SUPPLEMENTAL MATERIAL

Data S1.

Propensity Model

A non-parsimonious multivariate logistic regression was performed using gender, age, race/ethnicity, primary insurance type, income, presence of CHF, CAD, prior MI, prior CABG, AF, HTN, diabetes, renal disease, chronic lung disease, coagulopathy, smoking, Elixhauser's comorbidity (0,1,2,>2), hospital region, hospital type, hospital size, discharge weight as variables, to generate the propensity score[1]. NIS weights were used in the propensity estimation model. The propensity score (0 and 1) is obtained using an 8®1 Digit Match algorithm[2]. This algorithm matches a case to control at the 8th, 7th, 6th … decimal point, using a greedy matching algorithm. We then matched 2 non-cancer patients to every 1 cancer patient (2:1 match). We generated propensity scores on the 2012-2015 cohort of admissions for any aortic valve procedure among cancer patients to calculate the standardized morbidity ratio. This was used to present standardized associations between hospitalizations for TAVR, compared to SAVR, on in-hospital complications, discharge disposition, and length of stay.

Table 1. **Diagnosis codes used in the study.**

Procedure	ICD-9 code	CCS code	Comorbidity field from NIS
Cohort Creation			
Cancer	162.xx,174.xx,175.xx,153.xx,154.xx,185.xx,182.xx,183.xx,188.xx,189.xx,200.xx,201.xx,202.xx,204.xx,205.xx,206.xx,207.xx,208.xx,155.xx,156.xx,172.xx,193.xx,157.xx	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45	CM_LYMPH, CM_TUMOR*
Comorbities/co-diagnosis‡			
Cardiomyopathy	425.xx		
Known Coronary Artery Disease	414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07		
Prior Myocardial Infarction	412.xx		
Prior Percutaneous Coronary Intervention	V45.82		
Prior Coronary Bypass Grafting	V45.81		
Carotid Disease	433.10		
Prior TIA/Stroke	438.xx,V12.54		
Atrial Fibrillation	427.31		
Hypertension		98,99	CM_HTN_C
Diabetes		49,50	CM_DX,CM_DMCX

Obesity	278.xx		CM_OBESE
Chronic Kidney Disease		158	CM_RENLFAIL
Hyperlipidemia		53	
Peripheral Vascular Disease		114	CM_PERIVASC
Smoking	305.1x, V158.2		
Procedures			
In-Hospital Complications			
Acute Kidney Injury	584.5x, 584.6x, 584.7x, 584.8x, 584.9x	157	
Vascular Complication	900.xx, 901.xx, 902.xx, 903.xx, 904.xx, 998.2x, 999.2x, 997.7x, 447.0x, 868.04 AND 39.31, 39.41, 39.49, 39.52, 39.56, 39.57, 39.59, 39.79		
Stroke	431.xx, 435.0x, 435.1x, 435.2x, 435.3x, 435.8x, 435.9x, 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 997.01, 344.60, 344.61		
Myocardial Infarction	411.1x, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, 410.91,410.01		
Cardiogenic Shock	785.51		
Cardiac Arrest	427.5x, 427.41		
Blood Transfusion	99.00, 99.01, 99.02, 99.03, 99.04		
Pacemaker Implantation	37.80, 37.81, 37.82, 37.83, 00.50		

Table S2. Complications, length of stay and disposition after TAVR and SAVR, among cancer and non-cancer patients from 2012-2015. The absolute numbers are weighted.

	TAVR			SAVR		
	Cancer (N = 10,670)	**Non-Cancer (N = 36,625)**	**P-value**	**Cancer (N = 17,290)**	**Non-Cancer (N = 96,115)**	**P-value**
In-hospital Complications (N, %)						
Permanent pacemaker implantation	1,210 (11.3)	3,990 (10.9)	0.57	960 (5.6)	4,605 (4.8)	0.05
Transient ischemic attack/stroke	255 (2.4)	1,000 (2.7)	0.332	395 (2.3)	2,400 (2.5)	0.41
Cardiogenic shock	195 (1.8)	945 (2.6)	0.04	415 (2.4)	2,815 (2.9)	0.07
Cardiac arrest	360 (3.4)	1,365 (3.7)	0.46	490 (2.8)	2,910 (3.0)	0.55
Acute kidney injury	1,525 (14.3)	6,340 (17.3)	0.001	2,595 (15.0)	14,290 (14.9)	0.81
Blood transfusion	2,110 (19.8)	7,045 (19.2)	0.61	5,800 (33.6)	29,430 (30.6)	0.0004
Discharge Disposition and Outcomes (%)			0.008			<0.0001
Home Discharge	4,395 (41.2)	13,550 (37.1)		5,580 (32.3)	7,141 (37.2)	
Transfer to SNF or acute care hospital	3,305 (31.0)	11,560 (31.6)		6,785 (39.3)	35,105 (36.5)	
Home Health Care	2,720 (25.5)	10,340 (28.2)		4,635 (26.8)	23,305 (24.3)	
In-hospital Mortality	250 (2.3)	1,160 (3.2)	0.043	270 (1.6)	1,895 (2.0)	0.11
LOS after AVR, days (Mean ±SE)	5.0±0.1	5.4±0.1	<0.0001	7.1±0.1	7.2±0.04	<0.0001

LOS, length of stay; AVR, aortic valve replacement; TAVR, transcatheter aortic valve replacement; SAVR, surgical aortic valve replacement; SNF, skilled nursing facility.

Table S3. Standardized associations between hospitalizations for TAVR, compared to SAVR, on in-hospital complications, discharge disposition, and length of stay after valve replacement, among cancer and non-cancer patients who underwent TAVR.

	Breast Cancer [OR (95% CI)]	Lung Cancer [OR (95% CI)]	Colon Cancer [OR (95% CI)]	Prostate Cancer [OR (95% CI)]	Other Cancers [OR (95% CI)]
In-hospital Complications					
Permanent pacemaker implantation	1.97 (1.15, 3.37)	5.40 (1.80,16.24)	7.49 (2.76, 20.34)	3.74 (2.15, 6.51)	1.57 (1.11, 2.21)
Transient ischemic attack/stroke	1.44 (0.58, 3.55)	0.61 (0.17, 2.22)	1.65 (0.34, 7.01)	0.80 (0.38, 1.68)	0.71 (0.40, 1.26)
Cardiogenic shock	0.90 (0.33, 2.45)	0.31 (0.03, 3.05)	0.63 (0.18, 2.24)	0.41 (0.14, 1.19)	0.53 (0.30, 0.92)
Cardiac arrest	1.19 (0.52, 2.71)	2.41 (0.64, 9.18)	4.62 (0.97, 21.90)	1.49 (0.64, 3.46)	0.94 (0.57, 1.56)
Acute kidney injury	0.76 (0.50, 1.17)	0.57 (0.30, 1.06)	1.16 (0.69, 1.95)	0.62 (0.44, 0.87)	0.59 (0.47, 0.75)
Blood transfusion	0.45 (0.32, 0.62)	0.44 (0.25, 0.79)	0.51 (0.33, 0.78)	0.48 (0.36, 0.66)	0.41 (0.33, 0.50)
Discharge Disposition and Outcomes					
Home Discharge	1.97 (1.43, 2.71)	1.21 (0.74, 1.98)	1.89 (1.23, 2.90)	1.95 (1.50, 2.55)	1.91 (1.56, 2.33)
Transfer to SNF or acute care hospital	0.69 (0.51, 0.93)	0.67 (0.40, 1.12)	0.73 (0.49, 1.11)	0.66 (0.49, 0.88)	0.74 (0.61, 0.91)
Home Health Care	0.73 (0.54, 0.99)	1.25 (0.75, 2.09)	0.75 (0.50, 1.12)	0.71 (0.54, 0.93)	0.68 (0.56, 0.82)
In-hospital Mortality	1.86 (0.75, 4.62)	0.64 (0.10, 4.02)	0.96 (0.24, 3.90)	0.85 (0.35, 2.05)	1.51 (0.77, 2.96)
	Overall CIE (95% CI)	**Overall CIE (95% CI)**	**Overall CIE (95% CI)**	**Overall CIE (95% CI)**	**Overall CIE (95% CI)**
LOS after AVR, days	-1.78 (-1.13, -2.42)	-3.34 (-1.75, -4.93)	-2.05 (-0.82, -3.28)	-1.84 (-1.24, 2.43)	-1.37 (-0.87, 1.86)

OR, odds ratio; CI, confidence interval; CIE, change in estimate; LOS, length of stay; AVR, aortic valve replacement; TAVR, transcatheter aortic valve replacement; SAVR, surgical aortic valve replacement; SNF, skilled nursing facility.

Supplemental References:

1. Dugoff EH, Schuler M, Stuart EA. Generalizing observational study results: Applying propensity score methods to complex surveys. *Health Serv Res*. 2014;49:284-303.
2. Parsons LS. Performing a 1: N case-control match on propensity score. *proceedings of the 29th Annual SAS users group international conference*. 2004:165-129.