SUPPLEMENTAL MATERIAL

Table S1. Baseline characteristics of propensity matched patients in the Serum Creatinine Measurements (SCREAM) cohort who initiated ACE-I or ARB therapy and those who initiated beta blocker therapy who were not on ACE-I or ARB therapy

	New users of ACEi/ARB	New users of beta blockers
Total N	20186	20186
Baseline characteristics		
Age, mean (SD), years	52 (14)	53 (16)
Female, n (%)	11937 (59%)	11590 (57%)
Diabetes, n (%)	1203 (6%)	912 (5%)
History of CHF, n (%)	1052 (5%)	968 (5%)
History of CAD, CVD or PVD, n (%)	2345 (12%)	2327 (12%)
Use of NSAID, n (%)	5561 (28%)	5523 (27%)
Use of other Diuretics, n (%)	3089 (15%)	2943 (15%)
Use of K Sparing Diuretics, n (%)	732 (4%)	710 (4%)
Use of other HTN meds, n (%)	2672 (13%)	2432 (12%)
Potassium, mean (SD), mmol/L	4.1 (0.4)	4.1 (0.4)
Potassium > 5mmol/L, n (%)	113 (1%)	143 (1%)
Potassium > 5.5mmol/L, n (%)	16 (0%)	27 (0%)
eGFR, mean (SD), ml/min/1.73m^2	92 (20)	91 (21)
eGFR <60 ml/min/1.73m^2, n (%)	1346 (7%)	1725 (9%)
Available ACR or dipstick, n (%)	3498 (17%)	3524 (17%)
Albuminuria 30-300 mg/g, n (%)	609 (17%)	300 (9%)
Albuminuria >300 mg/g, n (%)	153 (4%)	90 (3%)
During follow-up		
Had potassium checked, n (%)	14932 (74%)	12824 (64%)
Potassium > 5mmol/L, n (%)	636 (4.3%)	565 (4.4%)
Potassium > 5.5mmol/L, n (%)	197 (1.3%)	173 (1.4%)

Abbreviations: SD, standard deviation; CHF, congestive heart failure; CAD, coronary artery disease; CVD, cerebrovascular disease; PVD, peripheral vascular disease; NSAID, non-steroidal anti-inflammatory drug; K, potassium; HTN, hypertension; ACE-I, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker therapy; eGFR, estimated glomerular filtration rate; ACR, albumin-to-creatinine ratio. Indication for ACE-I/ARB defined as ACR ≥300 mg/g or a protein level of ++ on urine dipstick, a diagnosis of congestive heart failure, or a diagnosis of diabetes mellitus with ACR >30 mg/g or a protein level of + on urine dipstick.

Table S2. Baseline characteristics of patients initiating angiotensin converting enzyme inhibitor or angiotensin receptor blocker therapy in the Geisinger health system, stratified by the presence of serum potassium monitoring in the year following initial medication prescription
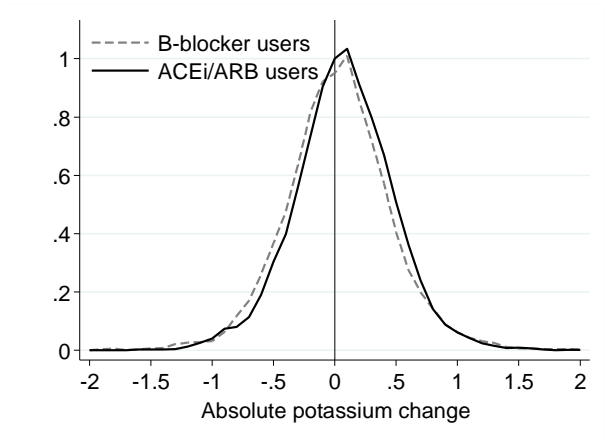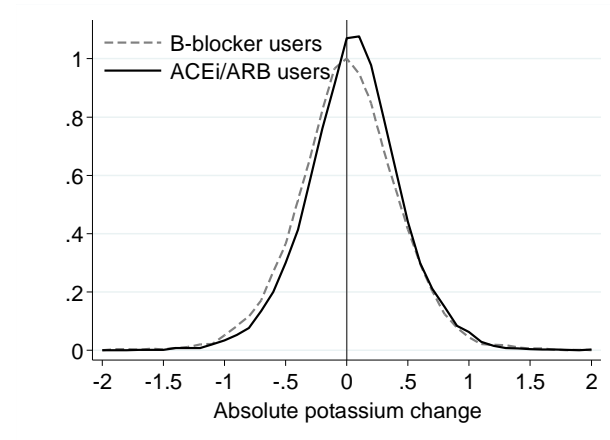
	Overall	No Serum Potassium Monitoring	Serum Potassium Measured At Least Once in the First Year
Total N (%)	19524	4107 (21%)	15417 (79%)
Age, mean (SD), years	60 (15)	55 (15)	61 (14)
Female, n (%)	9782 (50%)	1870 (46%)	7912 (51%)
Diabetes, n (%)	6129 (31%)	852 (21%)	5277 (34%)
History of CHF, n (%)	1289 (7%)	136 (3%)	1153 (7%)
History of CAD, CVD or PVD, n (%)	5261 (27%)	717 (17%)	4544 (29%)
Use of NSAID, n (%)	3905 (20%)	725 (18%)	3180 (21%)
Use of other Diuretics, n (%)	7683 (39%)	1411 (34%)	6272 (41%)
Use of K Sparing Diuretics, n (%)	1200 (6%)	161 (4%)	1039 (7%)
Use of beta blockers, n (%)	7172 (37%)	1184 (29%)	5988 (39%)
Use of other HTN meds, n (%)	2855 (15%)	470 (11%)	2385 (15%)
Potassium, mean (SD), mmol/L	4.3 (0.4)	4.3 (0.4)	4.3 (0.4)
Potassium > 5mmol/L, n (%)	786 (4%)	141 (3%)	645 (4%)
Potassium > 5.5mmol/L, n (%)	82 (0.4%)	9 (0.2%)	73 (0.5%)
eGFR, mean (SD), ml/min/1.73m^2	83 (22)	88 (20)	82 (22)
eGFR <60 ml/min/1.73m^2, n (%)	2923 (15%)	398 (10%)	2525 (16%)
Available ACR or dipstick, n (%)	4888 (25%)	660 (16%)	4228 (27%)
Albuminuria 30-300 mg/g, n (%)	2362 (48%)	337 (51%)	2025 (48%)
Albuminuria >300 mg/g, n (%)	454 (9%)	50 (8%)	404 (10%)

Abbreviations: SD, standard deviation; CHF, congestive heart failure; CAD, coronary artery disease; CVD, cerebrovascular disease; PVD, peripheral vascular disease; NSAID, non-steroidal anti-inflammatory drug; K, potassium; HTN, hypertension; ACE-I, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker therapy; eGFR, estimated glomerular filtration rate; ACR, albumin-to-creatinine ratio. Indication for ACE-I/ARB defined as ACR ≥300 mg/g or a protein level of ++ on urine dipstick, a diagnosis of congestive heart failure, or a diagnosis of diabetes mellitus with ACR >30 mg/g or a protein level of + on urine dipstick.

Figure S1. Distribution of change in potassium from baseline to first value after medication initiation among propensity-matched patients in the Serum Creatinine Measurements (SCREAM) cohort initiating beta blocker therapy (dashed line; N=20,186) or ACE-I or ARB therapy (solid line; N=20,186)
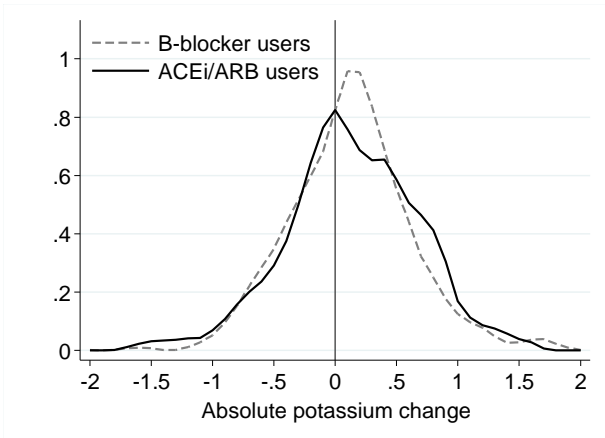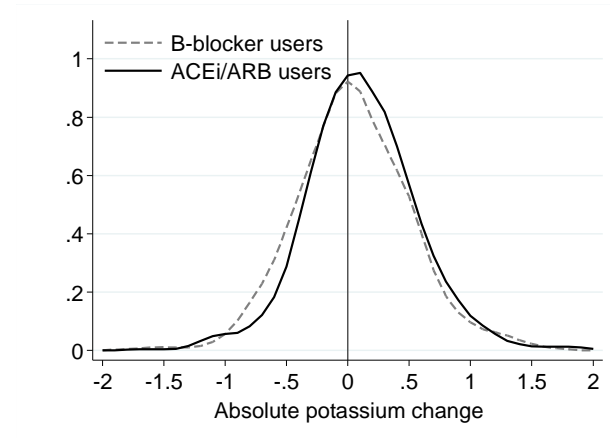
eGFR 90+ ml/min/1.73 m^2

eGFR 60-89 ml/min/1.73 m^2

eGFR 45-59 ml/min/1.73 m^2

eGFR 30-44 ml/min/1.73 m^2

eGFR <30 ml/min/1.73 m^2