

Quality Through Benchmarking: Leveraging UHC Data Capabilities

Clint Divine, MBA, MSM

Assistant Program Director,
Blood and Marrow Transplantation

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CANCER CENTER

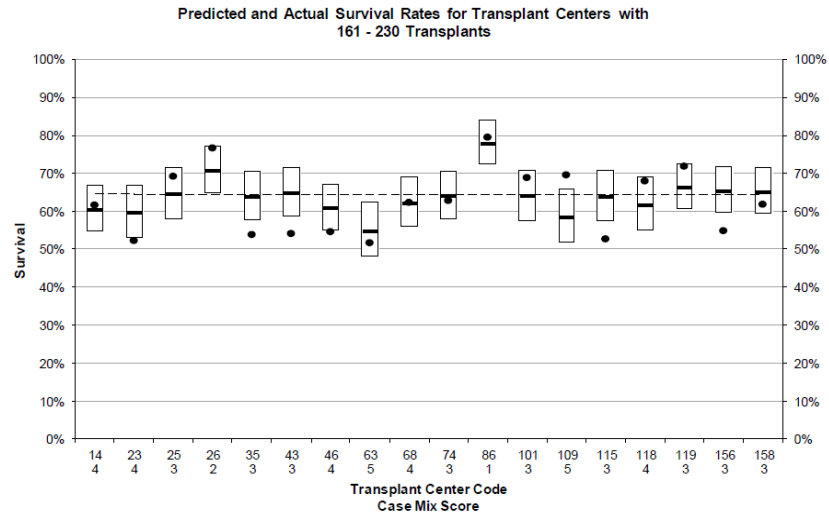
NCI-CC
A Cancer Center Designated by the National Cancer Institute

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Outcomes Analysis

NMDP – 2012 Final Report on Transplant Center-Specific Survival Rates

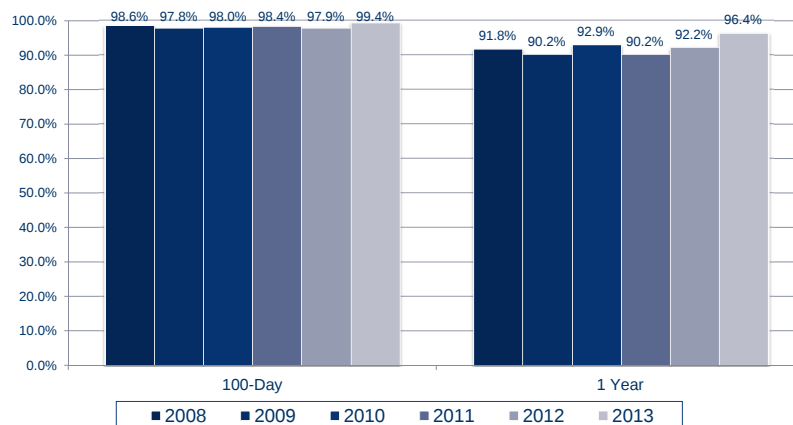


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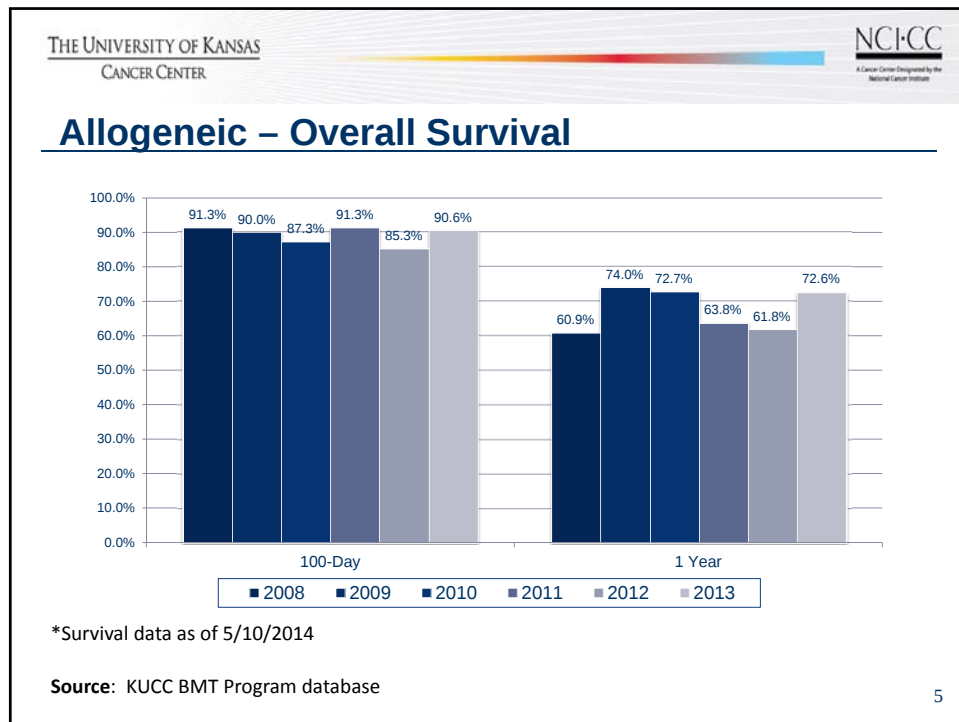
Autologous – Overall Survival



*Survival data as of 5/10/2014

Source: KUCC BMT Program database

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UHC

Quality Through Benchmarking: Case Studies Using UHC Data to Drive Performance

David Levine, MD
Vice President
Informatics/Medical Director



- **Prestigious Comparators**
 - All but one in top 30 of US News & World Report for top Cancer 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 can drive database enhancements
 - You have access to networking among all participants

US News & World Report
2013-2014 Honor Roll Hospitals - Cancer

1	University of Texas MD Anderson
2	Memorial Sloan-Kettering Cancer Center
3	Mayo Clinic
4	Johns Hopkins Hospital
5	Dana-Farber/Brigham and Women's Cancer Center
6	Massachusetts General Hospital
7	UCSF Medical Center
8	University of Washington Medical Center
9	Cleveland Clinic
10	Stanford Hospitals and Clinics
11	UCLA Medical Center
12	Wake Forest Baptist Medical Center
13	Hospital of the University of Pennsylvania
14	Northwestern Memorial Hospital
15	City of Hope
...	
26	University of Kansas Hospital

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UHC Intelligence

Performance Intelligence



CDB/RM
Clinical Database/
Resource Manager

ODB
Operational Database

VIP
Vitals in Performance

NQDB
Nursing Quality Database

Supply Chain Intelligence



SpendLINK
Strategic Purchasing
Reduce Expenses

RxLINK
Pharmacy Pricing
Opportunities

Safety Intelligence



SI
Safety Intelligence
(formerly, PSN)

Practice Intelligence



FPSC
Faculty Practice
Solutions Center



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UHC Benchmarking

Length of Stay

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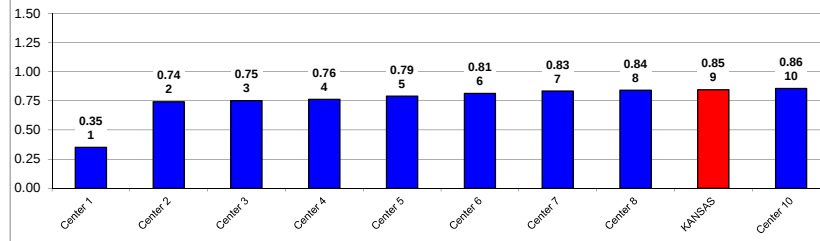
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UHC (2014-Q1) – Autologous & Allogeneic HSCT

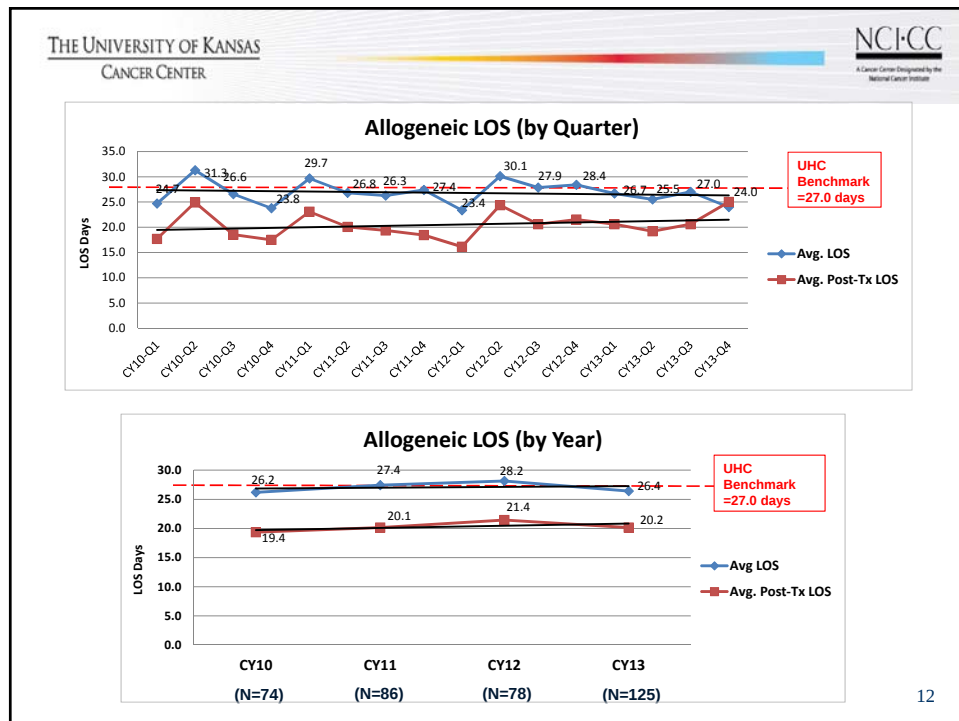
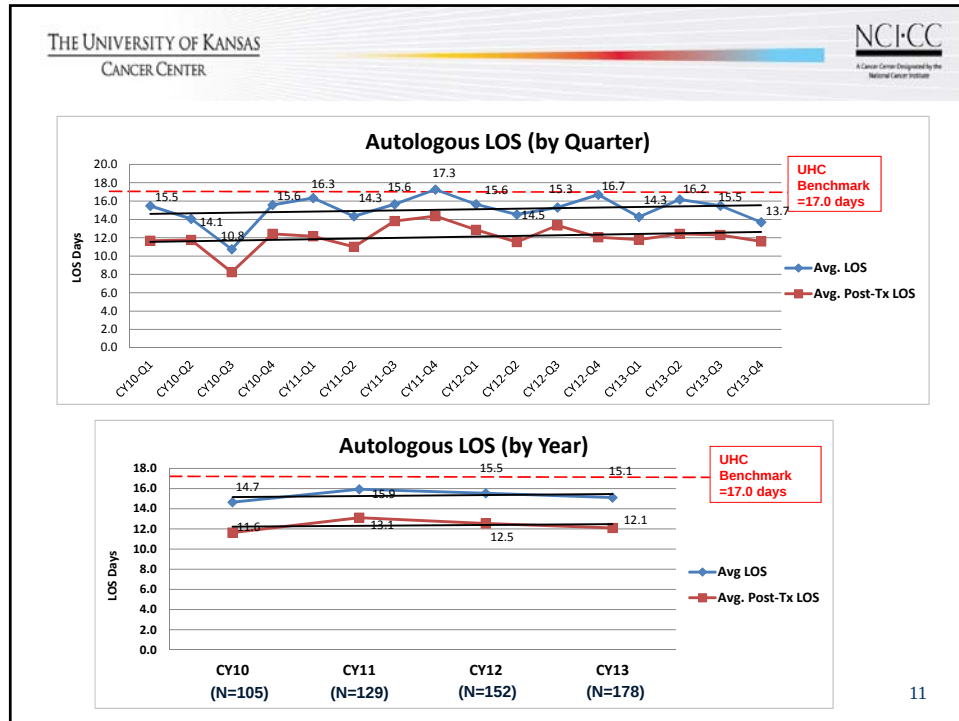
LOS Index - April 2013 to Mar 2014 (KU Hospital vs +/- 20% Volume from KU)

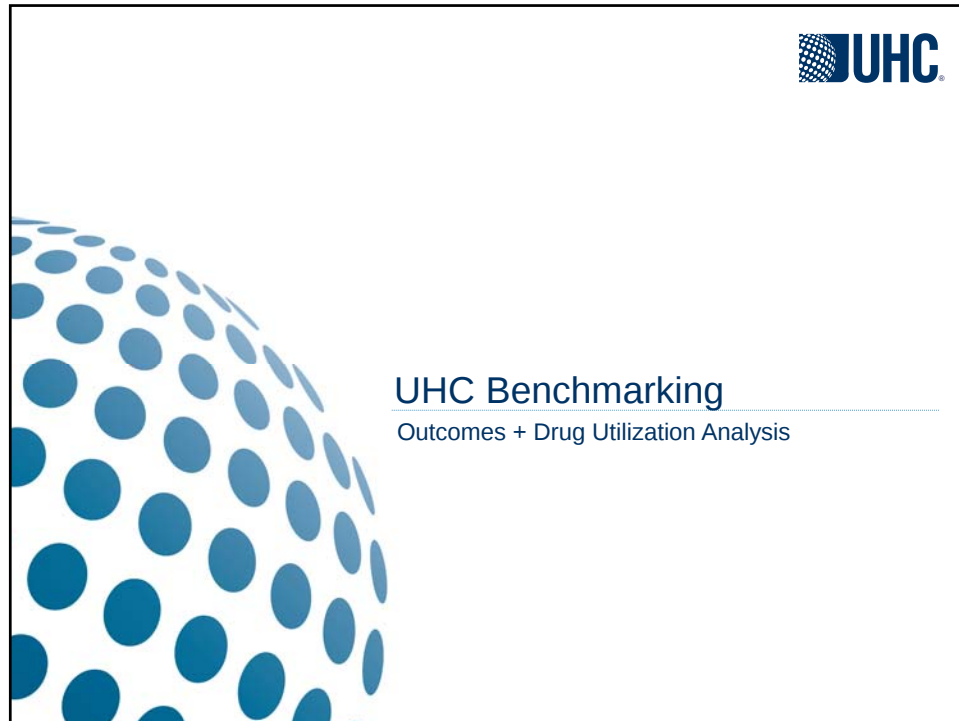
Rank	Hospital	Cases	Mean LOS (Obs)	Mean LOS (Exp)	LOS Index ↑
1		161	8.68	24.73	0.35
2		256	24.34	32.80	0.74
3		239	20.72	27.57	0.75
4		528	17.80	23.31	0.76
5		132	19.08	24.14	0.79
6		143	22.55	27.70	0.81
7		143	20.73	24.87	0.83
8		215	21.59	25.65	0.84
9	KANSAS	193	21.62	25.55	0.85
10		400	20.73	24.21	0.86

UHC SERVICE LINE: BMT
LOS Index



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CDB Patient Outcomes Report

Acute myelogenous leukemia without mention of remission (ICD-9 205.00)

CY 2013	Cases	Mean LOS (Obs)	Mean LOS (Exp)	LOS Index	%Deaths (Obs)	%Deaths (Exp)	Mortality Index
Focus Hospital							
Hospital A	79	36.42	28.45	1.28	8.86	7.10	1.25
Comparison Group							
Hospital B	95	25.68	27.86	0.92	10.53	12.71	0.83
Hospital C	247	24.79	24.10	1.03	9.31	10.19	0.91
Hospital D	152	24.64	27.60	0.89	9.87	10.79	0.91
Hospital E	69	21.07	30.34	0.69	5.80	11.44	0.51
Hospital F	43	28.07	27.57	1.02	16.28	9.39	1.73
Hospital G	77	27.49	27.29	1.01	16.88	18.33	0.92



UHC Benchmarking

Resource Utilization
Supply Chain Analysis

UHC Resource Utilization – Average Direct Cost per Discharge Case

Time Period:

2013-Q1 to 2014-Q1

Utilization Comparison	Center 1		Center 2		Center 3		Center 4	
Accommodations	\$11,003		\$29,656		\$21,582		\$49,098	
ICU	\$771	11	\$1,274	20	\$21,439	707	\$48,633	130
Other Accommodations	\$120	59	\$0	1	\$0	240	\$227	82
Routine Accommodations	\$10,112	144	\$28,382	270	\$143	39	\$237	11
Ancillary Services	\$268		\$451		\$708		\$810	
Other Ancillary Services	\$36	34	\$68	40	\$168	660	\$252	73
Physical Therapy	\$54	26	\$267	92	\$233	628	\$265	106
Respiratory	\$178	29	\$115	15	\$307	441	\$293	55
Cardiac Diagnostic Services	\$72		\$76		\$88		\$108	
ECG/Telemetry	\$44	47	\$18	48	\$20	268	\$18	88
Other Cardiac Services	\$28	21	\$58	32	\$68	103	\$90	23
Diagnostic Imaging	\$221		\$570		\$253		\$558	
CT/MRI	\$132	49	\$366	91	\$149	229	\$259	51
Nuclear Medicine	\$10	6	\$0	0	\$10	40	\$15	8
Other Diagnostic Imaging	\$17	40	\$23	46	\$32	190	\$91	61
X-Ray	\$62	78	\$182	223	\$62	604	\$193	116
Laboratory	\$1,799		\$3,276		\$4,274		\$6,622	
Miscellaneous	\$120		\$32		\$284		\$2,431	
Other Spec. Dx Svcs.	\$64		\$309		\$81		\$123	
Surgical Services	\$2,547		\$481		\$5,474		\$2,095	
Anesthesia	\$0	0	\$11	7	\$38	61	\$32	35
Med. Surg. Supplies	\$1,885	144	\$103	111	\$4,979	709	\$1,196	132
OR Services (Incl Labor/Del)	\$634	144	\$352	129	\$437	201	\$699	122
Other Surgical Services	\$28	29	\$15	8	\$20	50	\$167	34
Transplantation	\$35,868		\$37,200		\$21,167		\$48,228	
Treatment	\$26,252		\$19,075		\$47,978		\$39,685	
Blood	\$5,618	134	\$4,992	206	\$3,711	668	\$6,410	118
Dialysis	\$58	5	\$238	11	\$249	26	\$26	2
Other Treatment	\$504	23	\$736	87	\$99	58	\$870	46
Pharmacy & IV Therapy	\$20,025	144	\$13,102	270	\$43,913	709	\$32,370	135
Total Cost / # Of Patients	\$78,213	144	\$91,127	270	\$101,889	709	\$149,758	135
Expected Cost	\$64,320		\$78,999		\$72,648		\$85,762	
Cost Index	1.22		1.15		1.40		1.75	
LOS Index	0.91		0.72		1.09		1.01	
Mortality Index	0.36		0.38		0.79		0.71	

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NCI-CC

A Cancer Center Designed by the National Cancer Institute

UHC Resource Utilization - Sorted by Resource Class

BMT Product Line - NHL (41.04 – Autologous Stem Cell Transplant)

Time Period – 2013-Q1 to 2013-Q4

Any Diagnosis: In Custom List (NHL (20010,20020,20040,20045,20060,20070,20200,20208,20210,20270,20271,20280,20281,20284))

Principal Procedure: 4104

CRM Category: ImagingIndividual Resources Included: HighImpact

By general resource

Subminor Resource Class	Hospital	Clinical Population Denominator Cases	Clinical Population Numerator Cases	% Clinical Population Numerator Cases	Mean Days Resource Used/Case
comp tomography	Focus	20	6	30.00	2.0
comp tomography	Comparison	237	60	25.32	1.4
echo	Focus	20	3	15.00	2.3
echo	Comparison	237	24	10.13	1.2
ekg/ecg	Focus	20	4	20.00	7.5
ekg/ecg	Comparison	237	97	40.93	5.7
mri	Focus	20	2	10.00	1.0
mri	Comparison	237	9	3.80	1.0
nuclear medicine	Focus	0	0	0.00	0.0
nuclear medicine	Comparison	237	8	3.38	1.0
ultrasound	Focus	20	5	25.00	1.0
ultrasound	Comparison	237	47	19.83	1.6
x-ray	Focus	20	12	60.00	3.8
x-ray	Comparison	237	223	94.09	2.9

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UHC Supply Chain Intelligence™

May 2014

University of Kansas Hospital's 'Above the Line' Program Saves \$2.2 Million

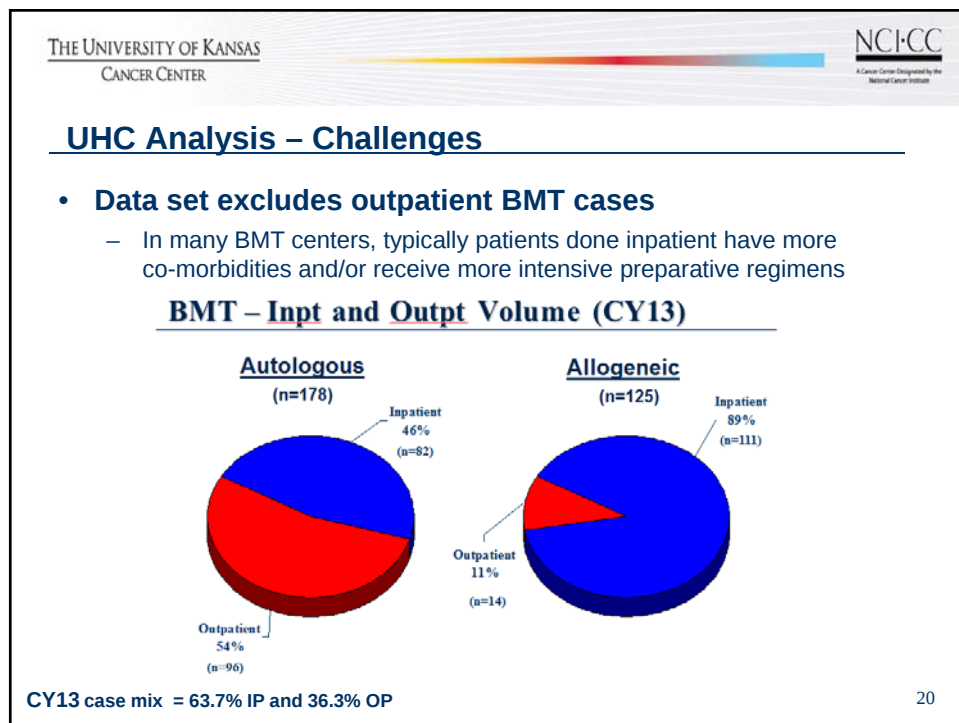
The University of Kansas Hospital Authority's "Above the Line" program leveraged the power of comparative pricing data and a unique public recognition program to inspire its vendors to improve pricing competitiveness, resulting in savings of \$2.2 million in 9 months.

Launched in June 2013, the "Above the Line" program established a set of requirements that suppliers must meet to transact business with Kansas. One of the requirements is that vendors' pricing must fall in the top quartile on the [UHC Spend/INK® Price Competitive Index \(PCI\)](#).

To ensure that clinical staff are aligned with the program's goals, Kansas educates all physicians about the PCI and gives them access to the spend data so that they can see how their vendors' pricing compares with that offered to other academic medical centers.



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UHC Analysis – Challenges

- LOS & mortality outcomes can be misleading based on facility discharge practices & infrastructure capabilities.
- Costs and Risk-adjusted methodology does not account for heterogeneity of BMT patient population:
 - Cord blood HSCT
 - Related vs. unrelated allogeneic donor
 - Non-myeloablative/RIC vs. myeloablative regimen
 - Acuity of BMT population is not comparable to routine Hem/Onc
 - Centers may categorize “boosts” as a BMT case?

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UHC LOS/Cost Summary by Hospital - Sorted by Cost Index

BMT Product Line
Time Period – Q2 2012

BMT Type	Total Cost Obs.	Charges Obs.	Direct Cost Obs.	Direct Cost > Expected
AUTO	(n=18)			
Range	17,436-112,222	56,797-402,066	12,857-82,014	1 of 18 (6%)
Allo (MRD)	(n=9)			
Range	8,297-96,070	34,309-400,820	5,846-77,524	1 of 9 (11%)
Allo (MUD)	(n=3)			
Range	103,953-225,976	136,246-582,757	100,644-209,754	3 of 3 (100%)
CORD	(n=3)			
Range	309,622-598,840	474,715-1,580,985	295,384-525,705	3 of 3 (100%)

HOSPITAL	TOTAL PTS	OBS LOS	OBS COST	EXP COST	COST INDEX	%ILE RANK	VARIANCE COST in \$M)
	1 (1)!	1.00	1,532	42,541	0.04	0%	-0.04
	34 (2)!	6.15	14,498	59,892	0.24	1%	-1.54
	1	4.00	26,077	71,502	0.36	3%	-0.05
	1	18.00	24,017	61,634	0.39	4%	-0.04
	19	21.79	30,822	53,657	0.57	8%	-0.43
	44	13.64	41,582	55,352	0.75	18%	-0.61
	5 (2)!	18.00	32,944	43,009	0.77	19%	-0.05
	52	23.23	58,365	72,096	0.81	23%	-0.71
	91	19.58	43,714	51,917	0.84	24%	-0.75
	124	28.79	54,455	62,798	0.87	27%	-1.03
	109	22.85	62,029	62,195	1.00	36%	-0.02
	65	23.34	62,283	57,588	1.08	45%	0.31
	16	27.00	81,104	68,200	1.19	65%	0.21
	9	23.00	59,372	49,692	1.19	66%	0.09
	39	20.64	66,788	55,709	1.20	68%	0.43
KANSAS	33	21.82	78,916	65,176	1.21	69%	0.45
	29	25.41	87,480	68,501	1.28	72%	0.55
	85	21.75	88,172	65,878	1.34	76%	1.90
	22 (1)!	23.59	85,304	59,466	1.43	84%	0.57
	25 (2)!	25.04	77,668	53,797	1.44	85%	0.60
	14 (1)!	30.00	72,712	47,677	1.53	89%	0.35
	34 (1)!	30.50	108,044	70,609	1.53	91%	1.27
	29	26.31	103,762	67,801	1.53	92%	1.04
	27	27.07	115,716	66,674	1.74	95%	1.32
	12	32.08	136,523	73,400	1.86	97%	0.76
	16	22.44	163,001	64,640	2.52	99%	1.57
	12	23.08	121,647	46,444	2.62	100%	0.90

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UHC (2014-Q1) – Autologous & Allogeneic HSCT

30 Day (Related) Readmissions by Discharge Month

Time Period: Jan 2013 to Dec 2013 Discharges

Highlighting: % greater than All UHC

Discharge Month	Cases	Mean LOS (Obs)	Mean LOS (Exp)	LOS Index	# 30 Day Readmit	% 30 Day Readmit	# 14 Day Readmit	% 14 Day Readmit	# 7 Day Readmit	% 7 Day Readmit
2013-12	17	21.00	25.46	0.82	3	17.65	2	11.76	1	5.88
2013-11	6	14.67	22.28	0.66	1	16.67	1	16.67	0	0.00
2013-10	15	18.40	22.78	0.81	1	6.67	1	6.67	0	0.00
2013-09	21	23.48	25.18	0.93	4	19.05	2	9.52	2	9.52
2013-08	22	21.68	26.33	0.82	3	13.64	2	9.09	0	0.00
2013-07	18	23.11	26.01	0.89	2	11.11	2	11.11	2	11.11
2013-06	23	21.13	23.97	0.88	2	8.70	1	4.35	1	4.35
2013-05	18	19.56	25.49	0.77	1	5.56	1	5.56	0	0.00
2013-04	6	20.67	25.14	0.82	2	33.33	1	16.67	0	0.00
2013-03	9	19.33	24.09	0.80	1	11.11	1	11.11	0	0.00
2013-02	20	19.90	23.41	0.85	3	15.00	2	10.00	1	5.00
2013-01	15	21.13	23.67	0.89	1	6.67	0	0.00	0	0.00
Hospital A	190	20.83	24.66	0.84	24	12.63	16	8.42	7	3.68
ALL UHC HOSPITALS	11,981	23.12	24.33	0.95	775	6.47	507	4.23	255	2.13

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