

Using Quality to Drive Cost/Case in Surgical DRGs

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Learning Objectives:

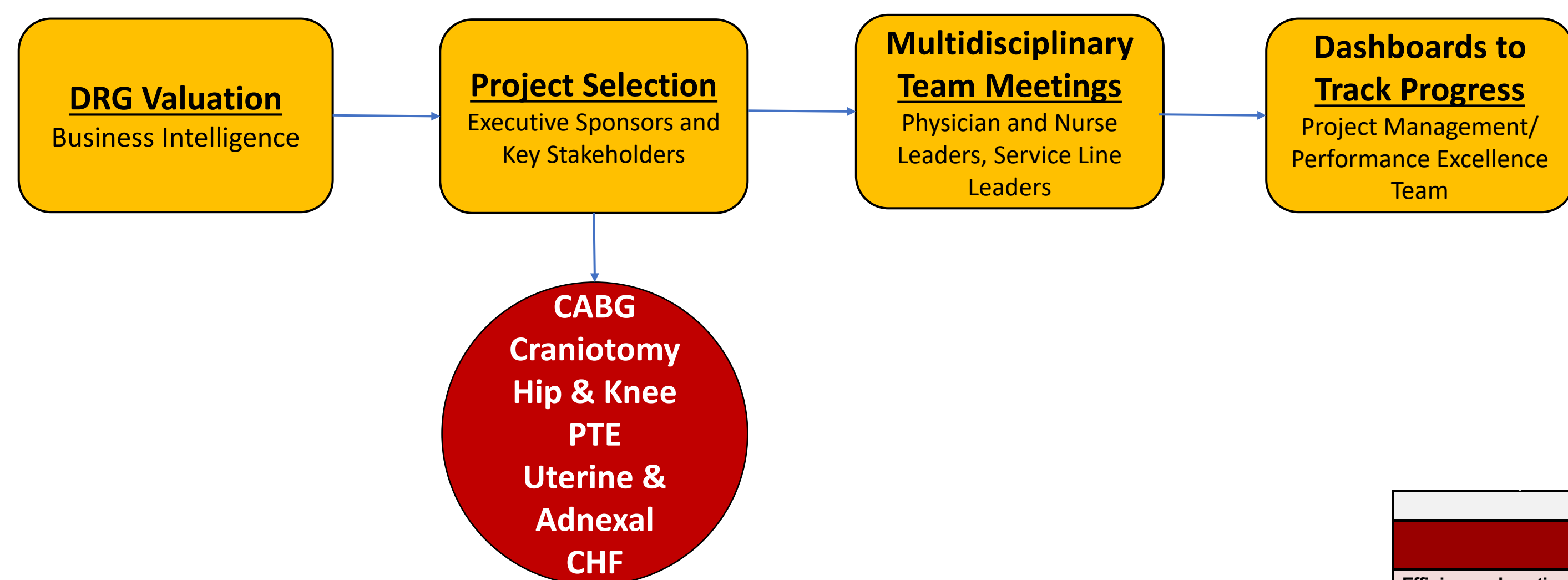
- Describe how to design dashboards that represent quality metrics and overall costs that are meaningful to physicians.
- Summarize how to pull from dashboards business intelligence data that is clinically significant to practice.
- Illustrate how to make a significant impact on the bottom line with a straightforward process that is easily reproducible.

Overview:

Temple University Hospital is a large-scale academic medical center focused on patient excellence. To improve our quality metrics, we convened focused teams around different diagnosis-related groups (DRGs) to streamline clinical milestones and pathways for these similar patients.

We found that decreased clinical variability within a DRG leads to improved patient outcomes while also achieving a significant savings of \$25 million in the project's first 2 years.

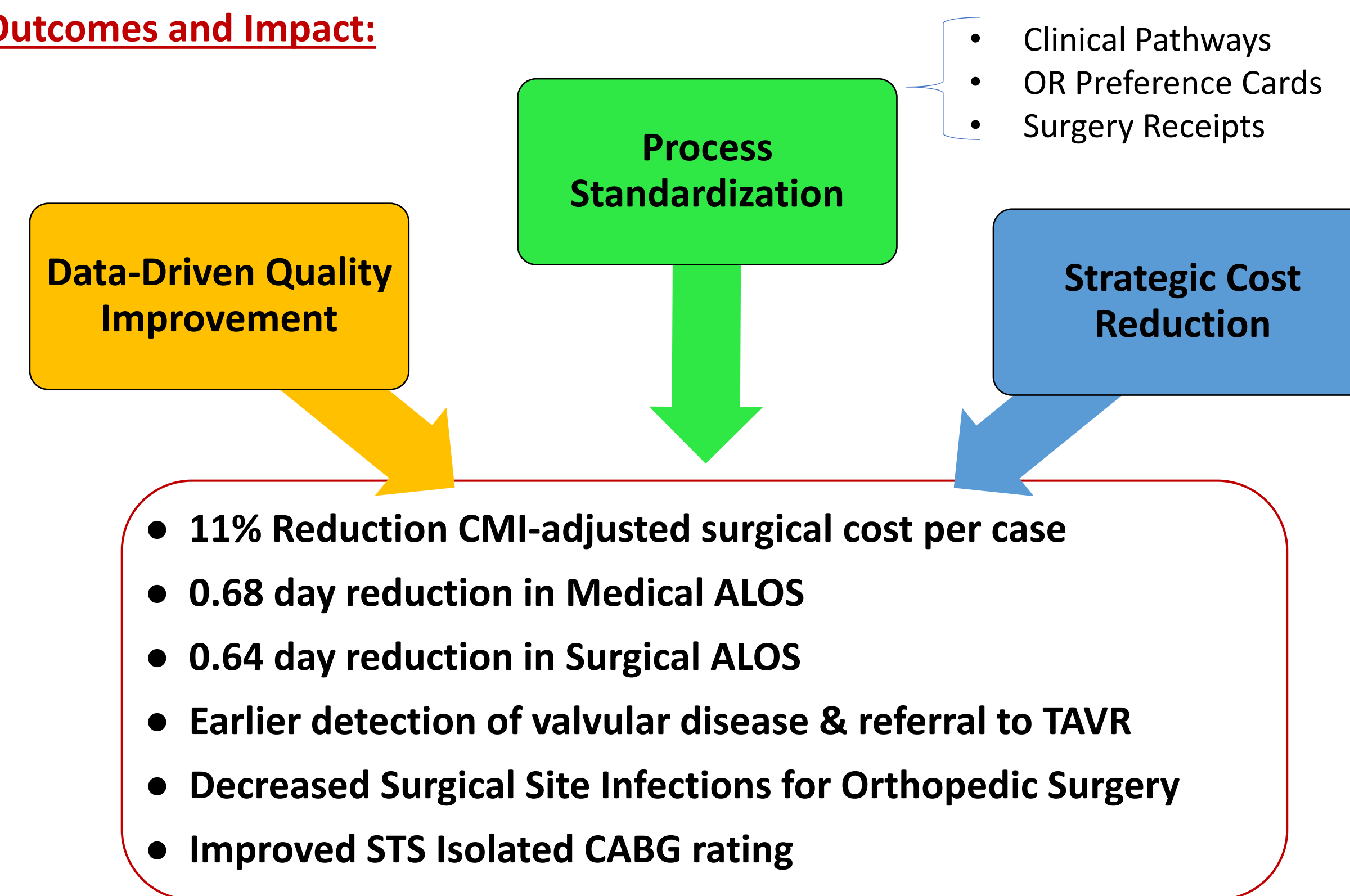
Intervention:



Important to Note:

- Vizient Expected LOS was initially used as the primary metric of opportunity
- A multidisciplinary approach was taken when involving Stakeholders
- Dashboards were key in tracking the progress & success of projects
- Value is found at the intersection of Cost & Quality

Outcomes and Impact:



Key Takeaways:

- A focus on quality will engage clinical teams and align with institutional goals.
- Clinical champions will lead projects that reduce variation and cut cost.
- Data from Performance Excellence and Business Intelligence teams is key to identifying greatest opportunities and to tracking progress.

CABG Surgery																	
Metrics	FY19	FY20	FY21	FY22 Goal	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FY22 YTD
Efficiency: Inpatient Volume & LOS (DRG - Vizient)																	
Inpatient Volume (Discharge Month)	158	179	195		14	12	11	15	10	9	8	13	10				102
Observed LOS	11.6	9.9	10.8	10.8	7.9	12.8	13.4	13.8	18.4	10.8	13.5	10.1	9.5				12.1
Expected LOS	11.1	11.0	11.6		10.7	12.0	12.6	10.9	11.1	10.1	13.0	10.5	9.7				11.1
Median LOS	10	9	9		8	12	13	11	12	9	8	8	9				10
Pre-Op LOS for Non-Elective Cases		4.0	4.5		2.3	4.0	5.1	6.3	7.6	5.6	6.6	3.3	3.3				5.0
Mortality																	
# of Deaths (in hospital)	5	1	3	0	0	0	0	0	0	0	0	0	0				0
% Mortality (in hospital)	3.2%	0.6%	1.5%	0	0%	0%	0%	0%	0%	0%	0%	0%	0%				0.0%
Transfer Mortality (in hospital)	0 (n=32)	1	1	0	0	0	0	0	0	0	0	0	0				0
# of Deaths (30-days post-surgery)	10	7	9	0	0	0	0	0	1	1	1	0	1				4
% Mortality (30-days post-surgery)	5.6%	4.2%	4.6%	0	0.0%	0.0%	0.0%	0.0%	14.3%	9.1%	10.0%	0.0%	8.3%				3.4%
Infection Prevention (Cases)																	
SSI Rate per 100 procedures (NHSN)	1.0%	0.6%	0.4%	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0
# of actual cases with SSI (NHSN)	2	2	1	0	0	0	0	0	0	0	0	0	0				0
# of surgeries (Surgery Month)	203	212	227		18	14	20	17	9	14	11	16	15				134



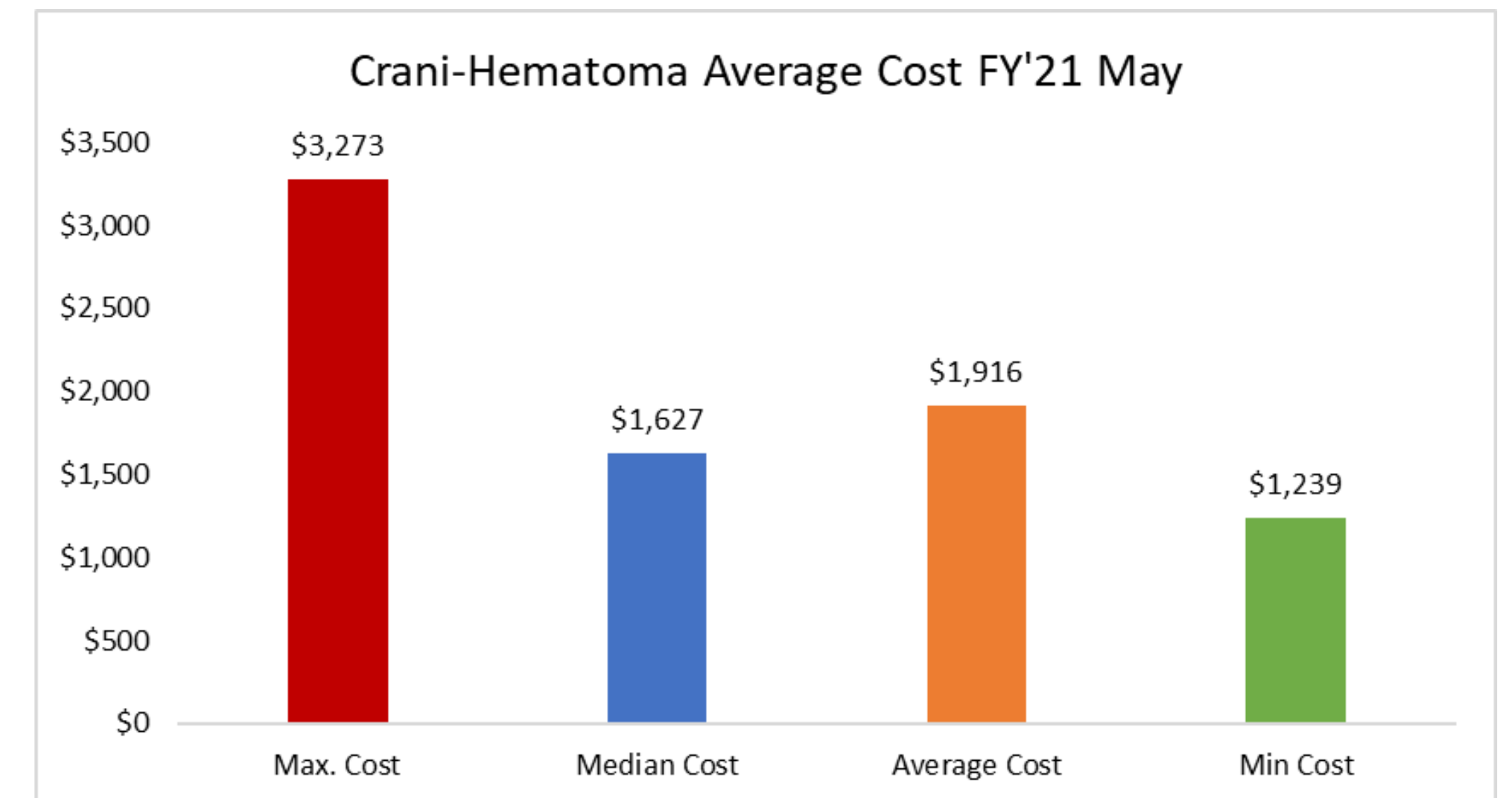
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STS Quality Metrics*																	
Star Rating	★		★★★														
Beta Blocker Pre-Op (within 24 hours)	141/179 78.8%	146/176 83.0%	161/177 91.0%	100%	16/16 100.0%	12/12 100.0%	12/14 85.7%	15/15 100.0%	7/7 100.0%	10/10 100.0%	9/9 100.0%	16/16 100.0%	12/12 100.0%				109/111 98.2%
Extubation <24hr	124/179 69.3%	144/180 80.0%	169/194 87.1%	87%	15/16 93.8%	7/13 53.8%	12/15 80.0%	13/17 76.5%	6/7 85.7%	8/11 72.7%	9/10 90.0%	15/16 93.8%	10/12 83.3%				95/117 81.2%
Extubation Time = 0			59/194 30.4%		4/16 25.0%	3/13 23.1%	2/15 13.3%	3/17 17.6%	0/7 0.0%	3/11 27.3%	4/10 40.0%	4/16 25.0%	2/12 16.7%				25/117 21.4%
Mean Ventilation Hours			20.7	< 24	14.0	21.5*	14.1*	21.8	33.0	27.2	18.7	9.8	18.3				18.6*
STS Morbidity Metrics*																	
Stroke/CVA		1/172 0.01%	3/194 1.55%	0%	0/16 0.0%	0/13 0.0%	0/15 0.0%	0/17 0.0%	0/7 0.0%	0/11 0.0%	0/10 0.0%	0/16 0.0%	1/12 8.3%				1/117 0.9%
Surgical Re-Exploration		4/172 2.33%	6/194 3.09%	0%	1/16 6.3%	0/13 0.0%	0/15 0.0%	1/17 5.9%	1/7 14.3%	0/11 0.0%	1/10 10.0%	0/16 0.0%	0/12 0.0%				4/117 3.4%
Deep Sternal Wound Infection Rate		3/172 1.74%	1/194 0.52%	0%	0/16 0.0%	0/13 0.0%	0/15 0.0%	0/17 0.0%	0/7 0.0%	0/11 0.0%	0/10 0.0%	0/16 0.0%	0/12 0.0%				0/117 0.0%
Postoperative Renal Failure		8/172 4.65%	5/194 2.58%	0%	0/16 0.0%	0/13 0.0%	2/15 13.3%	0/17 0.0%	0/7 0.0%	1/11 9.1%	0/10 0.0%	0/16 0.0%	1/12 8.3%				4/117 3.4%
Prolonged Ventilation		28/172 12.9%	25/194 12.9%	13%	1/16 6.3%	6/13 46.2%	3/15 20.0%	4/17 23.5%	1/7 14.3%	3/11 27.3%	1/10 10.0%	1/16 6.3%	2/12 16.7%				22/117 18.8%
Other Metrics (Cases)																	
Pathway Compliance		84%	92%	100%	86%	83%	73%	87%	70%	89%	75%	85%	80%				81%

*STS Metrics are non-risk adjusted

SURGEON PANEL1	# SURGERIES	ON PREF CARD (Y)	NOT ON PREF CARD (N)	TOTAL	% PREF CARD COMPLIANT
Surgeon A	1	16	1	17	94%
Surgeon B	1	16		16	100%
Surgeon C	1	25	7	32	78%
Surgeon D	3	69	10	79	87%
GRAND TOTAL	6	69	10	79	87%

Crani-Hematoma Average Cost FY'21 May

Surgeon	# SURGERIES	Max. Cost	Median Cost	Average Cost	Min Cost
GRAND TOTAL	6	\$3,273	\$1,627	\$1,916	\$1,239



ALOS Cost to Treat CABG with Cardiac Cath

Measure	FY 2018	FY 2019	FY 2020	FY 2020 Variance to FY 2019	Five Most Recent Months				
					May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020
Volume									
Discharged Cases	97	95	106		9	10	14	11	12
ALOS									
Med Surg ALOS	9.60	8.01	7.82	2.37%	7.22	7.40	6.86	7.09	8.25
ICU ALOS	4.60	4.58	3.75	18.12%	3.78	3.20	3.29	3.91	4.33
Total ALOS	14.20	12.59	11.57	8.10%	11.00	10.60	10.14	11.00	12.58
Vizient Expected ALOS	13.25	12.07	11.72		12.79	11.19	13.03	±	±
MC CMI									
MC CMI	6.87	6.77	6.78	0.15%	7.20	6.79	6.73	7.54	7.19
MC Complication Cases									
MCC	74	64	65		7	6	8	10	9
CC	±	±	±		±	±	±	±	±
None	23	31	41		2	4	6	1	3

This scorecard only includes DRG's 231, 232, 233, & 234. This scorecard excludes patients on ventilators. Other patients could have experienced these services but fell out of the targeted DRGs.

