

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Diagnosis Codes Used to Identify Study Cohorts

Diabetes	ICD-9: 250.0-250.33, 648.0, 648.01, 648.02, 648.03, 648.04, 249.0-249.31, 249.40-249.91, 250.40-250.93 ICD-10: E08.0-E13.9, O24.011-O24.93, E08.21-E13.8
Hypertension	ICD-9: 401.0, 401.1, 401.9, 437.2, 642.00-642.04 ICD-10: I10.0, O10.011-O10.93, I16.0, I16.1, I16.9, I67.4, I11.0, I11.9, I15.2, I15.8, I15.9, I10.11-I11.9, I13.0, I13.2, I13.10, I13.11, I12.9, I15.0, I15.1, I12.0, I16.1-I16.9
Hyperlipidemia	ICD-9: 272.0, 272.1, 272.2, 272.3, 272.4 ICD-10: E78.0, E78.1, E78.2, E78.3, E78.4, E78.5

eTable 2. Diabetes, Hypertension, and Hyperlipidemia Medications Used to Identify Study Cohorts

<p>Diabetes</p>	<p>METFORMIN HCL; INSULIN GLARGINE,HUM.REC.ANLOG; INSULIN ASPART; GLIPIZIDE; INSULIN DETEMIR; PEN NEEDLE, DIABETIC; GLIMEPIRIDE; INSULIN LISPRO; NEEDLES, INSULIN DISPOSABLE; LIRAGLUTIDE; SITAGLIPTIN PHOSPHATE; PIOGLITAZONE HCL; INSULIN REGULAR, HUMAN; SYRINGE & NEEDLE,INSULIN,1 ML; SYRINGE AND NEEDLE,INSULIN,1ML; CANAGLIFLOZIN; GLYBURIDE; SITAGLIPTIN PHOS/METFORMIN HCL; LINAGLIPTIN; INSULIN NPH HUM/REG INSULIN HM; INSULN ASP PRT/INSULIN ASPART; EXENATIDE MICROSPHERES; INSULIN NPH HUMAN ISOPHANE; DULAGLUTIDE; EXENATIDE; SYRING W-NDL,DISP,INSUL,0.5ML; SYRING W-NDL,DISP,INSUL,0.5 ML; HUM INSULIN NPH/REG INSULIN HM; SYRINGE-NEEDLE,INSULIN,0.5 ML; NPH, HUMAN INSULIN ISOPHANE; INSULIN DEGLUDEC; INSULIN NPL/INSULIN LISPRO; GLYBURIDE/METFORMIN HCL; INSULIN LISPRO PROTAMIN/LISPRO; INSULIN ASPART PROT/INSULN ASP; DAPAGLIFLOZIN PROPANEDIOL; EMPAGLIFLOZIN; PIOGLITAZONE HCL/METFORMIN HCL; INSULIN GLULISINE; INSULIN ASPART PROTAM & ASPART; SYRING W-NDL,DISP,INSUL,0.3 ML; REPAGLINIDE; SYRING W-NDL,DISP,INSUL,0.3ML; NATEGLINIDE; SYRING-NEEDL,DISP,INSUL,0.3 ML; ACARBOSE; SAXAGLIPTIN HCL/METFORMIN HCL; LINAGLIPTIN/METFORMIN HCL; PRAMLINTIDE ACETATE; GLIPIZIDE/METFORMIN HCL; ALBIGLUTIDE; CANAGLIFLOZIN/METFORMIN HCL; SUB-Q INSULIN DEVICE, 40 UNIT; GLYBURIDE,MICRONIZED; SYR W-NDL,INS 0.3 ML HALF MARK; SUB-Q INSULIN DEVICE, 30 UNIT; NEEDLES, INSULIN DISP., SAFETY; PEN NEEDLE, DIABETIC, SAFETY; DAPAGLIFLOZIN/METFORMIN HCL; SYRGE-NDL,INS 0.3 ML HALF MARK; SUB-Q INSULIN DEVICE, 20 UNIT; PIOGLITAZONE HCL/GLIMEPIRIDE; PEN NEEDLE,DUAL SAFETY,DIABETC; EMPAGLIFLOZIN/LINAGLIPTIN; PEN NEEDLE, DIABETIC,DISP UNIT; ALOGLIPTIN BENZ/METFORMIN HCL; ALOGLIPTIN BENZ/PIOGLITAZONE; ALOGLIPTIN BENZOATE; ROSIGLITAZONE MALEATE; SYRINGE,INSUL U-500,NDL,0.5ML; MIGLITOL; EMPAGLIFLOZIN/METFORMIN HCL; ROSIGLITAZONE/METFORMIN HCL; SYRINGE,SAFETY WITH NEEDLE,1ML; SYRINGE W-NEEDLE,DISPOSAB,3 ML; SYRINGE W-O NEEDL,INSULIN,1 ML; INSULIN DEGLUDEC/LIRAGLUTIDE; SYRINGE W-NDL, DISP., INSULIN; SYR,NDL,INSULIN,1ML-SHARPS BIN; INSULIN GLARGINE/LIXISENATIDE; SYRINGE,NEEDLE,INSULN,SAFE,1ML; SYRINGE NDL,INSUL U-500,0.5ML; SYRING W-O NDL,DISP,INSUL, 1ML; NEEDLES, DISPOSABLE</p>
<p>Hypertension</p>	<p>LISINAPRIL; FUROSEMIDE; AMLODIPINE BESYLATE; METOPROLOL TARTRATE; LOSARTAN POTASSIUM; HYDROCHLOROTHIAZIDE; METOPROLOL SUCCINATE; CARVEDILOL; ESOMEPRAZOLE MAGNESIUM; ATENOLOL; SPIRONOLACTONE; LISINAPRIL/HYDROCHLOROTHIAZIDE; DILTIAZEM HCL; LOSARTAN/HYDROCHLOROTHIAZIDE; VALSARTAN; HYDRALAZINE HCL; VERAPAMIL HCL; ENALAPRIL MALEATE; VALSARTAN/HYDROCHLOROTHIAZIDE; BENAZEPRIL HCL; NIFEDIPINE; NEBIVOLOL HCL; CHLORTHALIDONE; RAMIPRIL; OLMESARTAN MEDOXOMIL; LABETALOL HCL; AMLODIPINE BESYLATE/BENAZEPRIL; QUINAPRIL HCL; IRBESARTAN; OLMESARTAN/HYDROCHLOROTHIAZIDE; BISOPROLOL FUMARATE; ATENOLOL/CHLORTHALIDONE; TELMISARTAN; AMLODIPINE/VALSARTAN; BISOPROLOL FUMARATE/HCTZ; BENAZEPRIL/HYDROCHLOROTHIAZIDE; FOSINOPRIL SODIUM; SPIRONOLACT/HYDROCHLOROTHIAZID; FELODIPINE; TELMISARTAN/HYDROCHLOROTHIAZID; IRBESARTAN/HYDROCHLOROTHIAZIDE; ENALAPRIL/HYDROCHLOROTHIAZIDE; CARVEDILOL PHOSPHATE; OLMESARTAN/AMLODIPIN/HCTHIAZID; AMLODIPINE BES/OLMESARTAN MED; EPLERENONE; AMLODIPINE/VALSARTAN/HCTHIAZID; CAPTOPRIL; ALISKIREN HEMIFUMARATE; AMILORIDE HCL; SACUBITRIL/VALSARTAN; BISOPROLOL/HYDROCHLOROTHIAZIDE; BISOPROLOL/HYDROCHLOROTHIAZIDE; METOPROLOL/HYDROCHLOROTHIAZIDE; AMLODIPINE/ATORVASTATIN; TRANDOLAPRIL; QUINAPRIL/HYDROCHLOROTHIAZIDE; ACEBUTOLOL HCL; AMILORIDE/HYDROCHLOROTHIAZIDE; AZILSARTAN MED/CHLORTHALIDONE; AZILSARTAN MEDOXOMIL; AMLODIPINE BESYLATE/VALSARTAN; MOEXIPRIL HCL; PINDOLOL;</p>

	<p>NISOLDIPINE; ISOSORB DINIT/HYDRALAZINE HCL; MOEXIPRIL/HYDROCHLOROTHIAZIDE; TRIAMTERENE; BETAXOLOL HCL; OLMESARTAN MED/AMLODIPINE/HCTZ; AMLODIPINE/VALSARTAN/HCTZ; CANDESARTAN/HYDROCHLOROTHIAZID; ISOSORBIBE DINIT/HYDRALAZINE; PERINDOPRIL ERBUMINE; ALISKIREN/VALSARTAN; ALISKIREN/HYDROCHLOROTHIAZIDE; CHLOROTHIAZIDE; CAPTOPRIL/HYDROCHLOROTHIAZIDE; FOSINOPRIL/HYDROCHLOROTHIAZIDE; TIMOLOL; NICARDIPINE HCL; ISRADIPINE; TELMISARTAN/AMLODIPINE; TRANDOLAPRIL/VERAPAMIL HCL; PROPRANOLOL/HYDROCHLOROTHIAZID; TIMOLOL MALEATE/PF; EPROSARTAN MESYLATE; PHENOXYBENZAMINE HCL; METOPROLOL SUCCINATE/HCTZ; ISOSORBIDE DINIT/HYDRALAZINE; ALISKIREN/AMLODIPINE BESYLATE; PENBUTOLOL SULFATE; NIMODIPINE</p>
Hyperlipidemia	<p>ATORVASTATIN CALCIUM; SIMVASTATIN; PRAVASTATIN SODIUM; ROSUVASTATIN CALCIUM; LOVASTATIN; FENOFIBRATE NANOCRYSTALLIZED; EZETIMIBE; FENOFIBRATE; GEMFIBROZIL; FENOFIBRATE, MICRONIZED; FENOFIBRIC ACID (CHOLINE); COLESEVELAM HCL; EZETIMIBE/SIMVASTATIN; COLESTIPOL HCL; ICOSAPENT ETHYL; PITAVASTATIN CALCIUM; EVOLOCUMAB; ALIROCUMAB; FLUVASTATIN SODIUM; NIACIN/SIMVASTATIN; NIACIN/LOVASTATIN; FENOFIBRIC ACID; SITAGLIPTIN/SIMVASTATIN; EZETIMIBE/ATORVASTATIN CALCIUM</p>

eTable 3. Covariate Balance Using Instrumental Variable for Cohort of Patients With Diabetes Medication Use and Diagnosis at the Time of Surgery

Characteristic	Actual Treatment			Prior Year Sleeve Utilization Rate		
	Bypass (N=13779)	Sleeve (N=16809)	SD	4 th qtile (N=7848)	1 st qtile (N=7438)	SD
Sleeve gastrectomy	0	100	N/A	67.43	43.82	48.93
Age (years)						
≤55	44.00	39.21	9.73	41.28	41.73	0.91
55-65	27.3	26.27	2.34	26.55	27.17	1.39
66-75	28.2	33.61	11.73	31.56	30.48	2.34
>75	0.5	0.92	4.95	0.60	0.62	0.25
Female	72.65	70.09	5.66	70.73	72.45	3.82
White Race	75.89	74.65	2.88	73.55	78.81	12.38
Comorbidities						
Acquired immune deficiency syndrome	0.08	0.15	2.19	0.15	0.07	2.58
Chronic blood loss anemia	0.22	0.14	1.92	0.18	0.17	0.09
Chronic pulmonary disease	29.17	28.75	0.92	28.12	29.55	3.16
Coagulopathy	1.03	0.86	1.73	0.76	1.05	3.00
Congestive heart failure	8.03	9.44	4.99	8.92	9.16	0.82
Deficiency Anemias	7.15	7.05	0.38	7.4	6.64	2.98
Depression	28.7	24.94	8.49	25.15	29.69	10.17
Diabetes with chronic complications	N/A			N/A		
Diabetes without chronic complications	N/A			N/A		
Fluid and electrolyte disorders	7.5	6.48	3.97	6.88	7.11	0.91
Hypertension	84.06	84.16	0.29	84.21	84.44	0.64
Hypothyroidism	17.8	18.37	1.48	17.33	19.00	4.33
Liver disease	16.92	15.14	4.84	13.39	15.18	5.11
Lymphoma	0.06	0.12	2.21	0.15	0.03	4.21
Other neurological disorders	5.18	4.93	1.14	4.83	6.31	6.44
Paralysis	0.53	0.63	1.33	0.57	0.56	0.12
Peripheral vascular disease	2.18	2.12	0.41	2.01	2.19	1.24
Psychoses	7.56	6.25	5.19	6.40	7.70	5.11
Pulmonary circulation disease	1.42	0.93	4.53	1.16	1.29	1.19
Renal failure	8.69	9.7	3.52	8.89	9.87	3.34
Rheumatoid arthritis/collagen vas	3.48	3.56	0.43	3.59	3.55	0.24
Solid tumor w/out metastasis	0.27	0.29	0.43	0.17	0.38	4.06
Malnutrition	0.49	0.27	3.57	0.43	0.36	1.12
Valvular disease	1.79	2.01	1.60	1.98	1.87	0.77

eTable 4. Covariate Balance Using Instrumental Variable for Cohort of Patients With Hypertension Medication Use and Diagnosis at the Time of Surgery

Characteristic	Actual Treatment			Prior Year Sleeve Utilization Rate		
	Bypass (N=20955)	Sleeve (N=31126)	SD	4 th qtile (N=12665)	1 st qtile (N=12532)	SD
Sleeve gastrectomy	0	100	N/A	71.61	48.72	48.07
Age (years)						
≤55	43.70	38.25	11.10	40.68	40.65	0.07
55-65	26.53	25.29	2.82	25.86	25.71	0.34
66-75	29.20	35.39	13.27	32.65	32.94	0.61
>75	0.58	1.07	5.45	0.80	0.70	0.01
Female	75.16	73.06	4.83	73.90	75.14	2.85
White Race	75.55	74.27	3.07	73.71	78.41	11.03
Comorbidities						
Acquired immune deficiency syndrome	0.12	0.21	2.21	0.20	0.11	2.18
Chronic blood loss anemia	0.22	0.14	2.03	0.16	0.19	0.61
Chronic pulmonary disease	29.78	28.03	3.85	28.34	29.44	2.42
Coagulopathy	0.94	0.85	0.99	0.90	1.02	1.16
Congestive heart failure	7.8	8.51	2.59	8.11	8.87	2.72
Deficiency Anemias	6.87	6.4	1.88	6.98	6.45	2.12
Depression	29.75	25.99	8.41	27.10	30.46	7.42
Diabetes with chronic complications	13.08	11.38	16.87	11.58	13.67	0.47
Diabetes without chronic complications	49.24	40.88	5.19	44.23	44.00	6.29
Fluid and electrolyte disorders	7.09	5.99	4.43	6.43	6.68	1.01
Hypertension	N/A			N/A		
Hypothyroidism	17.59	17.92	0.84	17.43	18.44	2.65
Liver disease	15.16	13.1	5.91	11.95	13.00	3.17
Lymphoma	0.07	0.14	2.22	0.14	0.10	1.09
Other neurological disorders	5.48	5.18	1.32	5.06	6.39	5.73
Paralysis	0.53	0.58	0.55	0.50	0.56	0.73
Peripheral vascular disease	2.06	1.88	1.33	1.91	2.15	1.72
Psychoses	7.31	5.65	6.73	5.84	6.95	4.53
Pulmonary circulation disease	1.34	0.85	4.70	1.07	1.23	1.52
Renal failure	7.51	7.64	0.49	7.11	8.52	5.28
Rheumatoid arthritis/collagen vas	3.94	4.47	2.61	4.42	4.25	0.82
Solid tumor w/out metastasis	0.24	0.28	0.87	0.16	0.37	4.02
Malnutrition	0.43	0.29	2.48	0.40	0.32	1.39
Valvular disease	1.99	2.25	1.82	2.32	2.09	1.57

eTable 5. Covariate Balance Using Instrumental Variable for Cohort of Patients With Hyperlipidemia Medication Use and Diagnosis at the Time of Surgery

Characteristic	Actual Treatment			Prior Year Sleeve Utilization Rate		
	Bypass (N=14401)	Sleeve (N=20654)	SD	4 th qtile (N=8665)	1 st qtile (N=8599)	SD
Sleeve gastrectomy	0	100	N/A	70.85	47.53	48.84
Age (years)						
≤55	38.9	32.78	12.78	35.61	35.21	0.84
55-65	28.28	27	2.86	27.92	28.15	0.53
66-75	32.14	39.01	14.39	35.59	35.81	0.45
>75	0.67	1.2	5.47	0.88	0.83	0.56
Female	73.38	70.7	5.97	71.46	73.1	3.67
White Race	79.31	79.14	0.44	78.36	82.2	9.65
Comorbidities						
Acquired immune deficiency syndrome	0.15	0.2	1.38	0.21	0.10	2.61
Chronic blood loss anemia	0.19	0.15	1.04	0.15	0.16	0.32
Chronic pulmonary disease	29.15	27.41	3.87	27.97	28.92	2.10
Coagulopathy	0.94	0.87	0.75	0.87	1.08	2.2
Congestive heart failure	7.94	8.74	2.88	8.68	8.68	0.61
Deficiency Anemias	6.53	5.93	2.52	6.32	6.21	0.47
Depression	29.87	25.98	8.68	27.36	30.03	5.89
Diabetes with chronic complications	15.66	13.78	5.31	14.35	15.89	4.30
Diabetes without chronic complications	54.85	46.81	16.13	50.29	49.37	1.86
Fluid and electrolyte disorders	6.8	6.05	3.04	6.47	6.64	0.67
Hypertension	83.63	83.46	0.46	83.38	83.68	0.82
Hypothyroidism	18.72	19.24	1.33	18.30	19.99	4.29
Liver disease	15.33	12.75	7.41	11.91	12.97	3.20
Lymphoma	0.04	0.13	2.91	0.12	0.09	0.69
Other neurological disorders	5.53	5.31	1.01	5.38	6.48	4.66
Paralysis	0.52	0.65	1.74	0.58	0.62	0.51
Peripheral vascular disease	2.34	2.15	1.25	2.29	2.42	0.88
Psychoses	7.46	5.84	6.50	6.11	7.15	4.21
Pulmonary circulation disease	1.29	0.85	4.27	1.12	1.09	0.25
Renal failure	8.3	8.56	0.93	8.07	9.38	4.67
Rheumatoid arthritis/collagen vas	3.48	3.77	1.54	3.82	3.84	0.09
Solid tumor w/out metastasis	0.26	0.28	0.46	0.17	0.34	3.25
Malnutrition	0.49	0.26	3.78	0.40	0.34	1.10
Valvular disease	1.95	2.37	2.86	2.34	2.16	1.21

eTable 6. Baseline Characteristics of Patients Who Discontinued All Diabetes, Hypertension, and Hyperlipidemia Medications After Surgery and Among Whom the Incidence of Medication Restart Was Calculated

Characteristic	Diabetes			Hypertension			Hyperlipidemia		
	Bypass (N=9898)	Sleeve (N=9701)	P	Bypass (N=10101)	Sleeve (N=11510)	P	Bypass (N=8959)	Sleeve (N=9587)	P
Age (mean (SD))	55.8 (11.1)	57.0 (11.3)	<.00 ₁	54.5 (11.6)	55.7 (11.8)	<.00 ₁	56.7 (10.8)	58.0 (10.9)	<.00 ₁
Female	7233 (73.1)	6916 (71.3)	0.005	7719 (76.4)	8611 (74.8)	0.006	6739 (75.2)	6996 (73.0)	0.001
White Race	7521 (76.0)	7238 (74.6)	0.026	7735 (76.6)	8646 (75.1)	0.043	7001 (78.1)	7411 (77.3)	0.385
Year of Operation									
2012	2273 (23.0)	77 (0.8)	<.00 ₁	2483 (24.6)	103 (0.9)	<.00 ₁	2170 (24.2)	94 (1.0)	<.00 ₁
2013	1888 (19.1)	1364 (14.1)		2040 (20.2)	1718 (14.9)		1814 (20.3)	1525 (15.9)	
2014	1625 (16.4)	1787 (18.4)		1773 (17.6)	2308 (20.1)		1489 (16.6)	1948 (20.3)	
2015	1451 (14.7)	1929 (19.9)		1452 (14.4)	2474 (21.5)		1327 (14.8)	2048 (21.4)	
2016	1197 (12.1)	1943 (20.0)		1195 (11.8)	2382 (20.7)		1092 (12.2)	1906 (19.9)	
2017	1085 (11.0)	1862 (19.2)		876 (8.7)	1937 (16.8)		790 (8.8)	1558 (16.3)	
2018	379 (3.8)	739 (7.6)		282 (2.8)	588 (5.1)		277 (3.1)	508 (5.3)	
Comorbidities									
Acquired immune deficiency syndrome	–	12 (0.1)	0.145	12 (0.1)	23 (0.2)	0.139	–	16 (0.2)	0.218
Chronic blood loss anemia	22 (0.2)	11 (0.1)	0.063	28 (0.3)	13 (0.1)	0.006	18 (0.2)	12 (0.1)	0.200
Chronic pulmonary disease	2948 (29.8)	2791 (28.8)	0.119	2971 (29.4)	3173 (27.6)	0.003	2589 (28.9)	2545 (26.6)	<.00 ₁
Coagulopathy	111 (1.1)	71 (0.7)	0.005	86 (0.9)	94 (0.8)	0.779	73 (0.8)	72 (0.8)	0.622
Congestive heart failure	770 (7.8)	826 (8.5)	0.060	559 (5.5)	583 (5.1)	0.124	615 (6.9)	682 (7.1)	0.506
Deficiency Anemias	685 (6.9)	616 (6.4)	0.109	654 (6.5)	702 (6.1)	0.256	570 (6.4)	529 (5.5)	0.015
Depression	2835 (28.6)	2440 (25.2)	<.00 ₁	3059 (30.3)	3060 (26.6)	<.00 ₁	2754 (30.7)	2468 (25.7)	<.00 ₁
Diabetes with chronic complications	N/A	N/A	N/A	4991 (49.4)	4556 (39.6)	<.00 ₁	5059 (56.5)	4556 (47.5)	<.00 ₁
Diabetes without chronic complications	N/A	N/A	N/A	974 (9.6)	906 (7.9)	<.00 ₁	1141 (12.7)	1022 (10.7)	<.00 ₁
Fluid and electrolyte disorders	676 (6.8)	571 (5.9)	0.007	600 (5.9)	614 (5.3)	0.054	581 (6.5)	556 (5.8)	0.052
Hypertension	8254 (83.4)	7998 (82.5)	0.079	N/A	N/A	N/A	7377 (82.3)	7770 (81.2)	0.023
Hypothyroidism	1740 (17.6)	1734 (17.9)	0.589	1726 (17.1)	1974 (17.2)	0.903	1628 (18.2)	1715 (17.9)	0.617
Liver disease	1662 (16.8)	1470 (15.2)	0.002	1515 (15.0)	1527 (13.3)	<.00 ₁	1363 (15.2)	1221 (12.7)	<.00 ₁

Lymphoma	–	14 (0.1)	0.185	–	19 (0.2)	0.011	–	14 (0.2)	0.011
Other neurological disorders	490 (5.0)	464 (4.8)	0.586	523 (5.2)	633 (5.5)	0.294	485 (5.4)	477 (5.0)	0.179
Paralysis	51 (0.5)	52 (0.5)	0.841	47 (0.5)	57 (0.5)	0.751	34 (0.4)	55 (0.6)	0.056
Peripheral vascular disease	201 (2.0)	178 (1.8)	0.320	186 (1.8)	162 (1.4)	0.012	195 (2.2)	167 (1.7)	0.033
Psychoses	787 (8.0)	644 (6.6)	<.00 1	879 (8.7)	836 (7.3)	<.00 1	701 (7.8)	620 (6.5)	<.00 1
Pulmonary circulation disease	149 (1.5)	100 (1.0)	0.003	140 (1.4)	96 (0.8)	<.00 1	119 (1.3)	106 (1.1)	0.166
Renal failure	779 (7.9)	758 (7.8)	0.883	518 (5.1)	636 (5.5)	0.195	652 (7.3)	677 (7.1)	0.569
Rheumatoid arthritis/collagen vas	352 (3.6)	372 (3.8)	0.302	382 (3.8)	484 (4.2)	0.114	314 (3.5)	374 (3.9)	0.154
Solid tumor w/out metastasis	24 (0.2)	25 (0.3)	0.831	23 (0.2)	27 (0.2)	0.916	15 (0.2)	24 (0.3)	0.218
Malnutrition	50 (0.5)	29 (0.3)	0.023	38 (0.4)	38 (0.3)	0.568	44 (0.5)	31 (0.3)	0.072
Valvular disease	165 (1.7)	183 (1.9)	0.245	152 (1.5)	181 (1.6)	0.687	152 (1.7)	181 (1.9)	0.327

Legend: Values represent N (%) unless otherwise specified. Categories with less than 10 patients are censored per data regulations by the Centers for Medicare and Medicaid Services.

eTable 7. Adjusted Hazard Ratios Without Use of the Instrumental Variable for Discontinuation of Diabetes, Hypertension, and Hyperlipidemia Medications at 1, 3, and 5 Years After Gastric Bypass Compared to Sleeve Gastrectomy

Outcome	Adjusted Hazard Ratio (95% CI)		
	1-year	3-year	5-year
Diabetes Medication Discontinuation	1.36 (1.31-1.41)	1.45 (1.35-1.55)	1.49 (1.36-1.63)
Hypertension Medication Discontinuation	1.22 (1.17-1.27)	1.24 (1.17-1.30)	1.24 (1.16-1.33)
Lipid Medication Discontinuation	1.37 (1.34-1.41)	1.19 (1.12-1.25)	1.11 (1.03-1.19)

Legend: Adjusted hazard ratios calculated using Cox hazards models that included treatment, age, sex, race, year of surgery, and comorbidities, which were interacted with time. Medication discontinuation defined as at least a 6-month lapse in claims for a medication refill after the previous medication fill. Outcomes calculated among 30,588 patients with diabetes diagnosis and medication use, 52,081 patients with hypertension diagnosis and medication use, and 35,055 patients with hyperlipidemia diagnosis and medication use.

eTable 8. Adjusted Hazard Ratios Without Use of the Instrumental Variable for Restarting Diabetes, Hypertension, and Hyperlipidemia Medications at 1, 3, and 5 Years After Medication Discontinuation Following Gastric Bypass Compared to Sleeve Gastrectomy

Outcome	Adjusted Hazard Ratio (95% CI)		
	1-year	3-year	5-year
Diabetes Medication Restart	0.71 (0.67-0.76)	0.78 (0.69-0.88)	0.81 (0.69-0.95)
Hypertension Medication Restart	0.85 (0.81-0.88)	0.94 (0.87-1.01)	0.98 (0.89-1.08)
Lipid Medication Restart	0.56 (0.52-0.59)	0.49 (0.45-0.54)	0.46 (0.41-0.52)

Legend: Adjusted hazard ratios calculated using Cox hazards models that included treatment, age, sex, race, year of surgery, comorbidities, which were interacted with time. Medication restart defined as a pharmacy claim for the relevant medication class following discontinuation. Outcomes calculated among 19,599 patients who discontinued all diabetes medications, 21,611 patients who discontinued all hypertension medications, and 18,546 patients who discontinued all hyperlipidemia medications.