

## Supplementary Appendix

**Comparative effectiveness and safety of SGLT2 inhibitors vs. GLP-1 receptor agonists in older adults**

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## Table of Contents

eTable 1. Definitions of inclusion and exclusion criteria.....	4
eTable 2. Outcome definitions .....	6
eTable 3. Baseline characteristics of patients initiating SGLT2i vs. GLP-1RA before and after 1:1 PS-matching .....	8
eTable 4. Individual SGLT2i and GLP-1RA agents included in the analysis after PS-matching .	14
eTable 5. Follow-up and censoring reasons after PS-matching <sup>1</sup> .....	15
eTable 6. Number of events, person-time, and incidence rates for genital infection outcome in 1:1 PS-matched initiators of SGLT2i vs GLP-1RA by gender <sup>1</sup> .....	16
eTable 7. Number of events, person-time, and incidence rates for cardiovascular effectiveness outcomes in 1:1 PS-matched initiators of SGLT2i vs GLP-1RA – ITT analysis <sup>1</sup> .....	17
eFigure 1. Study flowchart .....	18
eFigure 2. Propensity score distributions of SGLT2i vs GLP-1RA initiators, before and after 1:1 propensity score matching .....	19
eFigure 3. Primary outcomes in subgroups of 1:1 PS-matched initiators of SGLT2i vs GLP-1RA .....	20

**eTable 1. Definitions of inclusion and exclusion criteria**

<b>Inclusion/exclusion criteria</b>	<b>Codes</b>	<b>Assessment period</b>	<b>Care Setting</b>	<b>Position</b>
Diabetes type 2	<u>ICD-9 DX</u> : 250.*0, 250.*2 <u>ICD-10 DX</u> : E11.***	[-365, 0]	Inpatient, Outpatient, Carrier Claims	Any
Diabetes type 1	<u>ICD-9 DX</u> : 250.*1, 250.*3 <u>ICD-10 DX</u> : E10.***	[-365, 0]	Inpatient, Outpatient, Carrier Claims	Any
Secondary diabetes	<u>ICD-9 DX</u> : 249.** <u>ICD-10 DX</u> : E08.***, E09.***, E13.***	[-365, 0]	Inpatient, Outpatient, Carrier Claims	Any
Gestational diabetes	<u>ICD-9 DX</u> : 648.8* <u>ICD-10 DX</u> : O24.41*-O24.43*, O99.81*	[-365, 0]	Inpatient, Outpatient, Carrier Claims	Any
Malignancy	<u>ICD-9 DX</u> : 140.**-208.** (except 173.**, non-melanoma skin cancer) <u>ICD-10 DX</u> : C00.**-C96.** (except C44.**, non-melanoma skin cancer), D03.**, D45	[-inf, 0]	Inpatient, Outpatient, Carrier Claims	Any
End stage renal disease	<b>Occurrence of two of the following ESRD/Dialysis codes at least 30 days apart -</b> <u>ICD-9 DX</u> : 585.5, 585.6, V56.8, V45.1, V56.0 <u>ICD-10 DX</u> : N18.5, N18.6, Z49.31, Z49.32, Z99.2 <u>ICD-9 PX</u> : 39.95, 54.98 <u>ICD-10 PX</u> : 3E1M39Z, 5A1D00Z, 5A1D60Z <u>CPT-4/HCPCS</u> (Inpatient care setting only): 50360, 50365, 50380, 90920, 90921, 90924, 90925, 90935, 90937, 90940, 90945, 90947, 90957, 90958, 90959, 90960, 90961, 90962, 90965, 90966, 90969, 90970, 90989, 90993, 90999, 99512, 99559, G0257, G0314, G0315, G0316, G0317, G0318, G0319, G0322, G0323, G0326, G0327, S9335, S9339	[-inf, 0]	Inpatient, Outpatient, Carrier Claims	Any
	<b>Occurrence of one of the following Kidney transplant code:</b> <u>ICD-9 DX</u> : 996.81, V42.0 <u>ICD-10 DX</u> : T86.1*, Z48.22, Z94.0 <u>ICD-9 PX</u> : 55.6, 55.69 <u>ICD-10 PX</u> : 0TY***** <u>CPT-4</u> (Inpatient care setting only): 50360, 50365	[-inf, 0]	Inpatient, Outpatient, Carrier Claims	Any
Human immunodeficiency virus	<u>ICD-9 DX</u> : 042, 079.53, V08 <u>ICD-10 DX</u> : B20, B97.35, Z21 <u>Prescriptions</u> : Abacavir, Amprenavir, Atazanavir, Darunavir, Delavirdine, Didanosine, Efavirenz, Emtricitabine, Enfuvirtide, Etravirine, Fosamprenavir, Indinavir, Lamivudine-Zidovudine, Maraviroc, Nelfinavir, Nevirapine, Raltegravir, Rilpivirine, Ritonavir, Ritonavir-Lopinavir, Saquinavir, Stavudine, Tipranavir, Zalcitabine, Zidovudine	[-inf, 0]	Inpatient, Outpatient, Carrier Claims OR Prescription Claims	Any
Organ transplant	<u>ICD-9 DX</u> : 996.8*, E878.0, V42.** (except V42.2*-V42.5*), V58.44 <u>ICD-10 DX</u> : T86.*** (except T86.82*, T86.84*), Y83.0, Z48.2*, Z94.** (except Z94.5-Z94.7) <u>ICD-9 PX</u> : 33.5x, 33.6x, 37.51, 41.0x, 46.97, 50.5x, 52.8x, 55.6x <u>ICD-10 PX</u> : 02YA***, 0BYC***, 0DY8***, 0DYE***, 0FSG***, 0FY****, 0TS00ZZ, 0TS10ZZ, 0TY****, 30230AZ, 30230G*, 30230X*, 30230Y*, 30233AZ, 30233G*, 30233X*, 30233Y*, 30240AZ, 30240G*, 30240X*, 30240Y*, 30243AZ, 30243G*, 30243X*,	[-inf, 0]	Inpatient, Outpatient, Carrier Claims OR Prescription Claims	Any

	30243Y*, 30250G*, 30250X*, 30250Y*, 30253G*, 30253X*, 30253Y*, 30260G*, 30260X*, 30260Y*, 30263G*, 30263X*, 30263Y*, 3E03005, 3E030U*, 3E03305, 3E033U*, 3E04005, 3E04305, 3E05005, 3E05305, 3E06005, 3E06305, 3E0J3U*, 3E0J7U*, 3E0J8U* CPT-4: 32851-32854, 33935, 33945, 38240, 38241, 44135, 44136, 47135, 47136, 48554, 48556, 50360, 50365, 50370, 50380			
Myocardial infarction	ICD-9 DX: 410.** (except 410.*2) ICD-10 DX: I21.0-I21.4, I22.*	[-60, 0]	Inpatient	Any
Stroke	ICD-9 DX: 430.**, 431.**, 433.*1, 434.** (excluding 434.x0), 436.** ICD-10 DX: I60.**, I61.*, I63.** (except I63.**3, I63.9)	[-60, 0]	Inpatient	Primary
Heart failure hospitalization	ICD-9 DX: 398.91, 402.*1, 404.*1, 404.*3, 428.** ICD-10 DX: I09.81, I11.0, I13.0, I13.2, I50.**	[-60, 0]	Inpatient	Primary
Angina requiring hospitalization	ICD-9 DX: 411.** ICD-10 DX: I20.0, I24.**, I25.110, I25.7*0	[-60, 0]	Inpatient	Primary
Transient ischemic attack	ICD-9 DX: 435.** ICD-10 DX: G45.* (except G45.3, G45.4)	[-60, 0]	Inpatient	Primary
Coronary revascularization	ICD-9 PX: 00.66, 36.03-36.34, (except 36.04) ICD-10 PX: 021K*Z5, 021L*Z5, 0270***, 0271***, 0272***, 0273***, 02C0*Z6, 02C03ZZ, 02C1*Z6, 02C13ZZ, 02C2*Z6, 02C23ZZ, 02C3*Z6, 02C33ZZ, 02QA3ZZ, 02QA4ZZ, 02QB3ZZ, 02QB4ZZ, 02QC3ZZ, 02QC4ZZ CPT-4: 33140, 33141, 92920, 92921, 92924, 92925, 92937, 92938, 92941, 92943, 92944, 92973, 92982, 92984, 92995, 92996, 33510-33536, 33545, 33572	[-60, 0]	Inpatient	Any

**eTable 2. Outcome definitions**

<b>Outcome</b>	<b>Codes</b>	<b>Care Setting</b>	<b>Position</b>
Myocardial infarction	ICD-9 DX: 410.** (except 410.*2) ICD-10 DX: I21.0-I21.4, I22.*	Inpatient	Primary/Secondary
Ischemic or hemorrhagic stroke	ICD-9 DX: 430.**, 431.**, 433.*1, 434.** (excluding 434.x0), 436.** ICD-10 DX: I60.**, I61.*, I63.***	Inpatient	Primary
Cardiovascular death	ICD-10 NDI Cause of Death: I00.**-I99.**	NDI	ICD-10 Cause of Death Code
Hospitalization for heart failure	ICD-9 DX: 398.91, 402.*1, 404.*1, 404.*3, 428.** ICD-10 DX: I09.81, I11.0, I13.0, I13.2, I50.**	Inpatient	Primary
Bone fracture	<p><b>Hip fracture diagnosis</b> Occurrence of Diagnosis Code 1 AND Procedure Code 2 on the same claim: <b>Diagnosis Code 1</b> ICD-9 DX: 820.**, 733.14, 733.96 ICD-10 DX: M80.05*A, M80.85*A, M84.359A, M84.451A, M84.452A, M84.459A, M84.551A, M84.552A, M84.553A, M84.559A, M84.651A, M84.652A, M84.653A, M84.659A, S72.0**A, S72.0**B, S72.0**C, S72.1**A, S72.1**B, S72.1**C, S72.2*XA, S72.2*XB, S72.2*XC, S79.0**A</p> <p><b>Procedure Code 1</b> ICD-9 PX: 78.55, 79.05, 79.15, 79.25, 79.35, 79.65 ICD-10 PX: 0QB60ZZ, 0QB70ZZ, 0QB80ZZ, 0QB90ZZ, 0QBB0ZZ, 0QBC0ZZ, 0QH6*4Z, 0QH6*6Z, 0QH7*4Z, 0QH7*6Z, 0QH8*4Z, 0QH8*6Z, 0QH9*4Z, 0QH9*6Z, 0QHB*4Z, 0QHB*6Z, 0QHC*4Z, 0QHC*6Z, 0QS6***, 0QS7***, 0QS8***, 0QS9***, 0QSB***, 0QSC*** CPT-4: 27230, 27232, 27235-6, 27238, 27240, 27244-6, 27248, 27267, 27268, 27269, 27125, 27130</p>	Inpatient	Any
	<p><b>Pelvis fracture diagnosis</b> ICD-9 DX: 808.**, 733.98 ICD-10 DX: M84.350A, S32.3**A, S32.3**B, S32.4**A, S32.4**B, S32.5**A, S32.5**B, S32.6**A, S32.6**B, S32.8**A, S32.8**B, S32.9XXA, S32.9XXB CPT-4: 27193, 27194, 27200, 27202, 27215, 27216, 27217, 27218, 27220, 27222, 27226, 27227, 27228</p>	Inpatient, Outpatient, Carrier Claims	Any
	<p><b>Radius/ulna fracture diagnosis</b> Occurrence of Diagnosis Code 1 AND Procedure Code 2 occurring within 30 days after Diagnosis Code 1: <b>Diagnosis Code 1</b> ICD-9 DX: 813.**, 733.12 ICD-10 DX: M80.03*A, M80.83*A, M84.43*A, M84.53*A, M84.63*A, S52.**A, S52.**B, S52.**C, S59.0**A, S59.1**A, S59.2**A</p> <p><b>Procedure Code 2</b> ICD-9 PX: 78.53, 79.02, 79.12, 79.22, 79.32, 79.62 ICD-10 PX: 0PBH0ZZ, 0PBH0ZZ, 0PBK0ZZ, 0PBL0ZZ, 0PHH*4Z, 0PHH*6Z, 0PHJ*4Z, 0PHJ*6Z, 0PHK*4Z, 0PHK*6Z, 0PHL*4Z, 0PHL*6Z, 0PSH***, 0PSJ***, 0PSK***, 0PSL*** CPT-4: 24620, 24625, 24635, 24650, 24655, 24660, 24665-6, 24670, 24680, 24685, 25500, 25505, 25510, 25515, 25530, 25535, 25540, 25545, 25560, 25565, 25570, 25575, 25600, 25605, 25610-1, 25615, 25620, 25650</p>	Inpatient, Outpatient, Carrier Claims	Any
	<p><b>Humerus fracture diagnosis</b> Occurrence of Diagnosis Code 1 AND Procedure Code 2 occurring within 30 days after Diagnosis Code 1:</p>	Inpatient, Outpatient, Carrier Claims	Any

	<p><b>Diagnosis Code 1</b>  <u>ICD-9 DX:</u> 812.** , 733.11  <u>ICD-10 DX:</u> M80.02*A, M80.82*A, M84.42*A, M84.52*A, M84.62*A, S42.2**A, S42.2**B, S42.3**A, S42.3**B, S42.4**A, S42.4**B, S42.9**A, S42.9**B, S49.0**A, S49.1**A</p> <p><b>Procedure Code 1</b>  <u>ICD-9 PX:</u> 78.52, 79.01, 79.11, 79.21, 79.31, 79.61  <u>ICD-10 PX:</u> 0PBC0ZZ", 0PBD0ZZ, 0PBF0ZZ, 0PBG0ZZ, 0PHC*4Z, 0PHC*6Z, 0PHD*4Z, 0PHD*6Z, 0PHF*4Z, 0PHF*6Z, 0PHG*4Z, 0PHG*6Z, 0PSC***, 0PSD***, 0PSF***, 0PSG***  <u>CPT-4:</u> 23600, 23605, 23610, 23615, 23620, 23625, 23630, 23665, 23670, 23680, 24500, 24505, 24506, 24510, 24515, 24530, 24531, 24535, 24536, 24538, 24540, 24542, 24545, 24560, 24565, 24570, 24575, 24581, 24583, 24585-8, 24516</p>		
Diabetic ketoacidosis	<p><u>ICD-9 DX:</u> 250.1*  <u>ICD-10 DX:</u> E10.1*, E13.1*, E11.1*</p>	Inpatient	Any
Lower-limb amputation	<p><u>ICD-9 PX:</u> 84.10-84.18  <u>ICD-10 PX:</u> 0Y6***  <u>CPT-4:</u> 27590-27596 (above knee), 27598 (knee), 27880-27889, 28800- 28825 (below knee)</p>	Inpatient, Outpatient	Any
Acute kidney injury	<p><b>Diagnosis Code 1</b>  <b>Code 1:</b>  <u>ICD-9 DX:</u> 584.5*, 584.8*, 584.9*  <u>ICD-10 DX:</u> N17.0*, N17.8*, N17.9*</p>	Inpatient	Any
Severe urinary tract infection	<p><u>ICD-9 DX:</u> 599.0*, 595.** (cystitis), 590.** (pyelonephritis), 597.** (ureteritis);  <u>ICD-10 DX:</u> N39.0, N30.** (cystitis), N10-N12, N13.6 (pyelonephritis), N34.** (ureteritis)</p>	Inpatient	Primary
Genital Infections	<p><u>ICD-9 DX:</u> 112.1, 112.2, 616.1*, 605, 607.1  <u>ICD-10 DX:</u> B37.3, B37.42, B37.49, N47.1-N47.8, N48.1, N76.0-N76.3, N77.1,</p>	Inpatient, Outpatient, Carrier Claims	Any

**eTable 3. Baseline characteristics of patients initiating SGLT2i vs. GLP-1RA before and after 1:1 PS-matching**

Baseline characteristics	BEFORE PS-MATCHING			AFTER PS-MATCHING		
	SGLT2i (N = 72,900)	GLP-1RA (N = 64,417)	St. Diff.	SGLT2i <sup>1</sup> (N = 45,047)	GLP-1RA <sup>1</sup> (N = 45,047)	St. Diff.
<b>Demographics</b>						
Age; mean (sd)	71.98 (5.28)	71.43 (4.94)	0.11	71.56 (5.01)	71.56 (5.03)	0.00
Age categories						
66 - 74; n (%)	53,726 (73.7%)	49,822 (77.3%)	-0.08	34,528 (76.6%)	34,468 (76.5%)	0.00
>= 75; n (%)	19,174 (26.3%)	14,595 (22.7%)	0.08	10,519 (23.4%)	10,579 (23.5%)	0.00
Male; n (%)	35,982 (49.4%)	28,044 (43.5%)	0.12	20,541 (45.6%)	20,720 (46.0%)	-0.01
Race/ethnicity						
White; n (%)	58,251 (79.9%)	54,125 (84.0%)	-0.11	37,588 (83.4%)	37,520 (83.3%)	0.00
Black; n (%)	5,281 (7.2%)	4,997 (7.8%)	-0.02	3,396 (7.5%)	3,388 (7.5%)	0.00
Asian; n (%)	3,434 (4.7%)	1,433 (2.2%)	0.14	1,138 (2.5%)	1,177 (2.6%)	-0.01
Hispanic; n (%)	2,601 (3.6%)	1,719 (2.7%)	0.05	1,284 (2.9%)	1,300 (2.9%)	0.00
North American Native; n (%)	277 (0.4%)	290 (0.5%)	-0.01	188 (0.4%)	190 (0.4%)	0.00
Other/Unknown; n (%)	3,056 (4.2%)	1,853 (2.9%)	0.07	1,453 (3.2%)	1,472 (3.3%)	-0.01
Region						
Northeast; n (%)	13,942 (19.1%)	9,905 (15.4%)	0.10	7,451 (16.5%)	7,530 (16.7%)	-0.01
South; n (%)	31,700 (43.5%)	28,244 (43.8%)	-0.01	19,997 (44.4%)	19,844 (44.1%)	0.01
Midwest; n (%)	14,047 (19.3%)	14,751 (22.9%)	-0.09	9,776 (21.7%)	9,703 (21.5%)	0.00
West; n (%)	13,211 (18.1%)	11,517 (17.9%)	0.01	7,823 (17.4%)	7,970 (17.7%)	-0.01
Calendar time						
Q2 2013; n (%)	327 (0.4%)	3,723 (5.8%)	-0.32	327 (0.7%)	381 (0.8%)	-0.01
Q3 2013; n (%)	890 (1.2%)	3,255 (5.1%)	-0.22	888 (2.0%)	957 (2.1%)	-0.01
Q4 2013; n (%)	1,269 (1.7%)	3,555 (5.5%)	-0.21	1,252 (2.8%)	1,229 (2.7%)	0.01
Q1 2014; n (%)	2,812 (3.9%)	4,327 (6.7%)	-0.13	2,436 (5.4%)	2,415 (5.4%)	0.00
Q2 2014; n (%)	3,234 (4.4%)	4,300 (6.7%)	-0.10	2,725 (6.0%)	2,653 (5.9%)	0.00
Q3 2014; n (%)	4,903 (6.7%)	3,635 (5.6%)	0.05	3,014 (6.7%)	3,005 (6.7%)	0.00
Q4 2014; n (%)	5,439 (7.5%)	3,532 (5.5%)	0.08	3,039 (6.7%)	3,033 (6.7%)	0.00
Q1 2015; n (%)	7,803 (10.7%)	4,220 (6.6%)	0.15	3,708 (8.2%)	3,776 (8.4%)	-0.01
Q2 2015; n (%)	8,354 (11.5%)	5,049 (7.8%)	0.13	4,396 (9.8%)	4,387 (9.7%)	0.00
Q3 2015; n (%)	6,549 (9.0%)	4,733 (7.3%)	0.06	3,943 (8.8%)	3,910 (8.7%)	0.00
Q4 2015; n (%)	6,193 (8.5%)	4,298 (6.7%)	0.07	3,545 (7.9%)	3,572 (7.9%)	0.00
Q1 2016; n (%)	7,093 (9.7%)	5,461 (8.5%)	0.04	4,336 (9.6%)	4,347 (9.6%)	0.00
Q2 2016; n (%)	6,638 (9.1%)	5,237 (8.1%)	0.04	4,212 (9.4%)	4,191 (9.3%)	0.00
Q3 2016; n (%)	5,823 (8.0%)	4,639 (7.2%)	0.03	3,713 (8.2%)	3,687 (8.2%)	0.00



Q4 2016; n (%)	5,573 (7.6%)	4,453 (6.9%)	0.03	3,513 (7.8%)	3,504 (7.8%)	0.00
<b>Burden of comorbidities</b>						
Combined comorbidity score <sup>2</sup> ; mean (sd)	2.94 (2.03)	3.45 (2.32)	-0.23	3.16 (2.15)	3.17 (2.15)	0.00
Frailty score <sup>3</sup> , mean (sd)	0.18 (0.06)	0.19 (0.06)	-0.17	0.19 (0.06)	0.19 (0.06)	0.00
Frailty score <sup>3</sup> , categories:						
<0.15; n (%)	22,935 (31.5%)	15,080 (23.4%)	0.18	12,120 (26.9%)	12,217 (27.1%)	0.00
0.15-0.24; n (%)	42,068 (57.7%)	39,095 (60.7%)	-0.06	27,096 (60.2%)	26,952 (59.8%)	0.01
≥0.25; n (%)	7,897 (10.8%)	10,242 (15.9%)	-0.15	5,831 (12.9%)	5,878 (13.0%)	0.00
<b>Diabetes-related conditions</b>						
Diabetic nephropathy; n (%)	6,614 (9.1%)	9,850 (15.3%)	-0.19	5,132 (11.4%)	5,122 (11.4%)	0.00
Diabetic retinopathy; n (%)	7,664 (10.5%)	7,888 (12.2%)	-0.05	4,966 (11.0%)	4,958 (11.0%)	0.00
Diabetes with other ophthalmic conditions or ophthalmic procedures; n (%)	4,754 (6.5%)	4,610 (7.2%)	-0.02	2,955 (6.6%)	2,959 (6.6%)	0.00
Diabetic neuropathy; n (%)	17,187 (23.6%)	18,251 (28.3%)	-0.11	11,721 (26.0%)	11,709 (26.0%)	0.00
Diabetes with peripheral circulatory disorders; n (%)	6,121 (8.4%)	5,988 (9.3%)	-0.03	3,899 (8.7%)	3,967 (8.8%)	-0.01
Diabetic foot; n (%)	1,897 (2.6%)	2,329 (3.6%)	-0.06	1,378 (3.1%)	1,393 (3.1%)	0.00
Lower extremity amputation; n (%)	264 (0.4%)	355 (0.6%)	-0.03	210 (0.5%)	204 (0.5%)	0.00
Foot ulcer; n (%)	1,910 (2.6%)	2,330 (3.6%)	-0.06	1,384 (3.1%)	1,392 (3.1%)	0.00
Skin infections; n (%)	7,240 (9.9%)	7,374 (11.4%)	-0.05	4,747 (10.5%)	4,814 (10.7%)	-0.01
Erectile dysfunction; n (%)	3,212 (4.4%)	2,704 (4.2%)	0.01	1,932 (4.3%)	1,972 (4.4%)	0.00
Hypoglycemia; n (%)	3,529 (4.8%)	3,725 (5.8%)	-0.04	2,303 (5.1%)	2,330 (5.2%)	0.00
Hyperglycemia; n (%)	3,901 (5.4%)	3,594 (5.6%)	-0.01	2,533 (5.6%)	2,518 (5.6%)	0.00
Disorders of fluid electrolyte and acid-base balance; n (%)	6,602 (9.1%)	7,629 (11.8%)	-0.09	4,613 (10.2%)	4,614 (10.2%)	0.00
Diabetic ketoacidosis; n (%)	244 (0.3%)	298 (0.5%)	-0.03	157 (0.3%)	182 (0.4%)	-0.02
Hyperosmolar hyperglycemic nonketotic syndrome; n (%)	493 (0.7%)	475 (0.7%)	0.00	326 (0.7%)	291 (0.6%)	0.01
Diabetes with unspecified complication; n (%)	4,545 (6.2%)	4,628 (7.2%)	-0.04	3,011 (6.7%)	3,032 (6.7%)	0.00
<b>Diabetes treatment</b>						
No. antidiabetic drugs at cohort entry; mean (sd)	2.65 (1.00)	2.49 (0.98)	0.16	2.54 (0.98)	2.53 (0.99)	0.01
No previous use of diabetes treatment <sup>4</sup> ; n (%)	2,609 (3.6%)	2,954 (4.6%)	-0.05	1,957 (4.3%)	1,939 (4.3%)	0.00
Monotherapy; n (%)	2,332 (3.2%)	2,663 (4.1%)	-0.05	1,768 (3.9%)	1,752 (3.9%)	0.00
Dual therapy with metformin; n (%)	5,375 (7.4%)	4,527 (7.0%)	0.02	3,595 (8.0%)	3,566 (7.9%)	0.00
Diabetes drug on the day of entry to the cohort:						
Concomitant initiation or current use of metformin; n (%)	46,049 (63.2%)	34,419 (53.4%)	0.20	26,190 (58.1%)	26,086 (57.9%)	0.00
Concomitant initiation or current use of sulfonylureas; n (%)	29,266 (40.1%)	23,039 (35.8%)	0.09	16,839 (37.4%)	16,725 (37.1%)	0.01
Concomitant initiation or current use of DPP4i; n (%)	24,783 (34.0%)	13,425 (20.8%)	0.30	10,923 (24.2%)	11,004 (24.4%)	0.00
Concomitant initiation or current use of glitazones; n (%)	5,846 (8.0%)	4,853 (7.5%)	0.02	3,491 (7.7%)	3,518 (7.8%)	0.00
Concomitant initiation or current use of insulin; n (%)	12,742 (17.5%)	18,853 (29.3%)	-0.28	10,847 (24.1%)	10,741 (23.8%)	0.01
Past use of metformin; n (%)	12,185 (16.7%)	11,202 (17.4%)	-0.02	7,892 (17.5%)	7,907 (17.6%)	0.00
Past use of sulfonylureas; n (%)	9,244 (12.7%)	8,551 (13.3%)	-0.02	5,805 (12.9%)	5,781 (12.8%)	0.00
Past use of DPP4i; n (%)	9,305 (12.8%)	8,993 (14.0%)	-0.04	6,139 (13.6%)	6,131 (13.6%)	0.00
Past use of glitazones; n (%)	3,126 (4.3%)	2,574 (4.0%)	0.02	1,869 (4.1%)	1,839 (4.1%)	0.00
Past use of insulin; n (%)	4,482 (6.1%)	6,001 (9.3%)	-0.12	3,624 (8.0%)	3,614 (8.0%)	0.00

Long-term use of insulin <sup>5</sup> ; n (%)	5,969 (8.2%)	9,620 (14.9%)	-0.21	5,201 (11.5%)	5,257 (11.7%)	-0.01
Any use of meglitinides; n (%)	2,211 (3.0%)	1,721 (2.7%)	0.02	1,219 (2.7%)	1,227 (2.7%)	0.00
Any use of alpha-glucosidase inhibitors; n (%)	895 (1.2%)	734 (1.1%)	0.01	515 (1.1%)	530 (1.2%)	-0.01
<b>Life style factors</b>						
Obesity; n (%)	17,621 (24.2%)	21,980 (34.1%)	-0.22	13,436 (29.8%)	13,414 (29.8%)	0.00
Overweight; n (%)	3,812 (5.2%)	2,822 (4.4%)	0.04	2,111 (4.7%)	2,124 (4.7%)	0.00
Smoking; n (%)	11,579 (15.9%)	11,207 (17.4%)	-0.04	7,721 (17.1%)	7,692 (17.1%)	0.00
Alcohol abuse or dependence; n (%)	557 (0.8%)	467 (0.7%)	0.01	346 (0.8%)	321 (0.7%)	0.01
Drug abuse or dependence; n (%)	841 (1.2%)	900 (1.4%)	-0.02	577 (1.3%)	612 (1.4%)	-0.01
<b>Other comorbidities at baseline</b>						
Cardiovascular disease <sup>6</sup> ; n (%)	31,888 (43.7%)	30,563 (47.4%)	-0.07	20,366 (45.2%)	20,385 (45.3%)	0.00
Ischemic heart disease; n (%)	23,018 (31.6%)	22,084 (34.3%)	-0.06	14,763 (32.8%)	14,729 (32.7%)	0.00
Acute myocardial infarction; n (%)	1,126 (1.5%)	1,098 (1.7%)	-0.02	712 (1.6%)	740 (1.6%)	0.00
Old myocardial infarction; n (%)	3,093 (4.2%)	3,247 (5.0%)	-0.04	2,081 (4.6%)	2,100 (4.7%)	0.00
Unstable angina; n (%)	1,542 (2.1%)	1,746 (2.7%)	-0.04	1,073 (2.4%)	1,114 (2.5%)	-0.01
Stable angina; n (%)	3,786 (5.2%)	3,658 (5.7%)	-0.02	2,414 (5.4%)	2,452 (5.4%)	0.00
Other chronic ischemic heart disease; n (%)	21,811 (29.9%)	21,051 (32.7%)	-0.06	13,988 (31.1%)	14,048 (31.2%)	0.00
Coronary revascularization; n (%)	6,886 (9.4%)	7,101 (11.0%)	-0.02	4,538 (10.1%)	4,578 (10.2%)	0.00
Heart failure; n (%)	7,082 (9.7%)	8,801 (13.7%)	-0.12	5,144 (11.4%)	5,170 (11.5%)	0.00
Atrial fibrillation; n (%)	7,353 (10.1%)	7,398 (11.5%)	-0.05	4,861 (10.8%)	4,911 (10.9%)	0.00
Other cardiac dysrhythmia; n (%)	9,170 (12.6%)	9,082 (14.1%)	-0.04	6,124 (13.6%)	6,141 (13.6%)	0.00
Ischemic or hemorrhagic stroke; n (%)	8,145 (11.2%)	7,549 (11.7%)	-0.02	5,138 (11.4%)	5,114 (11.4%)	0.00
Ischemic stroke; n (%)	8,084 (11.1%)	7,501 (11.6%)	-0.02	5,097 (11.3%)	5,084 (11.3%)	0.00
Transient ischemic attack; n (%)	1,787 (2.5%)	1,666 (2.6%)	-0.01	1,138 (2.5%)	1,163 (2.6%)	-0.01
Hemorrhagic stroke and other cerebrovascular disease; n (%)	2,073 (2.8%)	2,054 (3.2%)	-0.02	1,316 (2.9%)	1,352 (3.0%)	-0.01
Late effects of cerebrovascular disease or procedure; n (%)	1,208 (1.7%)	1,270 (2.0%)	-0.02	817 (1.8%)	797 (1.8%)	0.00
Peripheral arterial disease or surgery; n (%)	9,041 (12.4%)	8,811 (13.7%)	-0.04	5,736 (12.7%)	5,808 (12.9%)	-0.01
Other cardiovascular disease; n (%)	12,744 (17.5%)	12,471 (19.4%)	-0.05	8,278 (18.4%)	8,258 (18.3%)	0.00
Hypertension; n (%)	66,311 (91.0%)	59,585 (92.5%)	-0.05	41,326 (91.7%)	41,323 (91.7%)	0.00
Hyperlipidemia; n (%)	65,426 (89.7%)	58,092 (90.2%)	-0.02	40,488 (89.9%)	40,413 (89.7%)	0.01
Edema <sup>7</sup> ; n (%)	8,391 (11.5%)	10,311 (16.0%)	-0.13	6,160 (13.7%)	6,140 (13.6%)	0.00
Non-diabetic renal dysfunction; n (%)	13,298 (18.2%)	18,605 (28.9%)	-0.25	10,093 (22.4%)	10,229 (22.7%)	-0.01
Acute kidney injury; n (%)	1,994 (2.7%)	3,281 (5.1%)	-0.12	1,603 (3.6%)	1,636 (3.6%)	0.00
Chronic kidney disease; n (%)	9,037 (12.4%)	14,729 (22.9%)	-0.28	7,294 (16.2%)	7,437 (16.5%)	-0.01
Chronic kidney disease stage 1-2; n (%)	2,617 (3.6%)	3,025 (4.7%)	-0.06	1,811 (4.0%)	1,886 (4.2%)	-0.01
Chronic kidney disease stage 3+ or dialysis; n (%)	5,303 (7.3%)	10,773 (16.7%)	-0.29	4,753 (10.6%)	4,784 (10.6%)	0.00
Hypertensive nephropathy; n (%)	3,942 (5.4%)	7,063 (11.0%)	-0.21	3,249 (7.2%)	3,276 (7.3%)	0.00
Miscellaneous renal insufficiency; n (%)	5,485 (7.5%)	6,973 (10.8%)	-0.11	3,975 (8.8%)	3,991 (8.9%)	0.00
COPD; n (%)	8,524 (11.7%)	9,187 (14.3%)	-0.08	5,848 (13.0%)	5,883 (13.1%)	0.00
Asthma; n (%)	6,293 (8.6%)	6,686 (10.4%)	-0.06	4,340 (9.6%)	4,373 (9.7%)	0.00
Obstructive sleep apnea; n (%)	8,084 (11.1%)	10,876 (16.9%)	-0.17	6,416 (14.2%)	6,453 (14.3%)	0.00

Pneumonia; n (%)	2,614 (3.6%)	2,902 (4.5%)	-0.05	1,823 (4.0%)	1,824 (4.0%)	0.00
Liver disease; n (%)	5,586 (7.7%)	4,805 (7.5%)	0.01	3,375 (7.5%)	3,416 (7.6%)	0.00
Osteoarthritis; n (%)	21,613 (29.6%)	21,292 (33.1%)	-0.08	14,256 (31.6%)	14,227 (31.6%)	0.00
Other arthritis, arthropathies and musculoskeletal pain; n (%)	39,454 (54.1%)	38,523 (59.8%)	-0.12	25,953 (57.6%)	25,951 (57.6%)	0.00
Dorsopathies; n (%)	26,045 (35.7%)	25,619 (39.8%)	-0.08	17,231 (38.3%)	17,227 (38.2%)	0.00
Fractures; n (%)	3,275 (4.5%)	3,369 (5.2%)	-0.03	2,254 (5.0%)	2,233 (5.0%)	0.00
Falls; n (%)	3,067 (4.2%)	3,246 (5.0%)	-0.04	2,135 (4.7%)	2,110 (4.7%)	0.00
Osteoporosis; n (%)	7,303 (10.0%)	6,151 (9.5%)	0.02	4,240 (9.4%)	4,248 (9.4%)	0.00
Hypothyroidism; n (%)	15,504 (21.3%)	15,475 (24.0%)	-0.06	10,161 (22.6%)	10,151 (22.5%)	0.00
Other disorders of thyroid gland; n (%)	5,309 (7.3%)	5,494 (8.5%)	-0.04	3,634 (8.1%)	3,588 (8.0%)	0.00
Genital infections	2,223 (3.0%)	2,128 (3.3%)	-0.02	1,452 (3.2%)	1,477 (3.3%)	-0.01
Urinary tract infections	11,375 (15.6%)	12,191 (18.9%)	-0.09	7,780 (17.3%)	7,723 (17.1%)	0.01
Hospitalization with urinary tract infection	899 (1.2%)	1,142 (1.8%)	-0.05	647 (1.4%)	639 (1.4%)	0.00
Hospitalization with sepsis	533 (0.7%)	692 (1.1%)	-0.04	401 (0.9%)	392 (0.9%)	0.00
Depression; n (%)	9,243 (12.7%)	10,757 (16.7%)	-0.11	6,804 (15.1%)	6,739 (15.0%)	0.00
Anxiety; n (%)	7,413 (10.2%)	7,479 (11.6%)	-0.04	5,025 (11.2%)	5,087 (11.3%)	0.00
Sleep disorders; n (%)	11,115 (15.2%)	13,707 (21.3%)	-0.16	8,335 (18.5%)	8,278 (18.4%)	0.00
Dementia; n (%)	3,341 (4.6%)	2,987 (4.6%)	0.00	2,088 (4.6%)	2,025 (4.5%)	0.00
Delirium; n (%)	812 (1.1%)	891 (1.4%)	-0.03	539 (1.2%)	550 (1.2%)	0.00
Psychosis; n (%)	967 (1.3%)	905 (1.4%)	-0.01	620 (1.4%)	603 (1.3%)	0.01
<b>Other medication use</b>						
Angiotensin converting enzyme inhibitors; n (%)	33,901 (46.5%)	30,726 (47.7%)	-0.02	21,199 (47.1%)	21,233 (47.1%)	0.00
Angiotensin II receptor blockers; n (%)	27,012 (37.1%)	24,298 (37.7%)	-0.01	16,850 (37.4%)	16,789 (37.3%)	0.00
Beta-blockers; n (%)	34,537 (47.4%)	32,856 (51.0%)	-0.07	22,216 (49.3%)	22,153 (49.2%)	0.00
Calcium-channel blockers; n (%)	24,372 (33.4%)	22,530 (35.0%)	-0.03	15,368 (34.1%)	15,335 (34.0%)	0.00
Thiazide diuretics; n (%)	10,890 (14.9%)	11,390 (17.7%)	-0.08	7,439 (16.5%)	7,463 (16.6%)	0.00
Loop diuretics; n (%)	12,008 (16.5%)	16,050 (24.9%)	-0.21	9,146 (20.3%)	9,241 (20.5%)	0.00
Other diuretics; n (%)	2,532 (3.5%)	3,496 (5.4%)	-0.09	1,970 (4.4%)	2,024 (4.5%)	0.00
Nitrates; n (%)	6,163 (8.5%)	6,430 (10.0%)	-0.05	4,053 (9.0%)	4,145 (9.2%)	-0.01
Other hypertension drugs; n (%)	5,616 (7.7%)	6,222 (9.7%)	-0.07	3,809 (8.5%)	3,851 (8.5%)	0.00
Digoxin; n (%)	2,027 (2.8%)	1,768 (2.7%)	0.01	1,214 (2.7%)	1,206 (2.7%)	0.00
Anti-arrhythmics; n (%)	1,397 (1.9%)	1,518 (2.4%)	-0.03	953 (2.1%)	953 (2.1%)	0.00
COPD or asthma medications; n (%)	17,506 (24.0%)	16,860 (26.2%)	-0.05	11,256 (25.0%)	11,381 (25.3%)	-0.01
Statins; n (%)	56,268 (77.2%)	50,333 (78.1%)	-0.02	34,874 (77.4%)	34,877 (77.4%)	0.00
Other lipid-lowering drugs; n (%)	12,739 (17.5%)	11,788 (18.3%)	-0.02	7,938 (17.6%)	8,014 (17.8%)	-0.01
Antiplatelet agents; n (%)	12,197 (16.7%)	11,104 (17.2%)	-0.01	7,476 (16.6%)	7,542 (16.7%)	0.00
Oral anticoagulants; n (%)	6,063 (8.3%)	6,399 (9.9%)	-0.06	4,137 (9.2%)	4,159 (9.2%)	0.00
Heparin and other low-molecular weight heparins; n (%)	418 (0.6%)	558 (0.9%)	-0.03	322 (0.7%)	324 (0.7%)	0.00
Nonsteroidal anti-inflammatory drugs; n (%)	18,850 (25.9%)	16,716 (25.9%)	0.00	11,725 (26.0%)	11,672 (25.9%)	0.00
Oral corticosteroids; n (%)	19,502 (26.8%)	18,269 (28.4%)	-0.04	12,463 (27.7%)	12,434 (27.6%)	0.00
Bisphosphonates; n (%)	2,971 (4.1%)	2,267 (3.5%)	0.03	1,589 (3.5%)	1,586 (3.5%)	0.00

Antibiotics targeting urinary tract infections; n (%)	20,633 (28.3%)	20,628 (32.0%)	-0.08	13,699 (30.4%)	13,711 (30.4%)	0.00
Opioids; n (%)	23,530 (32.3%)	25,056 (38.9%)	-0.14	16,301 (36.2%)	16,305 (36.2%)	0.00
Antidepressants; n (%)	19,404 (26.6%)	21,771 (33.8%)	-0.16	14,020 (31.1%)	13,983 (31.0%)	0.00
Antipsychotics; n (%)	1,739 (2.4%)	1,730 (2.7%)	-0.02	1,173 (2.6%)	1,150 (2.6%)	0.00
Anticonvulsants; n (%)	13,599 (18.7%)	14,848 (23.0%)	-0.11	9,570 (21.2%)	9,492 (21.1%)	0.00
Benzodiazepines; n (%)	10,203 (14.0%)	9,803 (15.2%)	-0.03	6,746 (15.0%)	6,747 (15.0%)	0.00
Other anxiolytics or hypnotics; n (%)	6,123 (8.4%)	6,180 (9.6%)	-0.04	4,089 (9.1%)	4,028 (8.9%)	0.01
Dementia medications; n (%)	2,310 (3.2%)	1,877 (2.9%)	0.02	1,347 (3.0%)	1,320 (2.9%)	0.01
Antiparkinsonian medications; n (%)	2,600 (3.6%)	2,899 (4.5%)	-0.05	1,846 (4.1%)	1,862 (4.1%)	0.00
<b>Measures of healthcare utilization</b>						
Hospitalization within prior 30 days; n (%)	717 (1.0%)	812 (1.3%)	-0.03	501 (1.1%)	491 (1.1%)	0.00
Hospitalization during prior 31-365 days; n (%)	6,842 (9.4%)	7,762 (12.0%)	-0.08	4,771 (10.6%)	4,768 (10.6%)	0.00
No. hospitalizations; mean (sd)	0.13 (0.45)	0.18 (0.53)	-0.10	0.15 (0.48)	0.15 (0.49)	0.00
No. hospital days; mean (sd)	0.67 (3.05)	0.91 (3.60)	-0.07	0.77 (3.37)	0.78 (3.43)	0.00
No. emergency department visits; mean (sd)	0.71 (1.78)	0.86 (1.94)	-0.08	0.79 (1.85)	0.79 (1.86)	0.00
No. office visits; mean (sd)	10.72 (7.60)	12.16 (8.36)	-0.18	11.36 (7.90)	11.36 (7.75)	0.00
Endocrinologist visit within prior 30 days; n (%)	8,789 (12.1%)	11,963 (18.6%)	-0.18	6,840 (15.2%)	6,829 (15.2%)	0.00
Endocrinologist visit during prior 31-365 days; n (%)	10,873 (14.9%)	12,883 (20.0%)	-0.13	7,891 (17.5%)	7,875 (17.5%)	0.00
No. endocrinologist visits; mean (sd)	1.85 (7.46)	2.41 (7.65)	-0.07	2.22 (8.20)	2.06 (7.28)	0.02
Internal medicine visit within prior 30 days; n (%)	46,315 (63.5%)	39,039 (60.6%)	0.06	27,942 (62.0%)	27,922 (62.0%)	0.00
Internal medicine visit during prior 31-365 days; n (%)	62,922 (86.3%)	55,567 (86.3%)	0.00	38,755 (86.0%)	38,792 (86.1%)	0.00
No. internal medicine visits; mean (sd)	15.98 (19.35)	16.44 (19.90)	-0.02	16.25 (19.77)	15.86 (19.23)	0.02
Cardiologist visit within prior 30 days; n (%)	7,051 (9.7%)	6,869 (10.7%)	-0.03	4,486 (10.0%)	4,563 (10.1%)	0.00
Cardiologist visit during prior 31-365 days; n (%)	27,931 (38.3%)	27,491 (42.7%)	-0.09	18,155 (40.3%)	18,210 (40.4%)	0.00
No. cardiologist visits; mean (sd)	3.06 (7.29)	3.57 (8.26)	-0.07	3.22 (7.30)	3.29 (7.89)	-0.01
Electrocardiogram; n (%)	34,297 (47.0%)	31,864 (49.5%)	-0.05	21,771 (48.3%)	21,587 (47.9%)	0.01
No. electrocardiograms; mean (sd)	1.13 (1.91)	1.27 (2.11)	-0.07	1.19 (1.98)	1.19 (2.03)	0.00
Echocardiogram; n (%)	15,297 (21.0%)	15,410 (23.9%)	-0.07	9,995 (22.2%)	10,044 (22.3%)	0.00
No. distinct medication prescriptions; mean (sd)	13.35 (6.03)	14.73 (6.25)	-0.22	14.04 (6.24)	14.04 (5.94)	0.00
Use of glucose test strips; n (%)	3,855 (5.3%)	4,000 (6.2%)	-0.04	2,586 (5.7%)	2,601 (5.8%)	0.00
No. HbA1c tests ordered; mean (sd)	2.81 (1.36)	2.89 (1.42)	-0.06	2.85 (1.37)	2.84 (1.37)	0.01
No. glucose tests ordered; mean (sd)	0.92 (2.14)	0.98 (2.05)	-0.03	0.93 (1.98)	0.93 (1.99)	0.00
No. microalbuminuria tests ordered; mean (sd)	0.97 (1.17)	1.07 (1.25)	-0.08	1.01 (1.22)	1.01 (1.17)	0.00
No. creatinine tests ordered; mean (sd)	0.14 (0.56)	0.18 (0.68)	-0.06	0.16 (0.59)	0.16 (0.65)	0.00
No. BUN tests ordered; mean (sd)	0.08 (0.43)	0.11 (0.53)	-0.06	0.09 (0.45)	0.10 (0.51)	-0.02
No. lipid tests; mean (sd)	2.11 (1.36)	2.06 (1.37)	0.04	2.06 (1.34)	2.06 (1.37)	0.00

PS: propensity-score; SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide-1 receptor agonists. St. Diff: standardized differences, i.e., the difference in means or proportions divided by the pooled standard deviation [Austin PC. Balance diagnostics for comparing the distribution of baseline covariates between treatment groups in propensity-score matched samples. *Statistics in medicine* 2009;28:3083-107]; sd: standard deviation; Q: quarter; COPD: Chronic obstructive pulmonary disease; HbA1c: hemoglobin A1c; BUN: blood urea nitrogen.

1 Canagliflozin: 76.9%; dapagliflozin: 13.1%; empagliflozin: 11.1%; liraglutide: 58.7%; exenatide: 23.5%; dulaglutide: 14.8%; albiglutide: 3.0%.

2 Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *Journal of Clinical Epidemiology*. 2011; 64 (7) 749-59.

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3 Kim DH, Schneeweiss S, Glynn RJ. Comparing Approaches to Measure Frailty in Medicare Data: Deficit-Accumulation Frailty Index Versus Phenotypic Frailty. *J Gerontol A Biol Sci Med Sci.* 2018;73(7):989-990

4 Defined as patients without any use of glucose-lowering medications during the 12 months prior to cohort entry

5 Based on ICD coding

6 Defined as history of myocardial infarction, unstable angina, coronary atherosclerosis and other forms of chronic ischemic heart disease, coronary procedure, heart failure, ischemic or hemorrhagic stroke, transient ischemic attack, peripheral arterial disease or surgery, lower extremity amputation

7 Localized, generalized, or unspecified edema

**eTable 4. Individual SGLT2i and GLP-1RA agents included in the analysis after PS-matching**

<b>Individual agent:</b>	<b>SGLT2i N = 45,047</b>	<b>GLP-1RA N = 45,047</b>
Canagliflozin	76.9%	0%
Dapagliflozin	13.1%	0%
Empagliflozin	11.1%	0%
Liraglutide	0%	58.7%
Exenatide	0%	23.5%
Dulaglutide	0%	14.8%
Albiglutide	0%	3.0%

PS: propensity-score; SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide receptor agonists.

**eTable 5. Follow-up and censoring reasons after PS-matching<sup>1</sup>**

	<b>Overall population N = 90,094</b>	<b>SGLT2i N = 45,047</b>	<b>GLP-1RA N = 45,047</b>
<b>MACE outcome:</b>			
Follow-up, mean (SD), days	256.5 (231.7)	268.9 (242.0)	244.0 (221.4)
Follow-up, median (25 <sup>th</sup> , 75 <sup>th</sup> IQR), days	165 (88-336)	176 (88-356)	154 (88-316)
Censoring reasons (%):			
Treatment discontinuation	53.7%	52.2%	55.3%
End of study - 12/31/2016	34.1%	35.6%	32.5%
Treatment switching	4.7%	4.5%	4.8%
Disenrollment	3.6%	3.7%	3.4%
Nursing home admission	2.3%	2.3%	2.3%
MACE outcome	1.3%	1.3%	1.2%
Mortality (non-cardiovascular)	0.4%	0.4%	0.4%
Number of patients with >=1 year follow-up on treatment	20,314 (22.6%)	10,937 (24.2%)	9,377 (20.8%)
Number of patients with >=2 years follow-up on treatment	5,254 (5.8%)	3,062 (6.8%)	2,192 (4.8%)
<b>HHF outcome:</b>			
Follow-up, mean (SD), days	257.1 (232.9)	270.0 (242.8)	244.3 (221.8)
Follow-up, median (25 <sup>th</sup> , 75 <sup>th</sup> IQR), days	165 (88-337)	176 (88-357)	154 (88-316)
Censoring reasons (%):			
Treatment discontinuation	53.9%	52.4%	55.4%
End of study - 12/31/2016	34.2%	35.8%	32.6%
Treatment switching	4.7%	4.6%	4.8%
Disenrollment	3.6%	3.7%	3.4%
Nursing home admission	2.5%	2.4%	2.5%
HHF outcome	0.6%	0.5%	0.7%
Mortality (overall)	0.6%	0.7%	0.6%
Number of patients with >=1 year follow-up on treatment	20,376 (22.6%)	10,993 (24.4%)	9,383 (20.8%)
Number of patients with >=2 years follow-up on treatment	5,294 (5.9%)	3,091 (6.8%)	2,203 (5.0%)

PS: propensity-score; SD: standard deviation; IQR: interquartile; SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide receptor agonists; MACE: major adverse cardiovascular event; HHF: hospitalization fro heart failure

<sup>1</sup> Censoring was outcome-specific. The table reports follow-up and censoring information specific to the primary outcomes. Censoring reasons specific to other study outcomes may include minor variations.

**eTable 6. Number of events, person-time, and incidence rates for genital infection outcome in 1:1 PS-matched initiators of SGLT2i vs GLP-1RA by gender<sup>1</sup>**

	<b>SGLT2i</b>	<b>GLP-1RA</b>	<b>SGLT2i vs. GLP-1RA</b>	
	<b>N events (IR/1000 PY)</b>	<b>N events (IR/1000 PY)</b>	<b>HR (95% CI)</b>	<b>RD/1000PY (95% CI)</b>
<b>Genital infections</b>				
Males	587 (36.66)	130 (9.04)	4.17 (3.45, 5.05)	27.61 (24.27, 30.96)
Females	2011 (128.03)	582 (37.73)	3.43 (3.13, 3.76)	90.30 (83.92, 96.68)

PS: propensity score; SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide-1 receptor agonists; IR: Incidence rate; PY: person-years; HR: hazard ratio; CI: confidence intervals; RD: rate difference. Males: 41,604; Females: 48,200.

<sup>1</sup>Exposure to first-used medication carried forward until treatment discontinuation or switch to a drug in the comparator class, the occurrence of a specific study outcome, death, end of continuous health plan enrollment, or end of the study period (December 31, 2016), whichever came first.



**eTable 7. Number of events, person-time, and incidence rates for cardiovascular effectiveness outcomes in 1:1 PS-matched initiators of SGLT2i vs GLP-1RA – ITT analysis<sup>1</sup>**

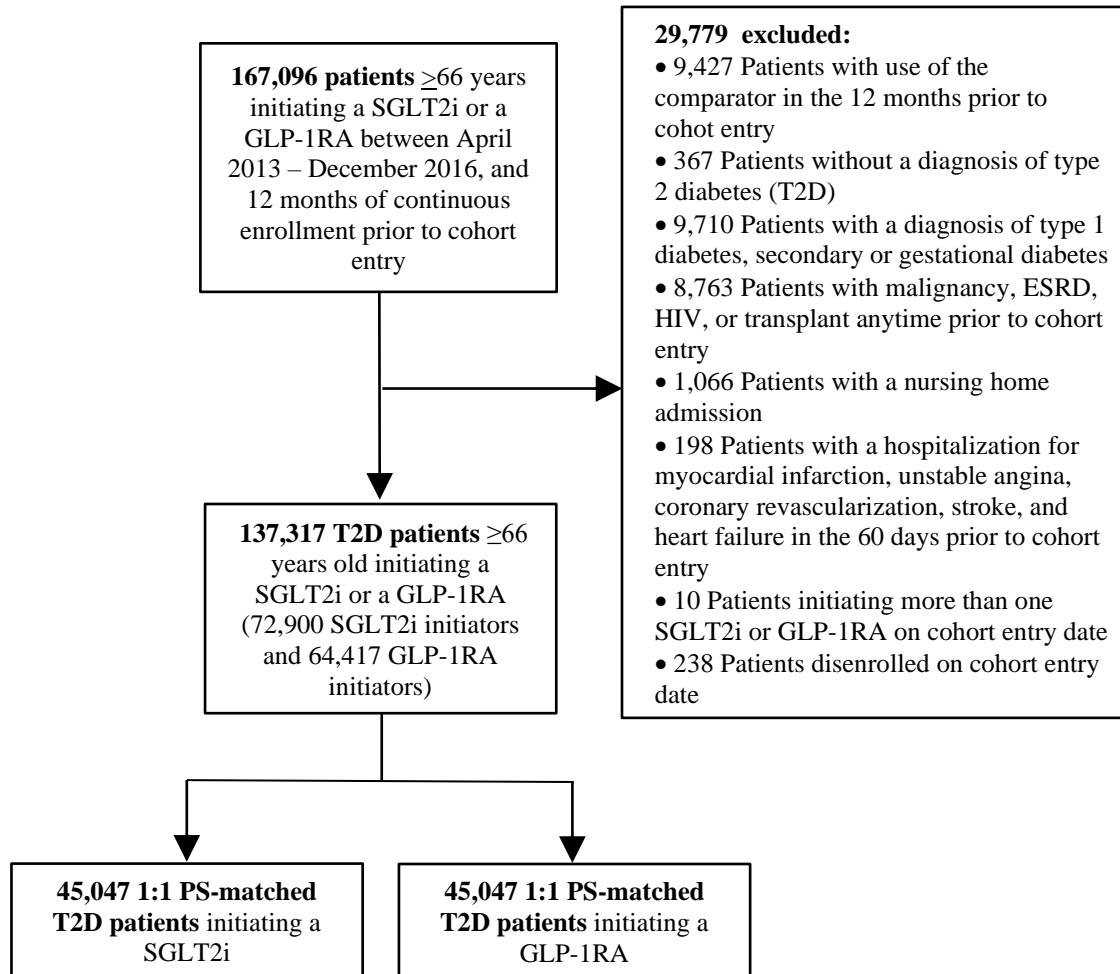
	<b>SGLT2i</b>	<b>GLP-1RA</b>	<b>SGLT2i vs. GLP-1RA</b>	
	<b>N = 45,047</b>	<b>N = 45,047</b>		
<b>Primary outcomes</b>	<b>N events (IR/1000 PY)</b>	<b>N events (IR/1000 PY)</b>	<b>HR (95% CI)</b>	<b>RD/1000PY (95% CI)</b>
Major adverse cardiovascular event (MACE) <sup>1</sup>	788 (22.18)	715 (20.15)	1.10 (0.99, 1.22)	2.04 (-0.10, 4.18)
Hospitalization for heart failure (HHF)	302 (8.47)	396 (11.14)	0.76 (0.65, 0.88)	-2.67 (-4.12, -1.21)
<b>Secondary effectiveness outcomes</b>				
Myocardial infarction (MI)	395 (11.09)	355 (9.98)	1.11 (0.96, 1.28)	1.11 (-0.40, 2.62)
Ischemic or hemorrhagic stroke	288 (8.08)	258 (7.25)	1.11 (0.94, 1.32)	0.83 (-0.45, 2.12)
Cardiovascular mortality	154 (4.31)	139 (3.90)	1.11 (0.88, 1.39)	0.41 (-0.53, 1.35)
All-cause mortality	394 (11.02)	371 (10.40)	1.06 (0.92, 1.22)	0.63 (-0.89, 2.14)
MACE or HHF <sup>2</sup>	1041 (29.38)	1062 (30.04)	0.98 (0.90, 1.07)	-0.65 (-3.19, 1.89)
MI or stroke or HHF or all-cause mortality	1254 (35.40)	1265 (35.78)	0.99 (0.91, 1.07)	-0.38 (-3.16, 2.40)
<b>Safety outcomes</b>				
Diabetic ketoacidosis	111 (3.11)	69 (1.93)	1.61 (1.19, 2.17)	1.17 (0.44, 1.91)
Bone fracture <sup>3</sup>	216 (6.05)	191 (5.36)	1.13 (0.93, 1.37)	0.69 (-0.42, 1.80)
Lower-limb amputation	128 (3.59)	89 (2.50)	1.44 (1.10, 1.88)	1.09 (0.28, 1.90)
Genital infections	2743 (79.94)	1089 (30.94)	2.57 (2.40, 2.76)	49.00 (45.49, 52.51)
Acute kidney injury	1536 (43.70)	1658 (47.22)	0.93 (0.86, 0.99)	-3.53 (-6.68, -0.37)
Severe urinary tract infection <sup>4</sup>	175 (4.90)	182 (5.11)	0.96 (0.78, 1.18)	-0.21 (-1.24, 0.83)

PS: propensity score; SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide-1 receptor agonists; IR: Incidence rate; PY: person-years; HR: hazard ratio; CI: confidence intervals; RD: rate difference.

<sup>1</sup>Hospitalization for myocardial infarction, ischemic or hemorrhagic stroke, or cardiovascular mortality; <sup>2</sup>Hospitalization for myocardial infarction, ischemic or hemorrhagic stroke, cardiovascular mortality, or HHF; <sup>3</sup>Humerus, wrist, hip, and pelvis fracture; <sup>4</sup>Urinary tract infection requiring hospitalization

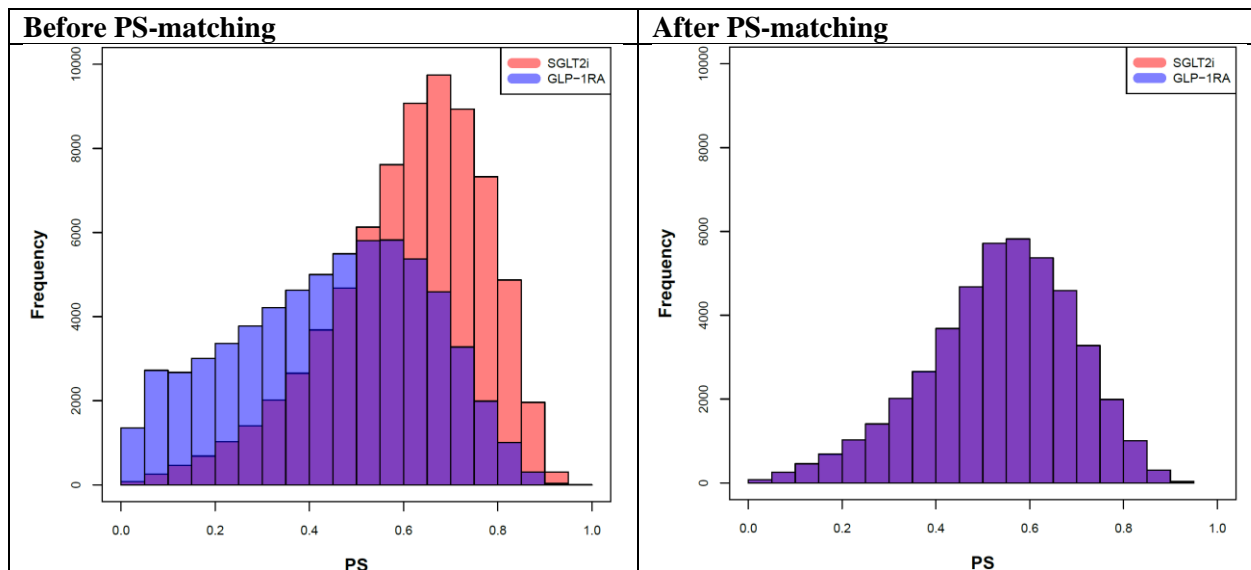
<sup>1</sup>Exposure to first-used medication carried forward for 365 days without considering drug discontinuation or switching

**eFigure 1. Study flowchart**



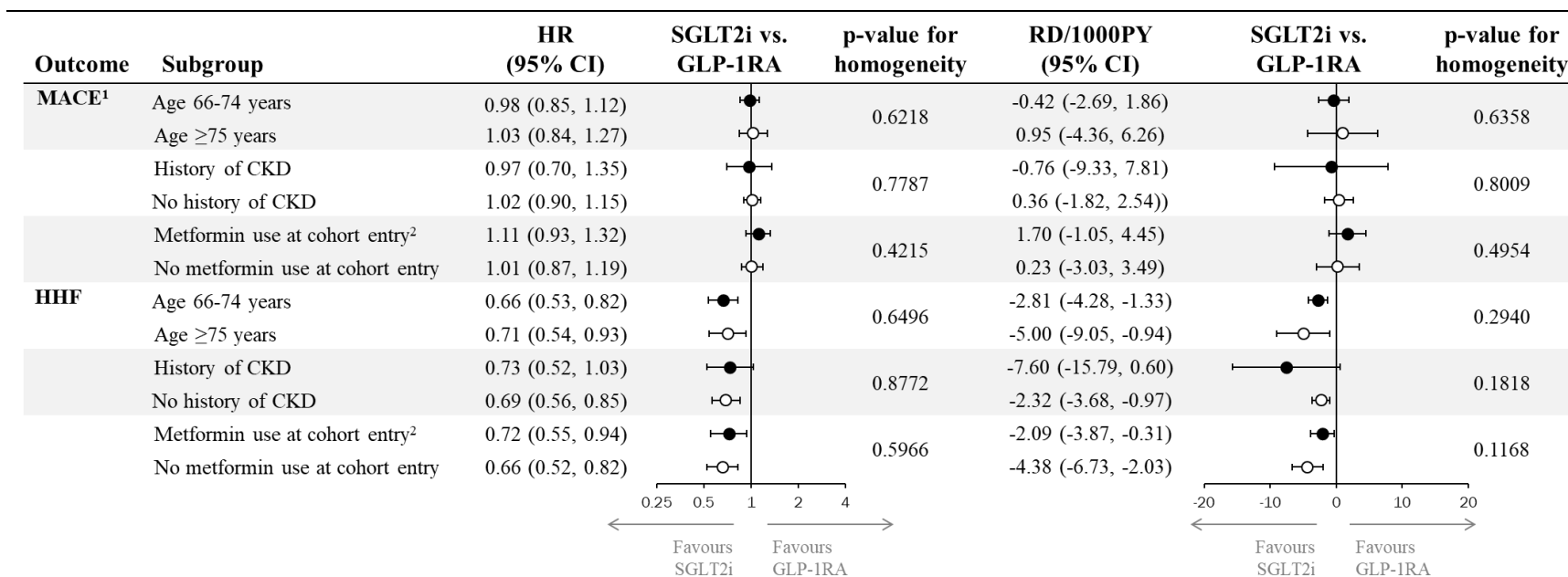
SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide receptor agonists; ESRD: end-stage renal disease; HIV: human immunodeficiency virus; PS: propensity score

**eFigure 2. Propensity score distributions of SGLT2i vs GLP-1RA initiators, before and after 1:1 propensity score matching**



PS: propensity score; SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide-1 receptor agonists

**eFigure 3. Primary outcomes in subgroups of 1:1 PS-matched initiators of SGLT2i vs GLP-1RA**



PS: propensity score; SGLT2i: sodium-glucose cotransporter-2 inhibitors; GLP-1RA: glucagon-like peptide-1 receptor agonists; HR: hazard ratio; CI: confidence intervals; RD: rate difference; PY: person-years; MACE: major cardiovascular adverse event; HHF: hospitalization for heart failure; CKD: chronic kidney disease.

<sup>1</sup>Hospitalization for myocardial infarction, ischemic or hemorrhagic stroke, or cardiovascular mortality;

<sup>2</sup>Use of metformin at cohort entry was defined as a metformin filled prescription with days-supply overlap with cohort entry date.