Supplementary Appendix

Three sides to the story: adherence trajectories in the first year of SGLT-2 inhibitor therapy among Medicare beneficiaries

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Supplemental Figure 1. Overview of study design

We included patients aged 66 years and older at the index date who initiated an SGLT2i, i.e., canagliflozin, dapagliflozin, or empagliflozin, between April 1, 2013 (the dates of the first SGLT2i release in the U.S) and December 31, 2017. The cohort entry date was the date of the first SGLT2i prescription. We required patients to be continuously enrolled in Medicare Parts A, B, & D for one year prior to and one year after the index SGLT2i prescription. Follow-up for study outcomes began on the day of cohort entry and continued in an “as-treated” approach until patients reached the one year follow-up end point. For each patient, we measured a global adherence score over the full year of follow-up as well as monthly adherence scores.

Supplemental Figure 2. Flow diagram of Medicare beneficiaries included in the study

We included patients 66 years of age and older at the index date with type 2 diabetes who were newly prescribed an SGLT-2 inhibitor (SGLT2i) between April 1, 2013 (after the first SGLT2i was approved in the United States) and December 31, 2017. We required patients to be continuously enrolled in Medicare parts A, B, & D for one year prior to and one year after the

index SGLT2i prescription. Patients were excluded if they had type 1 diabetes, cancer, end-stage kidney disease, HIV, or a nursing home admission during the year prior to the index date.

Because previous medication adherence is associated with future adherence, we required all patients to be taking an ACE inhibitor, ARB, metformin, or a statin so that we could include previous adherence to these medications in our model. A total of 83,675 Medicare beneficiaries were eligible for our analyses.

Supplemental Table 1. Codes for comorbidity variables

Comorbidity	Codes	
ASCVD	ICD-9 DX: 410.xx; 412; 429.71, 429.79; 411.xx; 413.xx; 414.xx, 429.2; V45.81, V45.82; 428.xx, 398.91, 402.x1, 404.x1, 404.x3; 433.xx, 434.xx, 436; 437.0, 437.1, 437.8, 437.9; 440.9; 440.2x, 440.3x, 440.4, 443.9	ICD-10 DX: I25.2; I21.xx, I22.xx ICD-10 DX: I23.x; I20.0, I24.xx, I25.110, I25.7x0; I20.1, I20.8, I20.9, I25.11x, I25.7x1, I25.7x8, I25.7x9; I25.10, I25.3, I25.4x, I25.5, I25.6, I25.8x, I25.9; Z95.1, Z95.5, Z98.61, I97.410, I97.411, I97.610, I97.611, I97.630, I97.631, I97.640, I97.641, T82.211x, T82.212x, T82.213x, T82.218x; I09.81, I11.0, I13.0, I13.2, I50.xxx, I97.13x; I63.xxx, I65.xx, I66.xx, G43.6x9, G46.3, G46.4; T82.311x, T82.321x, T82.331x, T82.391x; I70.90, I70.91; I70.x, I73.89, I73.9, T82.310x, T82.312x, T82.320x, T82.322x, T82.330x, T82.332x, T82.390x, T82.392x, T82.856x, Z98.62; I67.2, I67.89, I67.9
	• CPT/HCPCS: 33140, 33141, 33510-33536, 33545, 33572, 92920, 92921, 92924, 92925, 92928, 92929, 92933, 92934, 92937, 92938, 92941, 92943, 92944, 92973, 92980, 92980, 92981, 92984, 92995, 92996 • ICD-9 PX: 00.61, 00.62, 00.63, 00.64 ,00.65, 38.11, 38.12, 39.28; 00.66, 36.03, 36.06, 36.07, 36.09, 36.1x, 36.2x, 36.3x; 38.08, 38.18, 38.38, 38.48, 39.25, 39.29, 39.5x (excluding 39.53), 39.90, 39.91, 39.99 • ICD-10 PX: 031H.0xG, 031J.0xG, 037G.xxx, 037H.xxx, 037J.xxx, 037K.xxx, 037L.xxx, 03CG.xxx, 03CH.xxx, 03CJ.xxx, 03CK.xxx, 03CL.xxx; 0210.xxx, 0211.xxx, 0212.xxx, 0213.xxx, 021K0Z5, 021K4Z5, 021L0Z5, 021L4Z5, 0270.xxx, 0271.xxx, 0272.xxx, 0273.xxx, 02C0.xxx, 02C1.xxx, 02C2.xxx, 02C3.xxx, 02QA.xxx, 02QB.xxx, 02QC.xxx	
CKD stage 1-2	ICD-9 DX: 585.1, 585.2	ICD-10 DX: N18.1, N18.2
CKD stage 3-5	ICD-9 DX: 585.3, 585.4	ICD-10 DX: N18.3, N18.4
Diabetic nephropathy	ICD-9 DX: 250.4x	ICD-10 DX: E10.2x, E11.2x, E13.2x
Diabetic neuropathy	ICD-9 DX: 250.6x, 357.2, 337.1	ICD-10 DX: E10.4x, E10.610, E11.4x, E11.610, E13.4x, E13.610
Diabetic retinopathy	ICD-9 DX: 362.0x, 379.23	ICD-10 DX: E10.3x, E11.3x, E13.3x, H43.1x

	CPT/HCPCS: 67036, 67039, 67040, 67041, 67043, 67229, 67042, 67113, 67228	
Hyperglycemia	ICD-9 DX: 790.29	ICD-10 DX: E10.65, E11.65, E13.65, R73.09, R73.9
Hypoglycemia	ICD-9 DX: 251.2, 251.0, 251.1, 962.3	ICD-10 DX: E10.641, E10.649, E11.649, E13.641, E13.649, E13.69, E16.1, E16.2, T38.3X1A, T38.3X1S, T38.3X2D, T38.3X3S, T38.3X4, T38.3X4D, T38.3X5D, T38.3X5S, E10.69, E11.641, E11.69, E15, T38.3X1D, T38.3X2A, T38.3X2S, T38.3X3, T38.3X3A, T38.3X3D, T38.3X4A, T38.3X4S, T38.3X5, T38.3X5A, E16.0
Anxiety	ICD-9 DX: 300.09, 300.21, 300.22, 300.3, 308.0, 309.81, 293.84, 300.0, 300.00, 300.01, 300.02, 300.20, 300.23, 300.29, 309.24	ICD-10 DX: F06.4, F40.00, F40.01, F40.02, F40.10, F40.230, F40.232, F40.240, F40.242, F40.243, F40.248, F40.298, F40.9, F41.1, F41.8, F42.2, F42.4, F42.8, F42.9, F43.0, F43.12, F40.11, F40.210, F40.218, F40.220, F40.228, F40.231, F40.233, F40.241, F40.290, F40.291, F40.8, F41.0, F41.3, F41.9, F42.3, F43.10, F43.11, F43.22
Delirium or psychosis	ICD-9 DX: 290.41, 290.8, 290.9, 291, 292.81, 293.1, 293.81, 293.82, 295, 295.0x, 295.1x, 295.2x, 295.3x, 295.4x, 295.5x, 295.6x, 295.7x, 295.8x, 295.9x, 297, 297.1, 297.2, 297.3, 297.8, 297.9, 298, 298.1, 298.2, 298.3, 298.4, 298.8, 348.3, 290.11, 290.3, 293, 348.31, 348.39, 349.82, 780.1	ICD-10 DX: F01.51, F05, F06.0, F06.2, F10.221, F11.221, F12.921, F14.221, F15.921, F18.221, F19.921, G92, I67.83, F10.121, F10.231, F10.921, F11.121, F11.921, F12.121, F12.221, F13.121, F13.221, F13.921, F14.121, F14.921, F15.121, F15.221, F16.121, F16.221, F16.921, F18.121, F18.921, F19.121, F19.221, F20.0, F20.2, F20.2, F20.3, F20.5, F20.81, F20.89, F20.9, F21, F22, F23, F24, F25.0, F25.1, F25.8, F25.9, F28, F29, F53, G93.40, G93.41, G93.49, R44.0, R44.2, R44.3
Dementia	ICD-9 DX: 290.10, 290.2, 290.20, 290.21, 290.4, 290.41, 290.43, 294.0, 294.10, 294.11, 294.2, 331.1, 331.6, 331.82, 331.83, 290.0, 290.1, 290.11, 290.12, 290.13, 290.3, 290.40, 290.42, 290.8, 290.9, 294.1, 294.20, 294.21, 331.0, 331.11, 331.19, 331.2, 331.7, 331.8, 331.89, 331.9	ICD-10 DX: F01.50, F01.51, F02.81, F03.91, F04, G13.8, G30.0, G30.1, G30.9, G31.01, G31.1, G31.85, F02.80, F03.90, G13.2, G30.8, G31.09, G31.2, G31.83, G31.84, G31.89, G31.9

Depression	ICD-9 DX: 293.83, 296.2, 296.20, 296.21, 296.22, 296.24, 296.25, 296.26, 296.3, 296.30, 296.34, 296.90, 298.0, 300.4, 309.28, 296.23, 296.31, 296.32, 296.33, 296.35, 296.36, 309.0, 309.1, 311	ICD-10 DX: F32.1, F32.3, F32.4, F32.5, F32.89, F32.9, F33.3, F33.40, F33.41, F33.42, F33.8, F33.9, F34.81, F34.89, F39, F06.30, F06.31, F06.32, F06.33, F06.34, F32.2, F32.8, F33, F33.0, F33.1, F33.2, F33.4, F34.0, F34.1, F34.8, F34.9, F43.21, F43.23
Drug or alcohol use	ICD-9 DX: 292.0, 291.0, 291.1, 291.2, 291.3, 291.4, 291.5, 291.81, 291.82, 291.89, 291.9, 292.1, 292.12, 292.81, 292.85, 292.9, 303.00, 303.01, 303.02, 303.03, 303.90, 303.91, 303.92, 303.93, 304.00, 304.01, 304.02, 304.03, 304.10, 304.11, 304.12, 304.13, 304.20, 304.21, 304.22, 304.23, 304.3, 304.31, 304.32, 304.33, 304.4, 304.40, 304.41, 304.42, 304.43, 304.5, 304.51, 304.52, 304.53, 304.6, 304.61, 304.62, 304.63, 304.7, 304.71, 304.72, 304.73, 304.8, 304.81, 304.82, 304.83, 304.90, 304.91, 304.92, 304.93, 305.00, 305.01, 305.02, 305.03, 305.20, 305.31, 305.32, 305.4, 305.43, 305.6, 305.60, 305.61, 305.63, 305.7, 305.71, 305.73, 305.83, 305.90, 305.91, 305.92, 357.5, 425.5, 535.30, 535.31, 571.0, 571.1, 571.2, 571.3, 648.30, 648.31, 648.32, 648.33, 648.34, 760.71, 779.5, 790.3, 980.0, E860.0, E860.1, E860.8, E860.9, V11.3, V65.42, V79.1	ICD-10 DX: E24.4, F10.10, F10.14, F10.120, F10.121, F10.129, F10.150, F10.151, F10.159, F10.180, F10.181, F10.182, F10.188, F10.19, F10.20, F10.220, F10.21, F10.221, F10.229, F10.230, F10.231, F10.232, F10.239, F10.259, F10.24, F10.250, F10.251, F10.26, F10.27, F10.280, F10.281, F10.282, F10.288, F10.29, F10.920, F10.921, F10.929, F10.94, F10.950, F10.951, F10.959, F10.982, F10.988, F10.96, F10.97, F10.980, F10.981, F10.99, F11.120, F11.151, F11.181, F11.182, F11.188, F11.19, F11.20, F11.220, F11.221, F11.23, F11.250, F11.251, F11.281, F11.288, F12.10, F12.120, F12.121, F12.151, F12.159, F12.221, F12.222, F12.250, F12.29, F12.90, F13.120, F13.14, F13.150, F13.151, F13.180, F13.181, F13.182, F13.188, F13.20, F13.221, F13.229, F13.230, F13.231, F13.232, F13.250, F13.251, F13.259, F13.280, F13.281, F13.288, F13.29, F14.10, F14.121, F14.159, F14.180, F14.181, F14.188, F14.221, F14.222, F14.23, F14.282, F15.10, F15.122, F15.14, F15.150, F15.151, F15.159, F15.181, F15.20, F15.222, F15.24, F15.280, F15.281, F15.29, F16.121, F16.122, F16.129, F16.14, F16.150, F16.151, F16.180, F16.183, F16.188, F16.20, F16.24, F16.250, F16.251, F16.280, F16.283, F18.120, F18.121, F18.129, F18.14, F18.151, F18.159,

		F18.17, F18.188, F18.19, F18.21, F18.229, F18.24, F18.259, F18.27, F18.288, F19.122, F19.129, F19.150, F19.159, F19.16, F19.17, F19.180, F19.182, F19.20, F19.221, F19.222, F19.229, F19.24, F19.250, F19.259, F19.26, F19.27, F19.281, F19.29, F19.90, G31.2, G62.1, G72.1, I42.6, K29.20, K29.21, K70.0, K70.10, K70.11, K70.2, K70.30, K70.31, K70.40, K70.41, K70.9, K85.20, K85.21, K85.22, K86.0, O35.4, P04.3, Q86.0, R78.0, T51.0X1D, T51.0X1S, T51.0X1A, Z71.4
Heart failure	ICD-9 DX: 428, 428.0, 428.1, 428.2, 428.20, 428.21, 428.22, 428.23, 428.3, 428.30, 428.31, 428.32, 428.33, 428.4, 428.40, 428.41, 428.42, 428.43, 428.9, 398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93	ICD-10 DX: I09.81, I50.20, I50.21, I50.22, I50.31, I50.32, I50.33, I50.40, I50.41, I11.0, I13.0, I13.2, I50.1, I50.23, I50.30, I50.42, I50.43, I50.9, I50.810, I50.811, I50.82, I50.812, I50.813, I50.814, I50.83, I50.84, I50.89, I97.130, I97.131
Hyperlipidemia	ICD-9 DX: 272.0, 272.2, 272.4	ICD-10 DX: E78.0, E78.2, E78.4, E78.5
Hypertension	ICD-9 DX: 401, 401.1, 401.9, 402, 402.11, 402.9, 403.9, 403.91, 404, 404.01, 404.11, 404.12, 404.13, 404.9, 404.91, 404.93, 405, 405.01, 405.09, 405.1, 405.11, 405.9, 405.91, 402.01, 402.1, 402.91, 403, 403.01, 403.1, 403.11, 404.02, 404.03, 404.1, 404.92, 405.19, 405.99	ICD-10 DX: I10, I11.0, I12.9, I13.11, I15.1, I15.8, I15.9, I16.1, I16.9, I11.9, I12.0, I13.0, I13.10, I13.2, I15.0, I15.2, I16.0
Non-atherosclerotic cardiovascular diseases	ICD-9 DX: 394.0, 394.1, 394.2, 394.9, 395.0, 395.1, 395.2, 395.9, 396.0, 396.1, 396.2, 396.3, 396.8, 396.9, 397.0, 397.1, 397.9, 424.0, 424.1, 424.2, 424.3, 425.0, 425.1, 425.11, 425.18, 425.2, 425.3, 425.4, 425.5, 425.7, 425.8, 425.9, 441.0, 441.00, 441.01, 441.02, 441.03, 441.1, 441.2, 441.3, 441.4, 441.5, 441.6, 441.7, 441.9, 442.0, 442.2, 442.3, 442.8, 442.81, 442.82, 442.83, 442.84, 442.89, 442.9, 443.0, 443.1, 443.2, 443.21, 443.22, 443.23, 443.24, 443.29, 443.8, 443.82, 443.89, 444.0, 444.01, 444.09, 444.1, 444.2, 444.21, 444.22, 444.8,	ICD-10 DX: I05.0, I05.1, I05.2, I05.8, I05.9, I06.0, I06.1, I06.2, I06.8, I06.9, I07.0, I07.1, I07.2, I07.8, I07.9, I08.0, I08.1, I08.2, I08.3, I08.8, I08.9, I09.89, I09.9, I31.2, I31.3, I34.0, I34.1, I34.2, I34.8, I34.9, I35.0, I35.1, I35.2, I35.8, I35.9, I36.0, I36.1, I36.2, I36.8, I36.9, I37.0, I37.1, I37.2, I37.8, I37.9, I42.0, I42.1, I42.2, I42.3, I42.4, I42.5, I42.6, I42.7, I42.8, I42.9, I43, I67.0, I71.00, I71.01, I71.02, I71.03, I71.1, I71.2, I71.3, I71.4, I71.5, I71.6, I71.8, I71.9, I72.0, I72.3, I72.4, I72.8, I72.9, I73.1, I73.81, I74.01, I74.09, I74.10, I74.11, I74.19, I74.2, I74.3,

	444.81, 444.89, 444.9, 445.0, 445.01, 445.02, 445.8, 445.81, 445.89, 446, 446.0, 446.1, 446.2, 446.20, 446.21, 446.29, 446.3, 446.4, 446.5, 446.6, 446.7, 447, 447.0, 447.1, 447.2, 447.3, 447.4, 447.5, 447.6, 447.7, 447.70, 447.71, 447.72, 447.73, 447.8, 447.9	I74.4, I74.5, I74.8, I74.9, I75.011, I75.012, I75.013, I75.019, I75.021, I75.022, I75.023, I75.029, I75.81, I75.89, I77.0, I77.1, I77.2, I77.3, I77.4, I77.5, I77.6, I77.71, I77.72, I77.73, I77.74, I77.79, I77.810, I77.811, I77.812, I77.819, I77.89, I77.9, I79.0, M30.0, M30.1, M30.2, M30.3, M30.8, M31.0, M31.1, M31.2, M31.30, M31.31, M31.4, M31.5, M31.6, M31.7, M31.8, M31.9

Codes above may have been found in inpatient, outpatient, or carrier claims in any position.

Supplemental Table 2. Probability of trajectory group assignment (N = 83,675)

Group	N (%)	Mean (sd) predicted probability of group membership	Percent of patients with >0.70 membership probability
Low adherence	19,000 (23%)	0.994 (0.039)	99.3%
Moderate adherence	26,497 (32%)	0.990 (0.052)	98.8%
High adherence	38,178 (45%)	0.996 (0.033)	99.5%

Supplemental Table 3. Characteristics of new SGLT2i users by adherence trajectory (N = 83,675)

Characteristic	Frequency			
	Low adherence N = 19,000 (23%)	Moderate adherence N = 26,497 (32%)	High adherence N = 38,178 (45%)	Overall N = 83,675
Patient Factors				
Demographics				
Age; mean (sd)	72.26 (5.32)	72.06 (5.13)	71.84 (5.12)	72.00 (5.17)
Claims-based Frailty Index				
Non-frail: <0.15; n (%)	3049 (16.05)	4899 (18.49)	7817 (20.48)	15765 (18.84)
Pre-frail: 0.15-0.24, n (%)	12669 (17.27)	17629 (66.53)	24759 (64.85)	55057 (65.80)
Frail: ≥0.25, n (%)	3282 (17.27)	3969 (14.98)	5602 (14.67)	12853 (15.36)
Combined Comorbidity Index; mean (sd)	1.04 (1.86)	0.98 (1.79)	0.95 (1.79)	0.98 (1.81)
Female; n (%)*	10622 (55.91)	13613 (51.58)	17872 (46.81)	42107 (50.32)
Race/ethnicity*				
White; n (%)	15314 (80.60)	21575 (81.42)	31161 (81.62)	68050 (81.33)
Black; n (%)	1637 (8.62)	1861 (7.02)	2017 (5.28)	5515 (6.59)
Asian; n (%)	627 (3.30)	1064 (4.02)	2042 (5.35)	3733 (4.46)
Hispanic; n (%)	679 (3.57)	886 (3.34)	1039 (2.72)	2604 (3.11)
North American Native; n (%)	69 (0.36)	106 (0.40)	119 (0.31)	294 (0.35)
Other; n (%)	674 (3.55)	1005 (3.79)	1800 (4.71)	3479 (4.16)
Region				
South, n (%)	8908 (46.88)	11573 (43.68)	15114 (39.59)	35595 (42.54)
Northeast, n (%)	3260 (17.16)	5142 (19.41)	8360 (21.90)	16762 (20.03)
Midwest, n (%)	3616 (19.03)	4984 (18.81)	7327 (19.19)	15927 (19.03)
West, n (%)	3216 (16.93)	4798 (18.11)	7377 (19.32)	15391 (18.39)
Previous medication adherence[†]				
Taking ACEi or ARB; mean (sd)	155570 (81.95)	21873 (82.55)	31624 (82.83)	69067 (82.54)
Adherent to ACEi or ARB; n (%)	9780 (51.47)	14186 (53.54)	23200 (60.77)	47166 (56.37)
Taking metformin; mean (sd)	14900 (78.42)	21216 (80.07)	31074 (81.39)	67190 (80.30)
Adherent to metformin; n (%)	7634 (40.18)	11759 (44.38)	20452 (53.57)	39845 (47.62)
Taking statin; mean (sd)	14454 (76.07)	21082 (79.56)	31341 (82.09)	66877 (79.92)
Adherent to statin; n (%)	7761 (40.85)	12020 (45.36)	21442 (56.16)	41223 (49.27)
Taking either an ACEi, ARB, metformin, or statin; n (%)	19000 (100)	26497 (100)	38178 (100)	83675 (100)
Adherence-related comorbidities				
Anxiety; n (%)	2336 (12.29)	2737 (10.33)	3557 (9.32)	8630 (10.31)
Delirium or psychosis; n (%)	430 (2.26)	532 (2.01)	819 (2.15)	1781 (2.13)
Dementia; n (%)	933 (4.91)	1128 (4.26)	1745 (4.57)	3806 (4.55)

Depression; n (%)	2647 (13.93)	3491 (13.18)	4888 (12.80)	11026 (13.18)
Drug or alcohol use; n (%)	350 (1.94)	533 (2.01)	665 (1.74)	1548 (1.85)
Diabetes-related comorbidities				
Atherosclerotic cardiovascular disease; n (%)	8479 (44.63)	11586 (43.73)	16211 (42.46)	36276 (43.35)
Chronic kidney disease, stages 1-2; n (%)	721 (3.79)	1083 (4.09)	1474 (3.86)	3278 (3.92)
Chronic kidney disease, stages 3-5; n (%)	1621 (8.53)	2195 (8.28)	2878 (7.54)	6694 (8.00)
Diabetic nephropathy; n (%)	1917 (10.09)	2748 (10.37)	3736 (9.79)	8401 (10.04)
Diabetic neuropathy; n (%)	5077 (26.72)	6876 (25.95)	9771 (25.59)	21724 (25.96)
Diabetic retinopathy; n (%)	2118 (11.15)	3064 (11.56)	4393 (11.51)	9572 (11.44)
Hyperglycemia; n (%)	1075 (5.66)	1412 (5.33)	1870 (4.90)	4357 (5.21)
Hypoglycemia; n (%)	1406 (7.40)	1970 (7.43)	2703 (7.08)	6079 (7.27)
Other comorbidities				
Heart failure; n (%)	2122 (11.17)	2698 (10.18)	3777 (9.89)	8597 (10.27)
Hyperlipidemia; n (%)	17109 (90.05)	24109 (90.99)	34814 (91.19)	76032 (90.87)
Hypertension; n (%)	17735 (18.89)	24666 (93.09)	35370 (92.64)	77771 (92.94)
Non-atherosclerotic cardiovascular diseases; n (%)	3590 (18.89)	4922 (18.58)	6904 (18.08)	15416 (18.42)
Healthcare Utilization				
Cardiologist visit in previous year; n (%)	8638 (45.46)	11945 (45.08)	16500 (43.22)	37083 (44.32)
Endocrinologist visit in previous year; n (%)	3901 (20.53)	5888 (22.22)	8302 (21.75)	18091 (21.62)
Internist visit in previous year; n (%) [‡]	17128 (90.15)	23908 (90.23)	34497 (90.36)	75533 (90.27)
Nephrologist visit in previous year; n (%)	941 (4.95)	1270 (4.79)	1632 (4.27)	8343 (4.59)
Hospitalized in previous year; n (%)	2278 (11.99)	2795 (10.55)	3807 (9.97)	8880 (10.61)
Preventive health procedure code in previous year; n (%) [§]	9474 (49.86)	13229 (49.93)	19044 (49.88)	41747 (49.89)
Medication-specific Factors				
Medication Count				
Count of unique medications filled in previous year; mean (sd)				
0-4 medications; n (%)	241 (1.27)	302 (1.14)	456 (1.19)	999 (1.19)
5-10 medications; n (%)	5735 (30.18)	8313 (31.37)	11787 (30.87)	25835 (30.88)
11 or more medications; n (%)	13024 (68.55)	17882 (67.49)	25935 (67.93)	56841 (67.93)
Count of unique prescriptions filled in previous year; mean (sd)	54.05 (36.04)	51.27 (35.33)	58.59 (42.50)	55.24 (39.05)
Diabetes medications				
DPP-4i; n (%)	7801 (41.06)	11310 (42.68)	18107 (47.43)	37218 (44.48)
GLP-1RA; n (%)	2478 (13.04)	3762 (14.20)	6118 (16.02)	12358 (14.77)
Insulins; n (%)	5149 (27.10)	7111 (26.84)	9818 (25.72)	22078 (26.39)
Meglitinides; n (%)	525 (2.76)	789 (2.98)	1428 (3.74)	2742 (3.28)
Sulfonylureas; n (%)	10060 (52.95)	13930 (52.57)	20562 (53.86)	44552 (53.24)
Thiazolidinediones; n (%)	2150 (11.32)	3267 (12.33)	5316 (13.92)	10733 (12.83)
Cardiovascular medications				

Beta blockers; n (%)	9134 (48.07)	12968 (48.94)	18614 (48.76)	40716 (48.66)
Calcium channel blockers; n (%)	6378 (33.57)	8923 (33.68)	12921 (33.84)	28222 (33.73)
Loop diuretics; n (%)	3499 (18.42)	4544 (17.15)	6457 (16.91)	14500 (17.33)
Non-statin lipid-lowering therapy; n (%)	3240 (17.05)	4706 (17.76)	7375 (19.32)	15231 (18.31)
Thiazide diuretics; n (%)	2963 (15.59)	4012 (15.16)	5735 (15.02)	12715 (15.20)
Other chronic medications				
Antiplatelets; n (%)	3218 (16.94)	4564 (17.22)	6825 (17.88)	14607 (17.46)
Antidepressants; n (%)	5429 (28.57)	7401 (27.93)	10389 (27.21)	23219 (27.72)
Thyroid medications; n (%)	3993 (21.02)	5409 (20.41)	7607 (19.93)	17009 (20.33)
Medication Cost				
Dual Status, Medicare and Medicaid, n (%)	3518 (18.52)	4577 (17.27)	8413 (22.04)	16508 (19.73)
Index SGLT2i copay (USD); mean (sd)	61.36 (68.50)	80.83 (101.84)	69.44 (96.08)	71.22 (92.81)
Index SGLT2i low-income subsidy (USD); mean (sd)	39.50 (100.00)	53.35 (162.78)	60.03 (165.01)	53.25 (152.15)
Ratio of brand-name to generic diabetes medications; mean (sd) [¶]	0.44 (1.01)	0.45 (0.95)	0.51 (1.00)	0.47 (0.99)
Ratio of brand-name to generic medications; mean (sd) [¶]	1.02 (0.05)	1.03 (0.05)	1.03 (0.05)	1.03 (0.05)
Total copays in previous year (USD); mean (sd)	973.31 (1001.11)	1030.09 (1059.47)	1066.06 (1167.10)	1033.61 (1098.09)

* Sex and race/ethnicity variable taken directly from Medicare data input. Other race/ethnicity includes race/ethnicity indicated specially as “other” or as unknown.

† Previous medication adherence was measured using the proportion of days covered over the 365-day covariate assessment period, using a $\geq 80\%$ cut point for adherent versus not

‡ Included carrier claims line provider specialty codes: general practice, family practice, and internal medicine. These are distinct from the values included in the cardiologist, endocrinologist, and nephrologist covariates.

§ Preventive health procedure codes included codes for bone mineral density screening, colon cancer screening, prostate cancer screening, mammography, or vaccination for influenza or pneumonia

|| Medication cost standardized to U.S. dollars in 2017 (end of study period) based on inflation rates

¶ The ratio of brand-name to generic medications is the total count of prescriptions that a patient fills for brand-name medications divided by the total count of prescriptions filled for generic medications.

Abbreviations: ACEi: angiotensin converting enzyme inhibitor; ARB: angiotensin receptor blocker; DPP-4: dipeptidyl peptidase inhibitors; GLP-1RA: glucagon-like peptide-1 receptor agonists SGLT2i: sodium-glucose cotransporter-2 inhibitors; sd: standard deviation; USD: United States dollars