SUPPLEMENTARY DATA

Table S1. Definitions for TAVR and SGLT2i exposure

Component	Criterion type	Coding system	Code	Description
A. TAVR group definition				
TAVR procedure	Must have any of the following procedures on or after January 1, 2015	CPT	33361	TAVR with prosthetic valve; percutaneous femoral artery approach
		CPT	33362	TAVR with prosthetic valve; open femoral artery approach
		CPT	33363	TAVR with prosthetic valve; open axillary artery approach
		CPT	33364	TAVR with prosthetic valve; open iliac artery approach
		CPT	33365	TAVR with prosthetic valve; transaortic approach (eg, median sternotomy, mediastinotomy)
		CPT	33366	TAVR with prosthetic valve; transapical exposure (eg, left thoracotomy)
		CPT	33367	TAVR with prosthetic valve; CPB support with percutaneous peripheral cannulation
		CPT	33368	TAVR with prosthetic valve; CPB support with open peripheral cannulation
		CPT	33369	TAVR with prosthetic valve; CPB support with central cannulation
		ICD-10-PCS	02RF37Z	Replacement of aortic valve with autologous tissue substitute, percutaneous approach
		ICD-10-PCS	02RF38Z	Replacement of aortic valve with zooplastic tissue, percutaneous approach
		ICD-10-PCS	02RF3JZ	Replacement of aortic valve with synthetic substitute, percutaneous approach
		ICD-10-PCS	02RF3KZ	Replacement of aortic valve with nonautologous tissue substitute, percutaneous approach
B. SGLT2i exposure definition				
SGLT2i exposure	Any of the following medications prescribed	RxNorm	1545653	Empagliflozin
		RxNorm	1992672	Ertugliflozin
		RxNorm	1373458	Canagliflozin

		RxNorm	1488564	Dapagliflozin

Table S2. Baseline characteristics and associated codes

Variable	Coding system	Code	Description
A. Demographic variables			
Age	N/A	Current age	Age at time of data extraction
Age at index	N/A	AI	Age at index event date
Sex	N/A	F	Female
Sex	N/A	M	Male
Race	HL7	2054-5	Black or African American
Race	HL7	2106-3	White
Race	HL7	1002-5	American Indian or Alaska Native
Race	HL7	2076-8	Native Hawaiian or Other Pacific Islander
Race	HL7	2028-9	Asian
Race	HL7	2131-1	Other Race
Race	HL7	UNK	Unknown Race
Ethnicity	HL7	2186-5	Not Hispanic or Latino
Ethnicity	HL7	2135-2	Hispanic or Latino
Ethnicity	HL7	UN	Unknown Ethnicity
Diagnosis	Coding system	Code Range/Code	Description
B. Clinical diagnoses (ICD-10 codes)			
Hypertension	ICD-10	I10–I1A	Hypertensive diseases
Hypertension (legacy)	ICD-10	I10–I15	Deprecated classification pre-2018
Diabetes mellitus	ICD-10	E08–E13	Diabetes mellitus
Obesity	ICD-10	E65–E68	Overweight, obesity, and other hyperalimentation
Arterial disease	ICD-10	I70–I79	Arterial, arteriolar, and capillary diseases
Carotid stenosis	ICD-10	I65	Precerebral artery occlusion, no infarction
Venous disease	ICD-10	I80–I89	Diseases of veins, lymphatic vessels, and lymph nodes
COPD and CLRD	ICD-10	J40–J4A	Chronic lower respiratory diseases
Liver disease	ICD-10	K70–K77	Diseases of the liver
HFpEF	ICD-10	I50.3	Diastolic (congestive) heart failure
HFrEF	ICD-10	I50.2	Systolic (congestive) heart failure

HFmrEF	ICD-10	I50.4	Combined systolic and diastolic heart failure
CKD	ICD-10	N18	Chronic kidney disease
Chronic ischemia	ICD-10	I25	Chronic ischemic heart disease
TIA history	ICD-10	Z86.73	History of TIA or stroke without deficits
SCA history	ICD-10	Z86.74	History of sudden cardiac arrest
Other CV history	ICD-10	Z86.79	Other circulatory system disease history
Smoking	ICD-10	F17	Nicotine dependence
Dyslipidemia	ICD-10	E78	Lipoprotein metabolism disorders
CAD	ICD-10	I20–I25	Ischemic heart diseases
Stroke	ICD-10	I60–I69	Cerebrovascular diseases
C. Medication use (TrinetX drug classes)			
Statins	TriNetX	CV350	Antilipemic agents
Diuretics	TriNetX	CV700	Diuretics
Antiarrhythmics	TriNetX	CV300	Antiarrhythmics
Beta-blockers	TriNetX	CV100	Beta blockers and related drugs
Nitrates	TriNetX	CV250	Antianginal agents
ARBs	TriNetX	CV805	Angiotensin II receptor blockers
ACE Inhibitors	TriNetX	CV800	ACE inhibitors
Other antihypertensives	TriNetX	CV490	Other antihypertensive agents
Alpha-blockers	TriNetX	CV150	Alpha blockers and related agents
Combination therapy	TriNetX	CV400	Antihypertensive combinations
Digoxin	TriNetX	CV050	Digitalis glycosides
Vasodilators	TriNetX	CV500	Peripheral vasodilators
Renin inhibitors	TriNetX	CV806	Direct renin inhibitors
Calcium channel blockers	TriNetX	CV200	Calcium channel blockers
D. Laboratory variables (LOINC codes)			
eGFR (MDRD)	8001	Creatinine-based GFR estimate	mL/min/1.73 m²
BUN	9030	Urea nitrogen in serum/plasma	mg/dL
Hemoglobin	9014	Hemoglobin concentration in blood	g/dL
Hematocrit	9013	Hematocrit percentage	%
	9003	B-type natriuretic peptide	pg/mL
NT-proBNP	9072	N-terminal proBNP	pg/mL
HbA1c	9037	Hemoglobin A1c	%
LVEF	2003	Left ventricular ejection fraction	%
BMI	9083	Body mass index	kg/m²

Table S4. Baseline characteristics before matching

Variable	SGLT2i group (n = 3145)	Non-SGLT2i group (n = 55 048)	*P*
Demographics			
Age, y	75.2 ± 9.1	78.6 ± 8.7	< .001
Female sex	975 (31.0)	23010 (41.8)	< .001
Male sex	2044 (65.0)	29341 (53.3)	< .001
White	2466 (78.4)	44699 (81.2)	< .001
Black or African American	179 (5.7)	2697 (4.9)	.048
Asian	126 (4.0)	1541 (2.8)	< .001
American Indian or Alaska Native	9 (0.3)	55 (0.1)	.020
Other race	82 (2.6)	936 (1.7)	<.001
Unknown race	258 (8.2)	4844 (8.8)	.217
Hispanic or Latino	148 (4.7)	2037 (3.7)	.007
Not Hispanic or Latino	2510 (79.8)	45029 (81.8)	.005
Unknown ethnicity	487 (15.5)	7927 (14.4)	.107
Other race	82 (2.6)	936 (1.7)	< .001
Unknown race	258 (8.2)	4844 (8.8)	.217
BMI, kg/m²	30.0 ± 6.9	29.1 ± 6.7	< .001
Comorbidities			
Hypertensive diseases	2746 (87.3)	45635 (82.9)	< .001
Diabetes mellitus	1984 (63.1)	18441 (33.5)	< .001
Obesity	1283 (40.8)	13707 (24.9)	< .001
Chronic respiratory disease	1148 (36.5)	16790 (30.5)	< .001
Chronic kidney disease	1396 (44.4)	18331 (33.3)	< .001
Chronic ischemic heart disease	2620 (83.3)	41176 (74.8)	< .001
Systolic HF	1623 (51.6)	11175 (20.3)	< .001
Diastolic HF	1604 (51.0)	24441 (44.4)	< .001
Combined systolic & diastolic HF	966 (30.7)	7376 (13.4)	< .001
Nicotine dependence	450 (14.3)	4459 (8.1)	< .001
Lipid disorders	2554 (81.2)	39635 (72.0)	< .001
Cerebrovascular diseases	940 (29.9)	16735 (30.4)	.489

History of TIA/cerebral infarction	387 (12.3)	5395 (9.8)	< .001
History of sudden cardiac arrest	41 (1.3)	330 (0.6)	< .001
History of other circulatory disease	443 (14.1)	4184 (7.6)	< .001
Diseases of arteries	1661 (52.8)	27359 (49.7)	.001
Occlusion/stenosis of precerebral arteries	670 (21.3)	12331 (22.4)	.136
Diseases of veins/lymphatics	660 (21.0)	8147 (14.8)	< .001
Diseases of liver	566 (18.0)	5890 (10.7)	< .001

Medications			
Statin use	2730 (86.8)	37873 (68.8)	< .001
Beta-blocker use	2617 (83.2)	34515 (62.7)	< .001
Diuretic use	2702 (85.9)	33634 (61.1)	< .001
ACE inhibitor or ARB use	2743(87.2)	30606 (55.6)	< .001
Other antihypertensives	1249 (39.7)	13487 (24.5)	< .001
Alpha-blockers	840 (26.7)	10074 (18.3)	< .001
Calcium channel blockers	2025 (64.4)	30111 (54.7)	< .001
Digitalis glycosides	258 (8.2)	2862 (5.2)	< .001

Laboratory values			
Hemoglobin A1c	6.7 ± 1.5	6.1 ± 1.2	< .001
Glomerular filtration rate	61.8 ± 25.1	59.8 ± 24.9	< .001
Urea nitrogen, mg/dL	26.7 ± 13.7	24.8 ± 13.3	< .001
Hemoglobin, g/dL	12.0 ± 2.3	12.2 ± 2.0	< .001
Hematocrit	37.0 ± 7.0	37.2 ± 6.1	< .001
BNP, pg/mL	1484.0 ± 3649.7	1169.7 ± 4072.9	.004
NT-proBNP, pg/mL	5990.1 ± 8748.0	4968.5 ± 9638.3	< .001
LVEF	48.4 ± 17.5	56.4 ± 13.9	< .001

The data are expressed as No. (%) or mean ± standard deviation.

Table S5. All-cause mortality at 3, 6, and 12 months and 5 years

Timepoint	SGLT2i cohort mortality	Non-SGLT2i antihyperglycemics mortality	Hazard ratio [95%CI]	*P*
3 mo	51 (3.5)	71 (4.8)	0.75 [0.52-.07]	.108
6 mo	78 (5.3)	101 (6.8)	0.81 [0.60-1.09]	.161
12 mo	112 (7.6)	153 (10.4)	0.78 [0.61-0.99]	.044
5 y	167 (11.3)	298 (20.2)	0.69 [0.57-0.83]	< .001

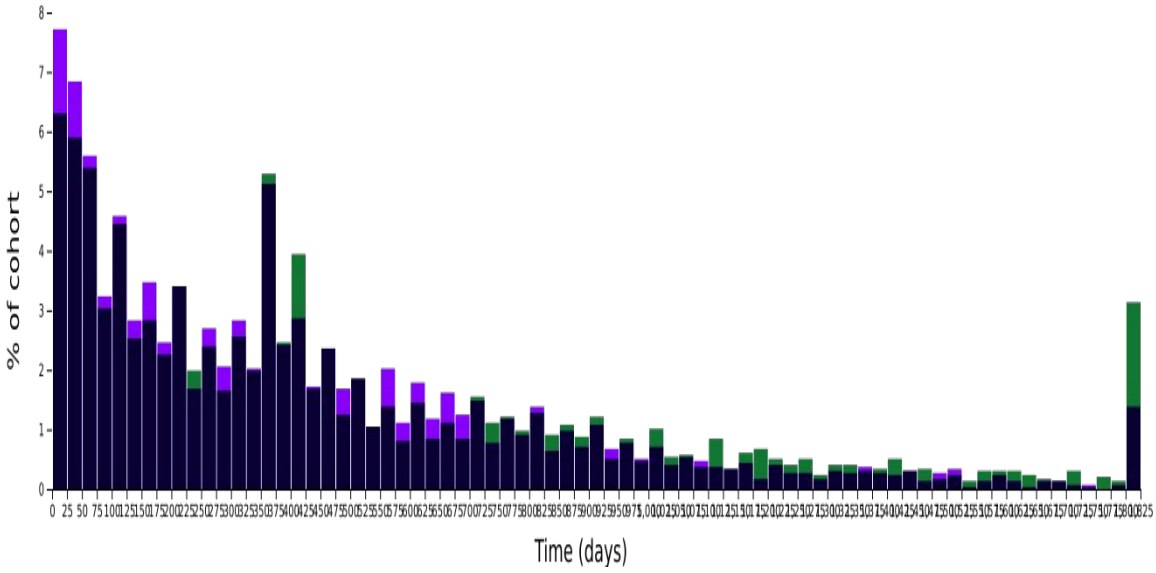
Unless otherwise indicated, the data are expressed as No. (%).

Table S6. Secondary outcomes

Outcome	Time	SGLT2i cohort	Non-SGLT2i antihyperglycemics cohort	Odds ratio (95%CI)	*P*
Heart failure	3 mo	73 (4.9)	54 (3.7)	1.37 (0.96-1.96)	.085
	6 mo	81 (5.5)	63 (4.3)	1.30 (0.93-1.83)	.124
	12 mo	88 (6)	72(4.9)	1.24 (0.90-1.70)	.193
	5 y	96 (6.5)	86 (5.8)	1.12 (0.83-1.52)	.444
ED visits or hospitalization	3 mo	469 (31.8)	694 (47.1)	0.53 (0.45-0.61)	< .001
	6 mo	521 (35.3)	758 (51.4)	0.52 (0.45-0.60)	< .001
	12 mo	587 (39.8)	821 (55.7)	0.53 (0.46-0.61)	< .001
	5 y	681 (46.2)	890 (60.3)	0.56 (0.49-0.65)	< .001
Ventricular tachycardia	3 mo	19 (1.5)	26 (1.9)	0.76 (0.42-1.38)	.360
	6 mo	23 (1.8)	36 (2.7)	0.66 (0.39-1.12)	.120
	12 mo	37 (2.9)	43(3.2)	0.89(0.57-1.40)	.619
	5 y	54 (4.2)	58 (4.3)	0.97 (0.66-1.41)	.867
Atrial fibrillation/flutter	3 mo	52 (6.6)	62 (8.1)	0.80 (0.54-1.17)	.246
	6 mo	58 (7.4)	73 (9.6)	0.75 (0.52-1.08)	.116
	12 mo	68 (8.6)	92 (12.1)	0.67 (0.50-0.96)	.026
	5 y	92 (11.7)	123 (16.2)	0.69 (0.51-0.92)	.011
Acute MI	3 mo	94 (6.4)	117 (7.9)	0.79 (0.60-1.05)	.100
	6 mo	105 (7.1)	137 (9.3)	0.75 (0.57-0.98)	.032
	12 mo	134 (9.1)	165(11.2)	0.79(0.62-1.01)	.059
	5 y	165 (11.2)	223 (15.1)	0.71(0.57-0.88)	.002
Stroke	3 mo	58(3.9)	67(4.5)	0.86(0.61-1.22)	.411
	6 mo	72 (4.9)	86 (5.8)	0.84(0.62-1.14)	.252

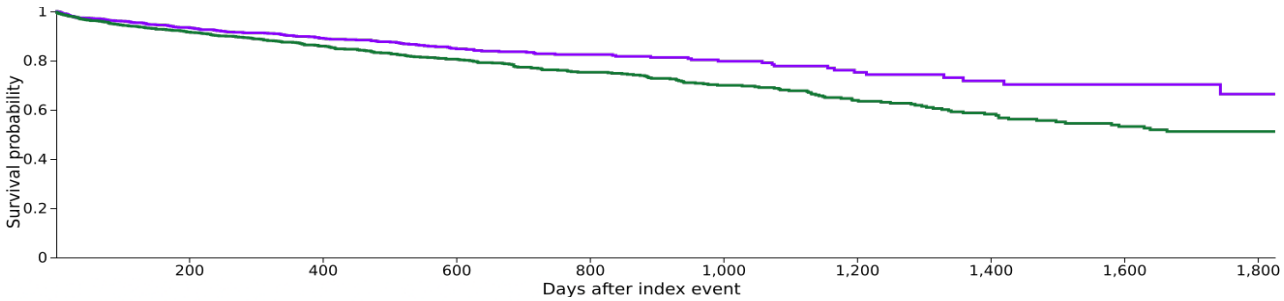
	12 mo	88 (6)	112 (7.6)	0.77 (0.58-1.03)	.079
	5 y	114 (7.7)	148 (10)	0.75 (0.58-0.97)	.028
AKI	3 mo	166 (11.3)	185 (12.5)	0.88 (0.71-1.11)	.280
	6 mo	195 (13.2)	235 (15.9)	0.80 (0.66-0.99)	.037
	12 mo	239 (16.2)	299 (20.3)	0.76 (0.63-0.92)	.004
	5 y	303 (20.5)	382 (25.9)	0.74(0.62-0.89)	.001
Dialysis	3 mo	10 (0.7)	16 (1.2)	0.56 (0.25-1.24)	.148
	6 mo	11 (0.8)	22 (1.7)	0.45 (0.22-0.93)	.026
	12 mo	16 (1.1)	28(2.2)	0.51 (0.28-0.95)	.030
	5 y	28 (2.0)	46 (3.6)	0.54 (0.34-0.87)	.010

Figure S1. Distribution of follow-up durations after TAVR in patients with and without SGLT2i.



Bar graph displaying the percentage of patients in each cohort with available follow-up data at each time point after transcatheter aortic valve replacement (TAVR). Purple bars represent the SGLT2i cohort, and green bars represent the non-SGLT2i cohort. This figure illustrates the distribution of follow-up duration and highlights differences in longitudinal data availability between the 2 groups.

Figure S2. Kaplan-Meier curve for all-cause mortality up to 5 years following transcatheter aortic valve replacement (TAVR) in patients with heart failure on SGLTi vs non-SGLT2i antihyperglycemics. Log-rank test: chi-square = 15.02, degrees of freedom = 1, *P* < .001.



Number at Risk

	90	180	365	1800
SGLT2i	1,424	1,397	1,363	1,308
Non-SGLT2i Antihyper-glycemics	1,404	1,374	1,322	1,177