Pre-Surgical Optimization in Patients with Diabetes. A Collaboration of the South Carolina Surgical Quality Collaborative and Diabetes Free South Carolina

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INTRODUCTION

Surgery patients with diabetes experience higher complication rates than patients without diabetes. The South Carolina Surgical Quality Collaborative (SCSQC) is a group of hospitals and state organizations dedicated to improving surgical outcomes. The Collaborative meets regularly to share best practices and methods to improve patient outcomes.

Overall	No Diabetes (n=45,306)	Insulin Diabetes (n=4,994)	Non-Insulin Diabetes (n=8,446)	p-value
Morbidity (%)	5.44	11.67	7.76	<.0001
SSI (%)	2.11	2.78	2.65	<.0001
Pulmonary (%)	1.38	3.18	2.11	<.0001
Renal (%)	1.29	3.34	1.86	<.0001
DVT (%)	2.07	6.55	3.17	<.0001
Stroke/Cardiac (%)	1.10	3.04	1.87	<.0001
Sepsis (%)	1.27	2.84	1.73	<.0001
Transfusion (%)	2.84	9.13	4.44	<.0001
Reop (%)	4.95	11.37	6.63	<.0001
ReturntoED (%)	7.08	10.97	8.49	<.0001
Readmit (%)	5.39	11.45	6.80	<.0001
Mortality (%)	1.11	2.78	1.88	<.0001
LOS, Mean	3.07	6.16	4.01	<.0001
LOS, Median	1.36	3.72	1.59	<.0001

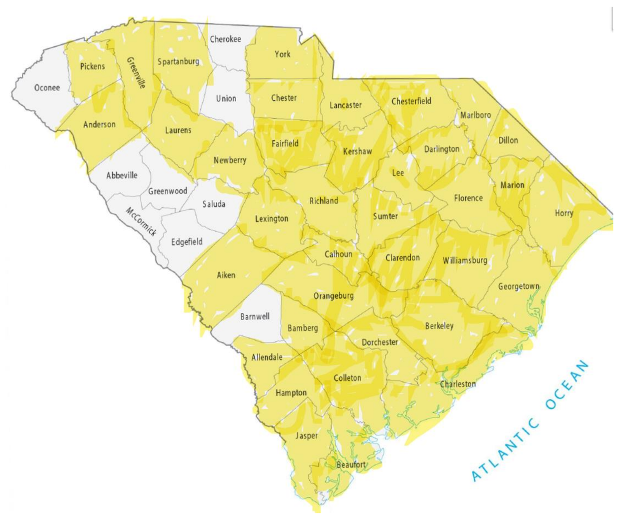
METHODS

SCSQC partnered with Diabetes Free South Carolina to develop a Pre-Surgical optimization process to help patients with diabetes "train for surgery". The goal is to improve overall health and glycemic control before surgery. The expected result is improved outcomes for surgery as tracked by SCSQC data abstraction, improved, glycemic control before and after surgery, and better overall health. We compared the initial cohort of patients enrolled and seen in the program with matched controls.

3:1 Matching with an absolute difference between propensity scores=0.01	DFSC n=53	nonDFSC n=147		
			p-value	Fisher p-value
Insulin_Diabetes, n (%)	19 (35.8%)	58 (39.5%)	0.6436	0.7424
Mobidity, n (%)	5 (9.4%)	9 (6.1%)	0.4179	0.5295
MSSI, n (%)	4 (7.5%)	3 (2%)	0.0615	0.0815
Pulmonary, n (%)	1 (1.9%)	3 (2%)	0.9453	1
Renal, n (%)	2 (3.8%)	3 (2%)	0.4885	0.6097
MDVT, n (%)	5 (9.4%)	9 (6.1%)	0.4179	0.5295
StrokeCardiac, n (%)	1 (1.9%)	0 (0%)	0.0950	0.265
Sepsis, n (%)	0 (0%)	1 (0.7%)	0.5472	1
transfusion, n (%)	5 (9.4%)	9 (6.1%)	0.4179	0.5295
DSCH_reop_WTIn30days, n (%)	1 (1.9%)	5 (3.4%)	0.5795	1
DSCH_returntoed_WTIn30days, n (%)	5 (9.4%)	11 (7.5%)	0.6535	0.768
DSCH_readmit_WTIn30days, n (%)	4 (7.5%)	12 (8.2%)	0.8873	1
LOS, Median (IQR; Range)	2.5 (1.4, 4.7; 0.4, 30.6)	1.7 (0.8, 3.6; 0.4, 20.6)	0.2628	.
LOS, Mean (SD)	4.1 (5.6)	2.9 (3)	0.1432	.

RESULTS

Preliminary data indicates improvement in reoperations, emergency department visits, readmissions, and mortality among patients participating in the presurgical diabetes program. Although statistical significance cannot yet be established due to limited sample size, continued program expansion is expected to further enhance outcome trends as it matures.



CONCLUSION

Patients with diabetes have high complication rates with surgery. Improving glycemic control and overall health before surgery may improve surgical outcomes.

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