

**Online supplementary table 3.** Patients characteristics in inverse probability treatment weight adjusted population

	<b>GDMT (n=1813)</b>	<b>Beta blocker only (n=1298)</b>	<b>RAS inhibitor only (n=1709)</b>	<b>No GDMT (n=1132)</b>	<b>Std. Diff.</b>	<b>P value</b>
Age, years	75.5 ± 6.7	75.6 ± 6.8	76.1 ± 7.0	76.7 ± 6.8	0.17	0.07
Men, n (%)	964 (53.2)	757 (58.3)	963 (56.3)	622 (54.9)	0.10	0.26
BMI, kg/m <sup>2</sup>	22.7 ± 3.4	22.6 ± 3.5	22.4 ± 3.3	22.4 ± 3.2	0.08	0.34
Medical history						
Previous heart failure, n (%)	905 (49.9)	687 (52.9)	901 (52.8)	656 (58.0)	0.16	0.05
Hypertension, n (%)	1233 (68.0)	870 (67.0)	1108 (64.9)	732 (64.6)	0.07	0.24
Diabetes, n (%)	774 (42.7)	481 (37.0)	650 (38.0)	472 (41.7)	0.11	0.09
Chronic kidney disease, n (%)	933 (51.5)	769 (59.2)	877 (51.3)	674 (59.6)	0.16	0.05
Atrial fibrillation, n (%)	566 (31.2)	448 (34.5)	515 (30.2)	380 (33.6)	0.09	0.32
COPD, n (%)	211 (11.6)	168 (12.9)	247 (14.5)	162 (14.3)	0.08	0.12
Myocardial infarction, n (%)	395 (21.8)	330 (25.4)	384 (22.5)	292 (25.8)	0.10	0.34
Cause of heart failure						
Ischemic, n (%)	920 (50.8)	752 (57.9)	837 (49.0)	615 (54.4)	0.18	0.06
Dilated, n (%)	434 (23.9)	250 (19.2)	387 (22.6)	213 (18.8)	0.12	0.15
Medication on admission						
Beta-blocker, n (%)	561 (31.0)	442 (34.0)	439 (25.7)	259 (22.9)	0.24	0.03
RAS inhibitor, n (%)	727 (40.1)	459 (35.4)	762 (44.6)	409 (36.2)	0.19	0.06
MRA, n (%)	301 (16.6)	277 (21.3)	296 (17.3)	224 (19.8)	0.12	0.15
Medication on discharge						
MRA, n (%)	936 (51.6)	643 (49.6)	839 (49.1)	486 (42.9)	0.17	0.03

Loop diuretics, n (%)	1427 (78.7)	977 (75.2)	1305 (76.4)	794 (70.2)	0.21	0.01
Digoxin, n (%)	547 (30.2)	358 (27.6)	488 (28.5)	361 (31.9)	0.09	0.39
Systolic BP on discharge, mm Hg	114.7 ± 16.8	113.8 ± 16.8	115.0 ± 16.5	112.5 ± 15.4	0.15	0.39
Diastolic BP on discharge, mm Hg	66.1 ± 10.8	66.1 ± 10.1	66.1 ± 10.9	65.0 ± 9.9	0.10	0.20
Heart rate on discharge, beats/min	76.3 ± 13.6	77.8 ± 12.3	77.2 ± 14.2	77.4 ± 13.5	0.10	0.21
NYHA functional class on discharge					0.10	0.23
I or II, n (%)	1598 (88.1)	1148 (88.4)	1496 (87.5)	1028 (90.8)		
III or IV, n (%)	215 (11.9)	150 (11.6)	213 (12.5)	105 (9.2)		
Echocardiographic parameters						
LVEDD, mm	60.2 ± 8.8	59.6 ± 8.7	60.3 ± 8.7	59.3 ± 8.7	0.11	0.40
LVESD, mm	50.3 ± 9.3	49.9 ± 9.3	50.0 ± 9.5	49.4 ± 9.5	0.09	0.26
LVEF, %	28.7 ± 7.3	28.2 ± 7.7	28.9 ± 7.3	29.0 ± 7.2	0.11	0.57
Laboratory data on admission						
Hemoglobin, g/dL	12.3 ± 2.0	12.3 ± 1.9	12.3 ± 2.1	12.1 ± 2.1	0.08	0.49
eGFR, ml/min/1.73m <sup>2</sup>	61.6 ± 32.6	58.6 ± 30.1	62.3 ± 30.1	56.5 ± 28.1	0.18	0.07
Sodium, mEq/L	137.8 ± 4.5	138.0 ± 4.2	137.6 ± 4.5	137.4 ± 4.5	0.11	0.78
Potassium, mEq/L	4.4 ± 0.7	4.4 ± 0.7	4.4 ± 0.7	4.5 ± 0.7	0.14	0.46
BNP, pg/mL	1692.2 ± 1528.3	1703.7 ± 1403.4	1731.0 ± 1389.8	1732.8 ± 1858.4	0.03	0.81
NT-pro-BNP, pg/mL	11650.7 ± 11236.4	10810.0 ± 10121.4	10549.1 ± 10321.2	12307.0 ± 10979.5	0.16	0.10

GDMT, guideline-directed medical therapy; RAS, renin angiotensin system; BMI, body mass index; COPD, chronic obstructive pulmonary disease; MRA, mineralocorticoid receptor antagonist; BP, blood pressure; LVEDD, left ventricular end diastolic diameter; LVESD, left ventricular end systolic diameter; LVEF, left ventricular ejection fraction; GFR, glomerular filtration rate; BNP, brain natriuretic peptide