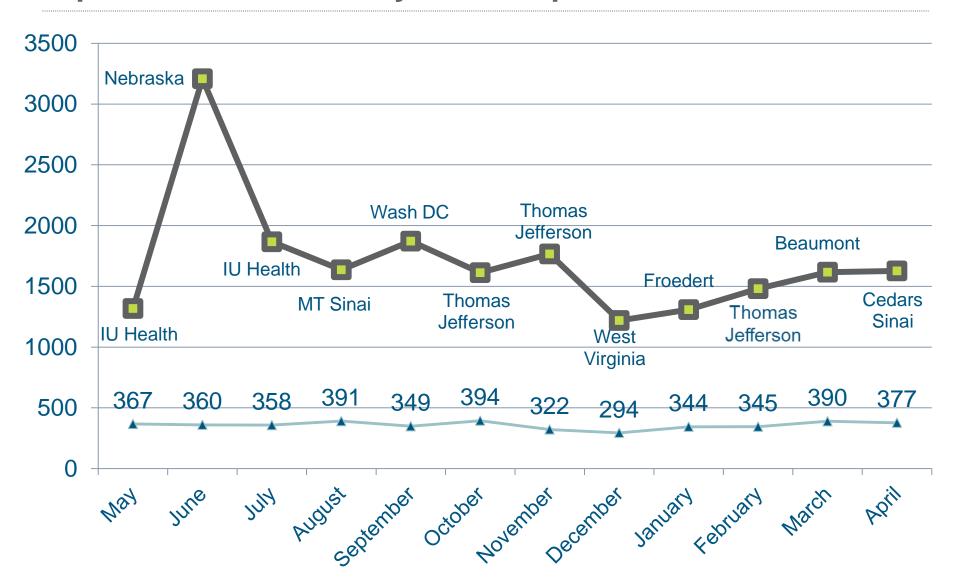


Enhancements Based on Member Feedback Standard Restrictions for Readmissions



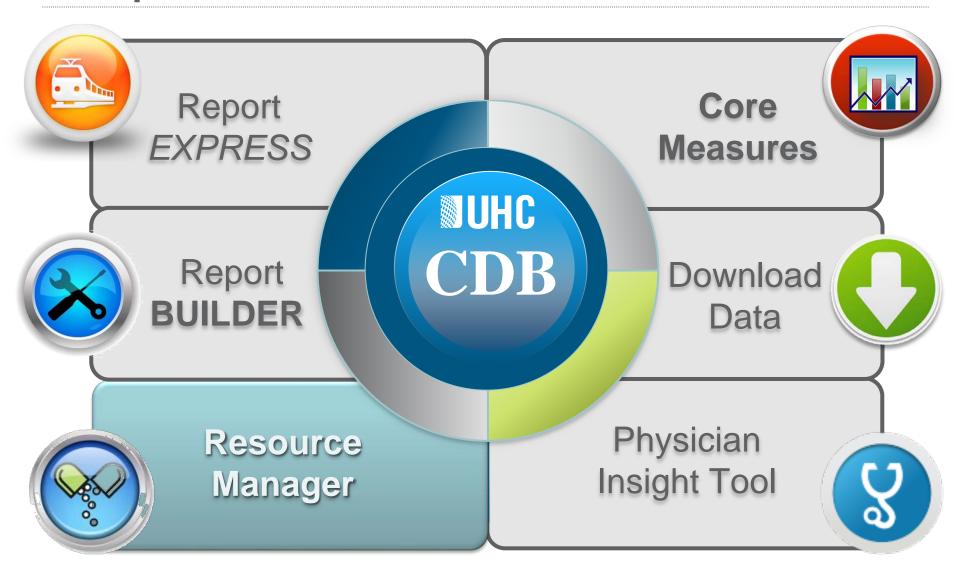


The Clinical Data Base is Heavily Utilized Top CDB/RM Users: May 2012 – April 2013





Components of the CDB / RM



Download Data

Downloaded data includes:

- APRDRG, risk of mortality, severity of illness
- Flags for AHRQ PSIs and IQIs
- Flags for readmissions
- Flags for CMS' HACs
- Flags for UHC's complications
- Risk adjusted expected values for mortality, LOS and costs

Ability to schedule downloads

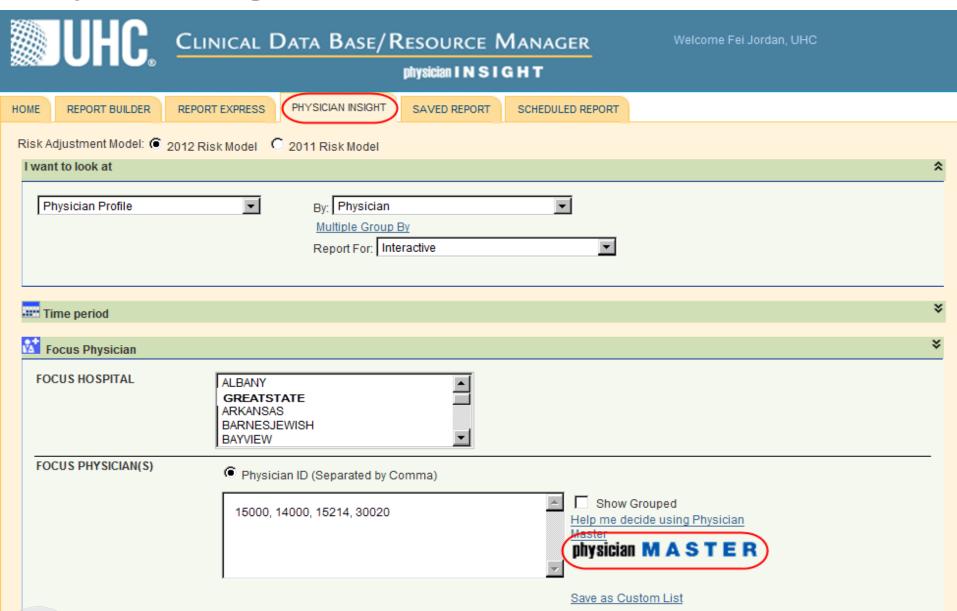
Ability to determine which fields to download

Ability to download all other CDB hospital's patients (patient and hospital are de-identified)





Physician Insight Tool



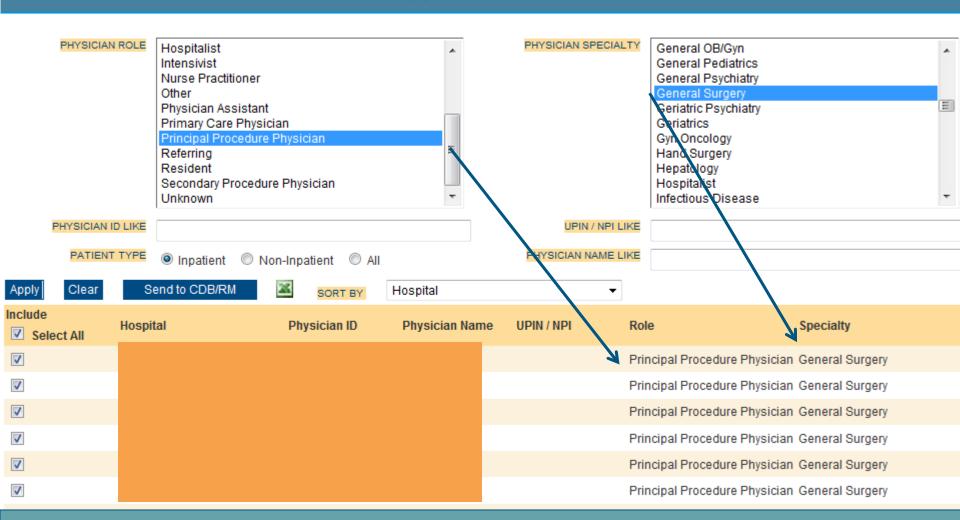






CLINICAL DATA BASE/RESOURCE MANAGER

physician MASTER



The tool allows you to narrow specific physicians by Role & Specialty, and provides pages of inpatient, outpatient and core measures data





Tabs In the Physician Insight Reports

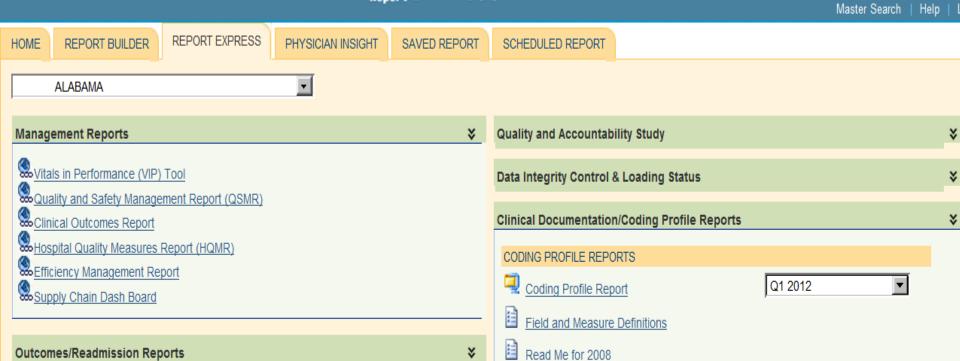
- Inpatient Volumes
- Hospital-Based Outpatient Volumes
- Severity (both 3M and UHC)
- •LOS
- Cost
- ICU Utilization
- Readmissions
- Mortality

- Complications (HACs, PSIs, UHC)
- Index / Rescue Drug Pairs
- Core Measures
- Role and Specialty Counts





Report EXPRESS

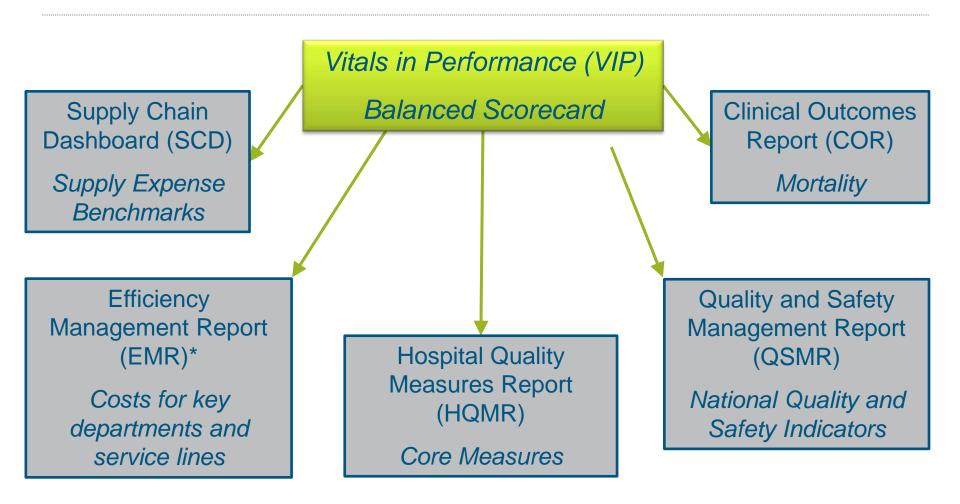


A report portal with template reports ready to be printed & used

- Easy Access to management reports, Q & A Scorecard, documentation and coding, and resource utilization reports
- Future home of enhanced scorecards focused on integrating clinical, operational, financial, and supply chain performance data
- Designed to target and engage senior and physician leadership



Management Reports



- Semi-static, snapshot reports; distributed quarterly
- Widely dispersed among the membership







Report Quarter

Q4 2012 Trend: 4

8

Quarters



Target: Best Decile of ALL AMCs

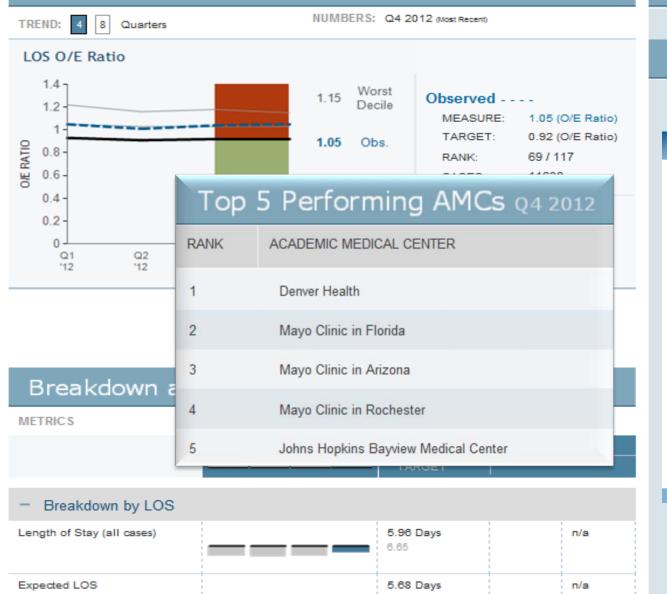
UHC's New Vitals In Performance Tool (VIP)



Metric Performance



COMMENTS



PERFORMANCE IMPROVEMENT

Member Examples

CASE STUDY





AT A GLANCE

ORGANIZATIONAL PROFILE

Tufts Medical Center (Tufts MC) in Boston, Mass, has 415 beds.

USE OF UHC DATA AND RESOURCES

Tufts MC participates in the UHC Clinical Data Base/Resource ManagerTM and shared its improvement strategies as part of an Imperatives for Quality member spotlight.

CONTACT INFORMATION

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KEY TAKEAWAYS

- Assign case managers by unit rather than clinical service to better facilitate patient discharges.
- Modify case manager caseloads to account for high patient turnover and complex discharges.
- Implement "extended-stay meetings" that focus on cases with hospital stays at or longer than the hudgeted length of stay

Length-of-Stay Improvement Strategy Portfolio

Problem Statement/Goal

In fiscal year 2009, Turks Medical Center began an initiative to decrease length of stay (LOS).

Background

Using intermation from the Cirrical Data Base-Resource Manager¹⁴, UHC identified Turts MC as one of only a few organizations that improved the LOS observes-to-expected ratio by more than 3% for the 2-year period ending June 30, 2011, and sustained that improvement for the subsequent 2 outsites.

Interventions

To reduce hospital LOS, Tufts MC has implemented a portfolio of case management strategies that must be operationalized in a collaborative environment with the full participation of the entire health care team and support services.

Change to unit-based case management. Each Tufs MC case manager is assigned to a specific unit. This approach allows the case manager to be present at the point of patient dischange, promotes a stronger alliance between the case manager and the nursing staff, maintains a connection with physicians, and improves the case manager's productivity and focus.

Revariants the case manager caseload goals. Tut's MC recognized that careledad goals may account for units imposit more (e.g., cardiology, surgery, pediatrics) or complex discharges (e.g., oncology). While a "regular" unit may have it case manager for 20 polients, units with high patient tumover or complex discharges may need a 112 or 11.5 ratio. Tulk MC has observed a correlation between improved case manager caseloads and LOS reduzion.

Assess 100% of cases. Case managers screen all patients in their unit for discharge needs.

Hold extended-stay meetings. At Tuhs MC, all case managers and social workers meet to discuss potients with an LOS equal to or longer than the budgeted LOS. The meetings promote team management of complex cases, provide an opportunity to identify improvement areas for specific case managers, and modistate case managers to be accountable for LOS.

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or more information about Imperatives for Quality, visit uhc.ed

Initiate discharge plan early.

Begin before admission or within 24 hours; use benchmarks to set target LOS

Use case management.

Employ multidisciplinary, collaborative



Imperatives for Quality focuses on driving change

Improving Hospital Length of Stay Educational Series

Join us for this series of 4 Web conferences exploring potential opportunities to lower observed length of stay. Each Web conference focuses on specific drivers and other operational and clinical factors that can prolong or otherwise interfere with a safe and efficient hospital stay. In addition to an in-depth study of potential opportunities to improve risk-adjusted length of stay, the information in the series can be used to:

- Assess the overall or broad contributors to your longer than expected length of stay
- Isolate problem areas
- Develop measures for high level goals and/or specific areas of interest/opportunity
- Grow service lines/programs

Before each Web conference, participant Clinical Data Base/Resource Manager to r Each guide includes exercises to be comp structured to be interactive and will incluhighlighted.

High Level View of Length of Stay and Length of Stay Drivers, Part 1

Review a high level review of length of stay to identify potential opportunities. Key drivers of length of stay will be introduced with a focus on planning for discharge and implications of the 5-day work week.

Length of Stay Drivers, Part 2

Topics relate to patients that tend to have longer lengths of stay including patient with potentially avoidable complications, critical care patients, and length of stay outliers.

Patient Transfers from Other Acute Care Hospitals

Look at the potential impact on outcomes and length of stay for patients transferred from other facilities and review patient conditions/characteristics that can contribute to longer lengths of stay.

Transitions of Care

Address care transition implications for length of stay, such as transfers to skilled nursing facilities, and will examine possible links to readmissions and returns to the emergency department.





UHC Clinical Outcomes Report Risk-Adjusted Mortality by UHC Service Line

			Oct - D	ec 2012	(Q4)		Jai	n 2012 -	Dec 201	2 (recent	year)	
	Relative Performan	Denom ce (Cases)	Obs Mort(%)	Obs/Exp Ratio	UHC Median	Rank	Relative Performance	Denom (Cases)	Obs Mort(%)	Obs/Exp Ratio	UHC Median	Rank
Summary												
Post-Surgical	0	2,301	2.04	0.80	0.91	27/110	0	9,055	2.01	0.76**	0.88	22/113
Quality and Accountability Aggregate	Ō	6,842	2.51	0.83*	0.89	40/114	Ō	27,278	2.41	0.79**	0.88	30/116
Total Inpatient	Ō	8,010	2.21	0.80**	0.88	37/113	Ō	32,213	2.13	0.78**	0.87	28/116
Service Line												
вмт	-	50	6.00	3.99**	0.62	62/65	•	165	3.64	1.90	0.89	65/ 68
Burns		47	8.51	1.18	0.87	32/ 47	ě	213	6.57	1.13	1.04	29/46
Cardiology	ě	503	3.98	0.94	0.89	66/117	Ŏ	1,991	3.11	0.74*	0.89	25/118
Cardiac Surgery	Õ	95	2.11	0.85	0.99	36/100	Ŏ	424	3.54	0.92	0.98	46/103
Thoracic Surgery	Õ	97	1.03	0.26	0.85	18/115	ÕO	428	1.40	0.39*	0.83	5/117
Gastroenterology	<u> </u>	578	2.25	0.82	0.81	62/117	<u> </u>	2,354	2.17	0.85	0.80	66/118
Gynecology	Ō	63	0.00	0.00	0.00	62/81	00	287	0.00	0.00	0.00	48/ 86
Gynecology/Oncology	Ō		0.00	0.00	0.00	20/85		218	0.46	0.61	0.77	33/87
Heart Transplant or Implant of Heart Assist	▶ ⊙	10	10.00	0.79	0.85	31/ 64	<u> </u>	29	13.79	1.16	0.98	45/ 63
System HIV	⊙ (12	0.00	0.00	0.66	24/ 90	0	52	3.85	0.54	0.77	23/ 92
Kidney/Pancreas Transplant	Ŏ	20	0.00	0.00	0.00	36/ 59	ŏo	68	0.00	0.00	0.00	34/ 59
Liver Transplant	>	9	11.11	2.70	0.00	44/ 45	<u> </u>	31	6.45	1.61	0.72	44/ 49
Lung Transplant	00) 2	0.00	0.00	0.00	21/ 36	00	14	0.00	0.00	0.60	8/ 37
Med Oncology	Ō	278	3.60	0.81	0.82	58/117	Ō	1,395	1.86	0.59**	0.84	23/118
Medicine General	Ō	1,578	3.55	0.90	0.90	56/117		6,130	3.43	0.86*	0.89	52/118
Neonatology	0	388	1.03	0.32*	0.57	30/103	<u> </u>	1,566	1.47	0.56**	0.69	41/104
Neurology	0	447	4.03	0.79	0.84	51/117	Ō	1,694	3.72	0.74*	0.87	34/118
Neurosurgery	Ō	247	4.05	0.75	0.94	34/112	0	855	3.98	0.73	0.95	20/115
Obstetrics	► ⊙(592	0.00	0.00	0.00	53/101	-	2,326	0.09	1.62	0.00	82/103
Orthopedics	-	465	0.65	1.09	0.75	76/112	0	1,793	0.39	0.58	0.82	31/114
Otolaryngology	► •	80	1.25	2.73	0.00	76/ 88	-	333	1.20	1.37	0.85	75/ 93
Plastic Surgery	⊙(0.00	0.00	0.00	26/ 68	ŌO	155	0.00	0.00	0.75	9/ 75
Rheumatology	⊙ (0.00	0.00	0.00	24/102	0	170	0.59	0.47	0.87	34/107
Spinal Surgery	► •	187	0.53	1.32	0.00	67/ 95	-	650	0.46	1.21	0.75	74/ 97
Surg Oncology	9	29	6.90	1.34	0.72	74/ 91	0	121	2.48	0.66	0.83	29/ 95
Surgery General	Ō	522	1.92	0.66	0.86	21/117	0	2,222	2.16	0.72*	0.86	27/118
Trauma	Ō	464	2.59	0.63	0.91	18/111	Ō	1,953	3.99	0.78*	0.91	19/109
Urology		248	0.40	0.83	0.55	66/109	<u> </u>	869	0.69	1.22	0.82	92/113
Var	<u> </u>	91	3.30	1.05	0.90	62/106	-	338	2.96	1.19	0.95	78/106



Clinical Outcomes Report Drill Down

Definition - Liver Transplant

Service lines are defined by UHC and displayed in the CDB. This service line includes inpatient discharges in MS-DRGs 5-6 (base MS-DRG 4). This list is based on the effective MS-DRGs for the reported current quarter. 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.

	Relative	Denom	Obs/Exp		
	Performance	(Cases)	Ratio	UHC Median	Rank
Current Quarter		9	2.70	0.00	44/ 45
Recent Year	Θ	31	1.61	0.72	44/ 49

Rank	Data Source: UHC CDB Related Report: VIP
44/ 45	
44/ 49	

Benchmarks:			Percentiles:					
	Compare Group (n)	Percentile	10th	25th	50th	75th	90t	
Current Quarter	UHC Primary Population (45)	96	0.00	0.00	0.00	1.09	1.5	
Recent Yr	UHC Primary Population (49)	88	0.00	0.45	0.72	1.29	2.1	

	Current Quarter	Last Quarter	Recent Year
Cases (denom.)	9	7	31
Observed Deaths	1	0	2
Expected Deaths	0.37	0.25	1.24
Observed Mortality (%)	11.11	0.00	6.45
Expected Mortality (%) Observed/Expected Ratio	4.10 2.70	3.57 0.00	3.99 1.61

Recent Year Five Deaths (>=25 ca	Cases	O/E Ratio	Excess Deaths	
Base MS-DRG 4	LIVER/INTESTINAL TRANSPLANT	31	1.62	0.76

		LivTx		
20		, T		
16		/\		
42			\	
12		/	\	,
16 12 8			1	
4			\°	
0				'
2010	Q4 2011 Q2	2011 Q4	2012 Q2	2012 Q4
	2011 Q1 201	11 03 2012 0	21 2012 0	13
	(observed 👇 Expect	ted	
-				

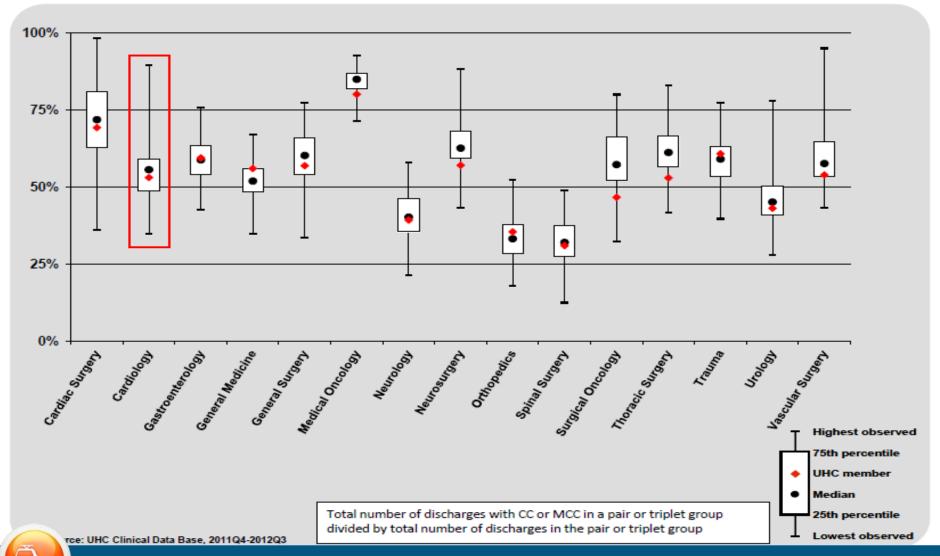
Recent Year UHC Top-10 Mortality O/E in Liver Transplant	Mort O/E	Cases	LOS O/E	Readmit Rate
Hospital 1	0.00	77	0.95	37.66
Hospital 2	0.00	59	0.59	23.73
Hospital 3	0.00	51	0.93	27.45
Hospital 4	0.00	37	0.89	40.54
Hospital 5	0.00	36	1.20	30.56
Hospital 6	0.20	83	0.77	45.12
Hospital 7	0.25	106	0.83	25.71
Hospital 8	0.31	118	0.64	25.00
Hospital 9	0.32	72	0.86	18.31
Hospital 10	0.33	161	0.64	22.78





Other Report EXPRESS Reports

Complication and Comorbidity (CC and Major CC) Capture Rate





2014-UHC VBP Calculator



	Current	Adjusted				
Annual Medicare Revenue	\$82,663,598	\$82,663,598				
Earn Back	\$469,740	\$469,740				
Holdback	\$1,033,295	\$1,033,295				
Net	(\$563,555)	(\$563,555)				
Difference Due To Adjustment \$183,638						



For hospitals that use UHC for Core Measure

Submit Adjustments

Massura

ĬQ	Clinical Process of Care Domain (CPC) 2011 Q2 - 2012 Q1 (Performance Period)					<u>Load UHC</u> re Measure Da 011 Q4 - 2012 Q	
Measure	Cases	Performance Rate	Current Points (0 - 10)	National Median	Target	Adjust Score	Adjusted Points (0 - 10)
AMI-7a	0	N/A	N/A	80.66	96.30	Insufficient Cases	N/A
AMI-8a	41	85.0	0	93.44	100.00	85.00	0
HF-1	547	92.0	6	92.66	100.00	92.00	6
PN-3b	115	98.0	7	97.30	100.00	98.00	7
PN-6		-	SCIP-In		X	<u> </u>	5
SCIP-Inf-1		Cardiac Surgery Postope	y Patients w erative Seru		ed 6AM	0	3
SCIP-Inf-2		-			_	.00	2
SCIP-Inf-3	3/	95.0	0	96.63	99.96	95.00	0
SCIP-Inf-4	113	95.0	1	96.34	100.00	100.00	10
SCIP-VTE-1	704	100.0	10	94.62	100.00	100.00	10

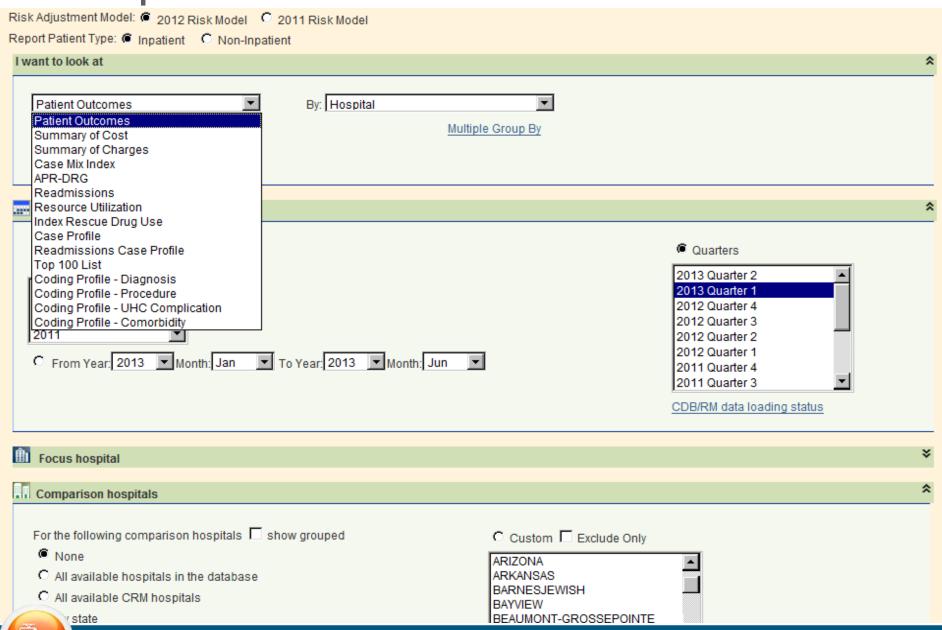
Patient Experience of Care Domain (HCAHPS) 2011 Q2 - 2012 Q1 (Performance Period)						Reset
Measure	Performance Score	Current Points (0 - 10)	National Median	Target	Adjust Score	Adjusted Points (0 - 10)
Nurse Communication	75.0	1	75.79	84.99	75.00	1
Doctor Communication	77.0	2	79.57	88.45	77.00	2
Responsiveness	57.0	0	62.21	78.08	57.00	0
Pain Management	63.0	0	68.99	77.92	63.00	0
Medications	59.0	0	59.85	71.54	59.00	0
Cleanliness and Quietness	60.0	0	63.54	78.10	60.00	0
Discharge Information	84.0	2	82.72	89.24	84.00	2
Overall Rating	65.0	1	67.33	82.55	65.00	1

Consistency Score (HCAHPS)
2011 Q2 - 2012 Q1 (Performance Period)



Adjusted Dainto (A. 20)

CDB Report Builder





Selection of CDB / RM Metrics & By Variables

- In Hospital Mortality
- Length of Stay
- Readmissions
- Severity
- Costs
- CMI
- Utilization
- Volumes
- Diagnoses & Procedures

- Physicians
- Demographics
- MSDRG and other Patient Groupings
- Severity
- Admit and Discharge Source
- Payer
- Hospital Characteristics



Volumes & Length of Stay – Q4 2012 and Q1 2013

Hospital	Cases	LOS Outliers	% LOS Outliers	Mean LOS (Obs)	StDev LOS (Obs)	Mean LOS (Exp)	LOS Index
AEH Hospitals	11,721	(127)	1.1%	5.62	10.01	5.26	1.07
Principal Members w/out AEH	17,332	(165)	1.0%	5.72	9.10	5.51	1.04
All Hospitals w/out AEH	10,342	(89)	0.9%	5.17	7.16	5.15	1.00

Hospital	Cases
YANEWHAVEN	40,121
NYPRESCOLUMBIA	31,046
ROYALOAK	30,243

Hospital	Cases
PARKLAND	25,554
ALABAMA	25,435
OHIOSTATE	24,086



Length of Stay

Hospital	Cases	LOS Outliers	Mean LOS (Obs)	StDev LOS (Obs)	Mean LOS (Exp)	LOS Index
MAYOCLINIC_MN						

Hospital	Cases			StDev LOS (Obs)	LOS Index
WISHARD	8,347	(40)	4.68	7.17	0.94

Hospital	Cases	LOS Outliers	% LOS Outliers
MAYOCLINIC_MN	28,875	(143)	0.5%
NYU	11,885	(59)	0.5%
CINCINNATI	2,297	(12)	0.5%
WISCONSIN	13,445	(74)	0.6%

Hospital	Cases		% LOS Outliers
WISHARD	8,347	(40)	0.5%
BOSTONMC	13,099	(70)	0.5%
CAMBRIDGE	6,609	(36)	0.5%



Vitals In Performance Tool

Тор	Top 5 Performing AMCs Q1 2013				
RANK	LOS O/E RATIO	ACADEMIC MEDICAL CENTER			
1	0.78	Mayo Clinic in Arizona			
2	0.79	Mayo Clinic in Florida			
3	0.82	Mayo Clinic in Rochester			
4	0.88	University of Missouri Health Care (University Hospital)			
5	0.9	NYU Langone Medical Center			



VIP Tool - Integrated Content with Data

Member Examples



LOS Improvement Strategy Portfolio

Tufts Medical Center decreased length of stay by 17% (0.9 days) over 2 years, at the same time that its case mix index increased by 5%.



Answering Challenge to Reduce LOS

The University Hospital of UMDNJ improved its length of stay observed-to-expected ratio by 17% and its length of stay by 0.9 days to 5.1 days.



Tackling Extended-Stay Cases

By implementing a series of structural changes and process redesign, NYU Langone Medical Cetner improved its length of stay performance by 12% overall and 30% for Medicare patients.

Suggested Best Practice

Initiate discharge plan early.

Begin before admission or within 24 hours; use benchmarks to set target LOS

Use case management.

Employ multidisciplinary, collaborative model featuring unit-based manager; take anticipatory approach to discharge needs

Conduct daily rounds.

Focus multidisciplinary care coordination communications on progress toward discharge goal



Imperatives for Quality Takes it a Step Further



AT A GLANCE

ORGANIZATIONAL PROFILE

The University Hospital at UMDNJ has 388 staffed beds and 19,762 admissions per year. It serves as a safety-net hospital for the Newark, NJ, area.

USE OF UHC DATA AND RESOURCES

UMDNJ participates in Imperatives for Quality and the UHC Clinical Data Base/Resource Manager™. Data analysis identified UMDNJ as a most improved organization in terms of length of stay for the 2-year period ending June 30, 2011.

The University Hospital at UMDNJ Answers CEO's Challenge to Reduce Length of Stay

Problem Statement/Goal

The chief executive officer of The University Hospital at UMDNJ challenged the organization to reduce length of stay (LOS) from 6.2 days to 5.0 days and become a UHC top performer in LOS index (observed-to-expected ratio).

Interventions

UMDNJ used a structured project management approach and began by identifying a project leader, forming an executive committee, and creating a project plan with clearly articulated time frames, roles, and responsibilities. The executive committee approved the project plan and was updated monthly on the progress of 5 key strategies:

Maintaining visibility of the project's importance and progress. The project plan was presented to numerous hospital groups, including senior leaders, clinical chairs, managers, and clinical and ancillary staff. Performance metrics—actual LOS and the LOS index—were kept simple to easily show progress. The project team also produced a quarterly newsletter to keep everyone informed.



Readmissions & Diagnoses - Q2 2012 through Q1 2013

	30 Day Avg	30 Day Min	30 Day Max
AEH related all cases	4.94	2.81 (Nevada)	7.21
Non AEH related all cases	5.20	4.05 (Dartmouth)	7.49
AEH all cases	10.44	7.06 (Nevada)	13.36
Non AEH all cases	10.77	6.64 (NYU)	16.52
AEH related HF	10.9	4.71 (Utah)	18.9
Non AEH related HF	9.78	4.92 (Dartmouth)	15.6

Diagnoses	Avg	Min	Max
AEH Hospitals	9.98	6.7	13.5 (UW)
Non AEH Teaching Hospitals	10.52	6.2	15 (CCF)
Community Hospitals	10.19	5.1	16.7 (Southpointe – CCF)



Impact of Complications Cases Q3 12

Hospital	Complication	No Complication
Cases	133	7,977
Mean LOS (Obs)	28.85	5.93
Mean LOS (Exp)	10.72	4.88
LOS Index	2.69	1.22
% ICU Cases	73.68	14.77
Mean ICU Days	13.58	4.68
% Deaths (Obs)	24.81	1.19
% Deaths (Exp)	5.45	1.41
Mortality Index	4.56	0.84
Mean Direct Cost (Obs)	75,583	9,922
Mean Direct Cost (Exp)	27,931	7,981
Direct Cost Index	2.71	1.24





UHC Service Line	Well Above	Above	Below	Well Below	Grand Total
Burns	0	1	2	1	4
Cardiac Surgery	0	2	1	0	3
Cardiology	11	7	2	0	20
Dermatology	0	1	0	0	1
Gastroenterology	1	3	2	0	6
Heart Transplant or Implant of Heart Assist System	1	1	0	0	2
Injuries/complications of prior care	1	0	2	0	3
Liver Transplant	0	1	0	0	1
Lung Transplant	0	1	0	0	1
Med Oncology	0	2	0	0	2
Medicine General	8	14	8	(1)	31
Neonatology	1	1	1	0	3
Neurology	4	0	0	0	4
Neurosurgery	0	1	0	0	1
Orthopedics	0	0	1	0	1
Surg Oncology	0	0	0	1	1
Surgery General	1	6	3	0	10
Thoracic Surgery	1	0	2	1	4
Expired Patients by Relative By Relati	pected Mo	ortality	by S	ervice Lin	e 15
Ventilator Support	0	3	11	0	14
Grand Total	32	53	39	4	128





Drilldown to Case Profile

	Diffidowif to case i forme																	
									Emergency Room									
Pat	Patient ID Encounter Number		mber	Admissi				Day		nission Source					Admission Status			
			06/18/	06/18/2012 Monda				Cli	nic referra	1		No		Elective				
Discharge Discharge Date Day			Discharge State			tatus	s Ag			Norm e NB		Race	E	Ethnicity				
07/17/2012 Tuesday Expire			Expired ((all in-hospital deaths except for Me patients)				dicare or CHAMPUS hospice			е	No	Male	White	No	n Hispanic Origin		
	ICU Days Early Base							ortality el Group Admit										
OI						models) APR-DRG					UHC Se			ervice Line				
C					90	3		7	20		Medicine General							
	Admi	t	Ad	mit														
	Severity			k of														
	Illnes		Mor	tality	Pri	inc Proc M	ID		Discha	arge ME)			charge				
	Majo	r	Ma	ajor									Bo	ne Mari	ow Tra	nspla		
		UHC Prin	nary Pay	er	1	UHC Seco	ndary Pay	er	H	CO Prin	nary Paye	r		HCO	Second	lary P	ayer	
C	ommer	cial/Private	Traditio	nal/Indem	inity	Othe	er NOS						400) - CRE	DIT BAL	BAL INS NOTIFIED		
													Direct					
		LOS		_	Mortality			Total Direct				Cost						
	LOS served	Expected (2012 Risk Model)		LOS Expected Outlier (2012 Risk Model)		οI)	Cost Cost		•				Charges Observed					
OD.	29	(201	4.31	ioueij	No 0.03426		ei)	Observed Observed 151,921 106,948				,			1,230,721			
	Relative 151,921 106,948 7,940 1,230,721																	
				Expected									Model					
				Mortality									Observed	ı				
			(20	12 Risk M	lodel)							(201	2 Risk Mo	odel)				
			1	Well Belo	w								0.18027					
Seq	POA	CC/MC(C Flag		Dia	gnosis						cedure	Physi	cian				
1	Y	No Influ	ience	0389 - s	epticemia r	nos		Se	Seq Procedure		Date Code				pecialty			
2	Y	Diagnos	is MCC	486 - pn	eumonia o	rganism n	os		1 3324 - closed		07/02/2012			Pulmonary/Crit				
3	Υ	Diagnos			aml in rela		e			bronchus biopsy 2 4131 - bone marrow 0			7/2012			Care	Marrow	
4	Y	Diagnos			pancytoper				biopsy							rans		
5	N	Diagnos			yperosmol	-											Marrow	
6 7	И	Diagnos			oag defect				chemo agent						Т	Transpla		
8	N	Diagnos			leural effus ulmonary c							06/20/2012		Bone Marrow				
9	Y	No Influ			cyclic neutr				transfusion			0014010040				Transpla		
10	Y	No Influ			neutropeni	-			5 9905 - platelet transfusion			06/19/2012				Bone Marrow Transpla		
11	Υ	No Influ	ience		cholecystiti													
12	Y					transfusion nec						Bone Marrow Transpla						
13	Y	•											Marrow					
14	Y	No Influ	ience	99592 -	severe sep	sis			biopsy					Т	Transpla			
15	Y	No Influ			stomat & m		os								iag/Interv			
16	Y	No Influ			hronic sinu				of gb Radi									
17	N	No Influ			conjunctiva		age		9 3893 - venous 06/28/2012 Gen Diag catheter nec Radiolog					_				
18 Y No Influence 5728 - oth sequela chr liv dis										iag/Interv								
19	19 N No Influence v4986 - dnr status 10 8752 - W 07710/2012 Gen Diag/interv																	



Model Group: # 903 - (Age >= 18) Septicemia w MV 96+ hours (MSDRG 870), Septicemia w/o MV 96+ hours w MCC (MSDRG 871), Septicemia w/o MV 96+ hours w/o MCC (MSDRG 872)

Model Diagnostics: Calculation: Chi-sq = 202.16 Validation: Chi-sq = 180.35, F = 0.892, p = 0.5698

Final: Max VIF = 1.887, Hosmer-Lemeshow = 542.726, p < 0.001, df = 10, C = 0.841

Mean Observed = 0.1803, Mean Expected = 0.1803

Cases = 113,050

Model Method = Logistic Regression

Model Results (Significant Predictors)

Explanatory Variable	Beta	OR	LCL	UCL	P-Va	lue
intercept	-5.673					
Any Dx Group: Sepsis	1.748	5	.742	4.570	7.213	<.0001
Female, Age >= 85	1.418	4	.131	3.802	4.487	<.0001
CC Metastatic Cancer	1.307	3	.695	3.490	3.912	<.0001
Male, Age >= 85	1.293	3	.643	3.328	3.987	<.0001
Vent on Admission Day	1.199	3	.318	3.160	3.484	<.0001
Female, 80 <= Age < 85	1.022	2	.780	2.527	3.058	<.0001
Male, 80 <= Age < 85	0.926	2	.525	2.291	2.783	<.0001
Sec Dx Group: Intracranial Bleed	0.909	2	.481	2.034	3.027	<.0001
Sec Dx Group: Shock	0.893	2	.443	2.349	2.540	<.0001
Female, 75 <= Age < 80	0.776	2	.173	1.967	2.400	<.0001
CC Lymphoma	0.769	2	.158	1.981	2.351	<.0001
Male, 75 <= Age < 80	0.717	2	.047	1.859	2.255	<.0001
Sec Dx Group: Liver	0.708	2	.029	1.908	2.158	<.0001
Sec Dx Group: GI	0.668	1	.951	1.796	2.120	<.0001
CC Liver Disease	0.587	1	.798	1.692	1.911	<.0001
CC Solid Tumor w/o Metas	0.514	1	.673	1.554	1.800	<.0001
Female, 65 <= Age < 75	0.505	1	.656	1.531	1.792	<.0001
Sec Dx Group: Ischemic Stroke	0.473	1	.605	1.378	1.869	<.0001
Male, 65 <= Age < 75	0.467	1	.595	1.478	1.721	<.0001

0.459

0.434

1.582

1.543

1.510

1.400

<.0001

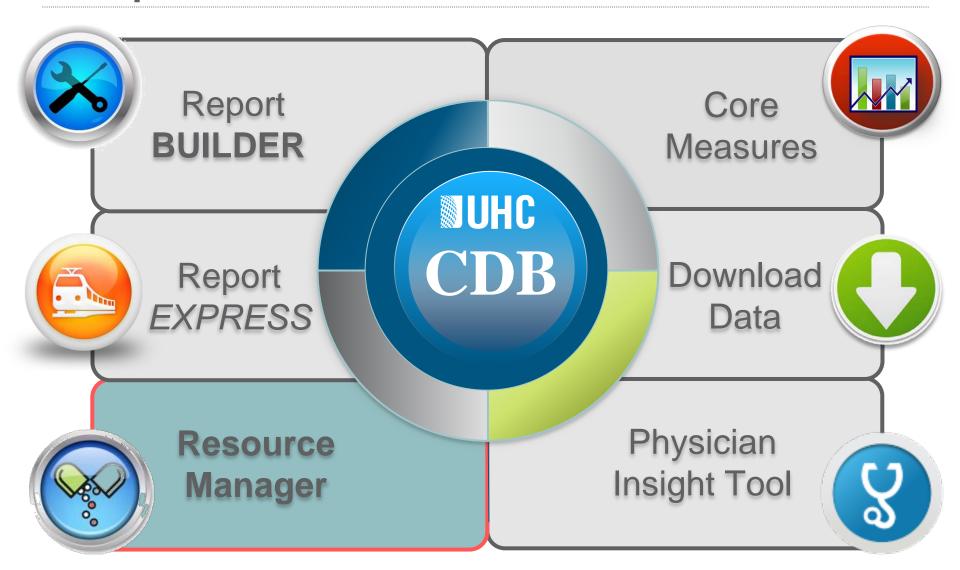
1.658

1.701

Sec Dx Group: Respiratory Failure

Group: Other Pulmonary

Components of the CDB





Inpatient Drug Cost by MS-DRG

Kidney Transplant represent san opportunity of \$1.26M if Hospital X brought their drug cost/case to the 10th %tile of all CRM Hospitals

			Hospita		UHC Cost / Case					7	
MSDRG				Mean Cost /					10th		
Code	MSDRG		Total Cost			HC0s		Max	Petl.	Variance	
652	Kidney transplant	221	\$2,346,585	\$10,618	66	71	\$7,395	\$27,614	\$3,962	\$1,265,768	Į,
3	ECMO or trach w MV 96+ hrs or PDX exc face, mouth & neck w maj 0.R.	258	\$2,023,035	\$7,841	76	95	\$6,096	\$30,488	\$2,727	\$1,097,407	7
1	Heart transplant or implant of heart assist system w MCC	138	\$1,439,258	\$10,429	35	55	\$10,811	\$37,246	\$3,841	\$606,102	T.
699	Other kidney & urinary tract diagnoses w CC	214	\$540,241	\$2,524	86	95	\$1,064	\$4,850	\$150	\$473,263	
14	Allogeneic bone marrow transplant	20	\$702,935	\$35,147	59	61	\$20,911	\$99,386	\$11,326	\$395,107	4
205	Other respiratory system diagnoses w MCC	73	\$280,448	\$3,842	89	95	\$972	\$5,278	\$107	\$267,204	4
7	Lung transplant	51	\$562,777	\$11,035	19	34	\$12,379	\$33,129	\$6,364	\$193,271	3
698	Other kidney & urinary tract diagnoses w MCC	110	\$253,084	\$2,301	80	95	\$1,453	\$8,758	\$449	\$184,859	
206	Other respiratory system diagnoses w/o MCC	213	\$181,990	\$854	81	95	\$469	\$4,429	\$39	\$171,231	ø
981	Extensive O.R. procedure unrelated to principal diagnosis w MCC	115	\$295,927	\$2,573	75	95	\$2,028	\$8,793	\$777	\$168,705	₹
871	Septicemia or severe sepsis w/o MV 96+ hours w MCC (FY2009+)	793	\$614,460	\$775	49	95	\$942	\$5,981	\$443	\$168,338	
4	Trach w MV 96+ hrs or PDX exc face, mouth & neck w/o maj 0.R.	107	\$429,827	\$4,017	58	95	\$4,602	\$40,071	\$1,726	\$163,561	3
314	Other circulatory system diagnoses w MCC	257	\$333,988	\$1,300	71	95	\$1,135	\$3,950	\$494	\$163,271	7
885	Psychoses	1,052	\$230,311	\$219	86	94	\$135	\$2,565	\$38	\$161,202	
700	Other kidney & urinary tract diagnoses w/o CC/MCC	60	\$150,368	\$2,506	88	95	\$748	\$4,977	\$36	\$146,684	-
287	Circulatory disorders except AMI, w card cath w/o MCC	672	\$219,054	\$326	78	94	\$227	\$1,357	\$77	\$143,908	_
945	Rehabilitation w CC/MCC	325	\$242,950	\$748	33	41	\$527	\$2,870	\$193	\$139,281	
166 ¢307 72 V2 ¢1.0 \$136,307											

Report Express High-Impact Drug Utilization Benchmarking Report

Global Measures - MS-DRG 652 - Kidney Transplant; Any Procedure 0093 - Cadaver Donor

		•		•				
			Mean		%	%		Estimated
		Mean	LOS		Deaths	Deaths	Mortality	Pharmacy
Hospital	Cases	LOS (obs)	(exp)	LOS Index	(obs)	(exp)	Index	Cost/Case
Hospital X	111	8.72	6.81	1.28	0.00%	0.51%	0.00	\$11,043
UHC Benchmark Group	1,097	5.39	6.75	0.80	0.46%	0.46%	0.99	\$5,491
All UHC CRM Participants	4,803	7.06	6.73	1.05	0.56%	0.48%	1.18	\$7,331
Drug Utilization External Benchmarking	5							
			LIHC B	enchmark		IC CRM		
	нс	· O		roup		cipants		
					rarcic			
	26.11	Duration	0/ 11	Duration	0/ 11	Duration		
Drug	% Use	(days)	% Use	(days)	% Use	(days)		
Albumin, human	27.0%	2.5	26.2%	1.3				
Alemtuzumab	0.0%		24.4%	1.0	14.5%			
Anti-thymocyte globulin (equine)	0.9%	1.0	0.0%		3.2%	3.1		
Anti-thymocyte globulin (rabbit)	90.1%		51.9%	3.0	53.0%			
Basiliximab	13.5%	1.9	24.3%	1.5	26.3%	1.8		
Belatacept	0.0%		0.4%	1.3	0.4%	1.6		
Esmolol	0.9%	1.0	21.9%	1.0	15.5%	1.2		
Ganciclovir	2.7%	2.7	1.3%	2.4	16.6%	4.1		
Immune globulin (igiv)	6.3%	6.0	3.7%	2.1	5.0%	2.3		
Mycophenolate mofetil	12.6%	4.6	67.0%	4.8	75.3%	6.4		
Rituximab	1.8%	1.0	1.2%	1.1	1.9%	1.1		
Tacrolimus	98.2%	7.8	88.5%	4.7	88.5%	5.7		
Thrombin	35.1%	1.2	3.7%	1.0	10.1%	1.1		
Valganciclovir	98.2%	3.4	68.5%	3.1	73.0%	3.3		
Recombinant human erythropoietin	57.7%	1.8	10.2%	1.2	21.0%	1.5		
Created: 03/15/2013								

UHC Benchmark Group: South Carolina (420004), Barnes Jewish (260032), Wake Baptist (340047), Methodist Houston (450358), Mt. Sinai (330024), Nebraska (280013), Vanderbilt (440039), Mississippi (250001), UK Chandler (180067), Arkansas (040016), UVA (490009)



Data Strategy Task Force Priorities (Fall 2010)

- 1. Ability to analyze patient data across the continuum of care
- 2. UHC more proactive in providing hospitals with opportunities from the data
- 3. Improve timeliness, accessibility and customization of UHC's data products
- 4. Enhanced Reporting / Dashboards



UHC Comparative Data Strategy

Goal: to be our member's sole source of comparative data

Enabling a new powerful PI experience across the continuum of care

Enhanced proactive reporting, support and analytics

Integrating UHC data streams (e.g. FPSC & CDB, and Patient Sat & CDB)

Linked data content /best performers with practices

Developing more useful cost of care estimate

Using *Meddius* technology to access electronic medical record data

An excellent data platform, analytic support to turn data into Information, best practices, and change management support



Patient Level Satisfaction Data Collection

Organization	Vendor	Format of Data Submitted	Number of Patient Records Submitted	Number of Patient Records Matched with CDB	Percent Matched with CDB
University Health, Cincinnati	Press- Ganey	Excel	2,100	> 2,000	
University of Kansas	Press- Ganey	Text	958	957	99.8%
Edgecombe, Vidant System	Health Stream	Excel	715	706	99.0%
Roanoke, Vidant System	Health Stream	Excel	723	716	98.7%
Medical Center, Vidant System	Health Stream	Excel	4,766	4,711	98.8%

Possibilities with Patient Level Satisfaction Data...

Allows for analysis of the following:

- Length of stay & accommodations
 - Continuity of care how many times was the patient transferred within the hospital?
- Demographics
- Diagnosis and comorbid conditions
 - Impact of secondary psychiatric diagnosis on satisfaction
- Clinical outcomes and severity of illness
- Complications / patient safety events
 - CMS hospital acquired conditions (HAC)
 - AHRQ patient safety indicators (PSI)
 - UHC Complications
- Distance patients traveled to hospital
 - Responses of patients with rural zip code traveling to urban AMC

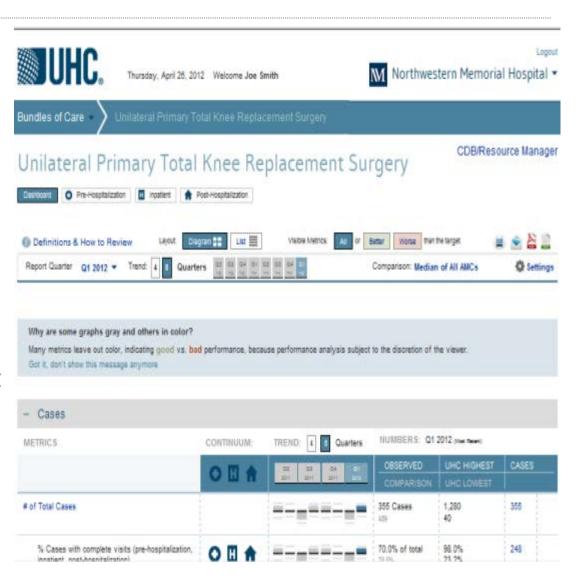


Bundles of Care

In December 2012, five condition specific bundles of care reports integrating FPSC and CDB data piloted with 13 members

Conditions

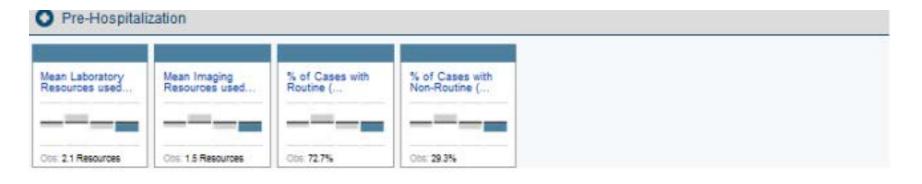
- Total Knee Replacement
- Hip Replacement
- Aortic Valve Replacement
- CABG
- Kidney Replacement





Bundles of Care Dashboard Summary View

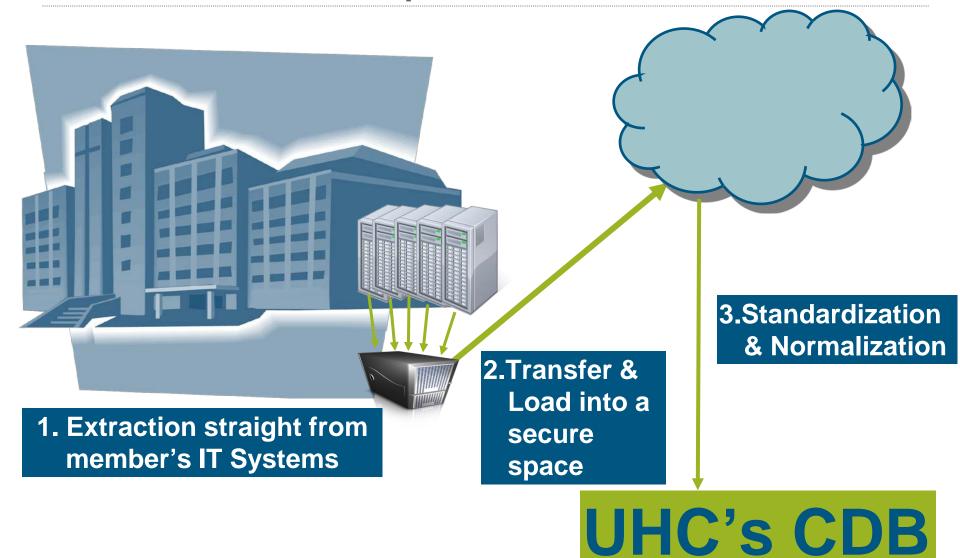








Future of UHC Data Acquisition





Initial Use Case 1 Adding Clinical Variables to Risk Models

- Focus on 20 key labs identified by Michael Pine, et al.
 - Albumin, hematocrit, potassium
- Key clinical measures found in EHR
 - APGAR, Glasgow Coma Scale, ASA Physical Status Classification, BMI, Ejection Fraction
- Pharmaceutical data (e.g. dose and timing)
- Expand in future to pathology (stage and grade), microbiology, radiology



Initial Use Case 2 Improved Benchmarking and Identification of Variation

- Using the new variables such as lab values and EHR data to leverage current tools such as CDB-RM for analytics
 - Able to better focus compare groups now limited by ICD-9 diagnoses and procedures
 - Look at outcomes for patients with craniotomy that have admit Glasgow Coma Score of <12
 - Surgical outcomes of patients with a low albumin
 - Resource Utilization differences in patients with abnormal labs vs. normal labs for the same condition
 - Outcomes based on pharma use and microbiology results
 - Longer term
 - Stratify Oncology by tumor grade and stage
 - Variability in radiology usage based on initial results within a condition



Use Case 3 Pre-populating Core Measure and Registry Data

Decrease large member FTE burden of chart abstraction

- Member would then verify information and only need to populate limited data
- Focus on CMS/ TJC Core measures such as SCIP measures
- Focus on NISQIP

Long term

- Focus on other registries such as STS, Trauma registry, Tumor registry
- Focus on becoming super registry



Additional Member Benefits from the ETL Tool

- Using UHC as member's data intermediary to outside organizations, including registries;
- Reducing substantially the member's resources in manual abstraction of core measures and registries;
- Reducing substantially the member's IT resources needed to manage, abstract and submit the overwhelming number of data requests our member's are receiving;
- Receiving comparative information while the patient is still in the hospital;
- Using UHC as a member's data warehouse, or downloading data with value added fields (e.g risk adjusted values, complications) back to member's data warehouse;
- Satisfying the growing requests for Health Information Exchanges
- Reducing the increasing amount of IT infrastructure dollars



Analyst Certification Program & Analyst Pool

This program is intended for UHC member hospital staff to develop pragmatic skills for using data for improving healthcare performance - from understanding and procurement of data to application of analytics, to transformation of data into usable information and the subsequent presentation of that information to motivate improvement.

- A 7 week program including a 2 day on-site 'boot camp', and the following modules: Data Orientation, Using UHC Tools,
 Measurement & Analysis of Data, Evaluating Variation, Data & Risk Adjustment, Benchmarking, and Presenting Data
- Pilot to begin in mid-August with the expectation of completing two of these in 2014



Finance & Investment Plan

Estimated CY2012 – 16 PICD investment = \$24.5M

- Projected investments can be funded from UHC's PI operating margin with modest growth in participants
- Growth in participation provides basis for funding investment with minimal price increases to members

PICD revenue currently \$24M per year, growing at 6% with current operating margin of 20%

- Performance Package pricing introduced in CY2011:
 - Combines pricing for hospital-based performance improvement products (CDB/CRM/ODB/IQ)
 - Substantial savings over ala carte program pricing







Q & A

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