

Table S1 Baseline characteristics by cause of rehospitalization group

Characteristic <sup>a</sup>	Rehospitalization status					
	All non-HF re hosp (n = 406)	Early non-HF re hosp (n = 140)	Late non-HF re hosp (n = 266)	All HF re hosp (n = 345)	Early HF re hosp (n = 108)	Late HF re hosp (n = 237)
<b>Demographics</b>						
Age, years	68 ± 14.1	68 ± 14.3	67 ± 14.0	65 ± 15.2	65 ± 14.8	65 ± 15.4
Female gender	145 (35.7%)	50 (35.7%)	95 (35.7%)	113 (32.8%)	33 (30.6%)	80 (33.8%)
Race groups						
White	256 (63.1%)	81 (57.9%)	175 (65.8%)	196 (56.8%)	69 (63.9%)	127 (53.6%)
Black or African American	74 (18.2%)	31 (22.1%)	43 (16.2%)	95 (27.5%)	23 (21.3%)	72 (30.4%)
Asian	61 (15.0%)	20 (14.3%)	41 (15.4%)	45 (13.0%)	11 (10.2%)	34 (14.3%)
Other	15 (3.7%)	8 (5.7%)	7 (2.6%)	9 (2.6%)	5 (4.6%)	4 (1.7%)
Baseline weight, kg	82 (68–97)	82 (69–103)	83 (68–95)	83 (69–100)	84 (69–100)	83 (69–100)
Region						
Asia-Pacific	60 (14.8%)	19 (13.6%)	41 (15.4%)	45 (13.0%)	12 (11.1%)	33 (13.9%)
Central Europe	15 (3.7%)	4 (2.9%)	11 (4.1%)	10 (2.9%)	1 (0.9%)	9 (3.8%)
Latin America	27 (6.7%)	11 (7.9%)	16 (6.0%)	26 (7.5%)	7 (6.5%)	19 (8.0%)
North America	282 (69.5%)	101 (72.1%)	181 (68.0%)	252 (73.0%)	83 (76.9%)	169 (71.3%)
Western Europe	22 (5.4%)	5 (3.6%)	17 (6.4%)	12 (3.5%)	5 (4.6%)	7 (3.0%)
<b>Medical history</b>						
NYHA classification						
NYHA class not assessed	83 (20.4%)	33 (23.6%)	50 (18.8%)	67 (19.4%)	28 (25.9%)	39 (16.5%)
I	11 (2.7%)	3 (2.1%)	8 (3.0%)	6 (1.7%)	1 (0.9%)	5 (2.1%)
II	64 (15.8%)	17 (12.1%)	47 (17.7%)	47 (13.6%)	14 (13.0%)	33 (13.9%)
III	164 (40.4%)	61 (43.6%)	103 (38.7%)	148 (42.9%)	44 (40.7%)	104 (43.9%)
IV	84 (20.7%)	26 (18.6%)	58 (21.8%)	77 (22.3%)	21 (19.4%)	56 (23.6%)
Ischaemic heart disease	252 (62.1%)	84 (60.0%)	168 (63.2%)	221 (64.1%)	79 (73.1%)	142 (59.9%)
HF hospitalization in past year	207 (51.0%)	70 (50.0%)	137 (51.5%)	210 (60.9%)	64 (59.3%)	146 (61.6%)

LVEF, previous 12 months	32 ± 15.0	34 ± 16.0	32 ± 14.4	30 ± 13.8	31 ± 14.2	29 ± 13.6
LVEF <40% in past year	240 (70.4%)	74 (63.8%)	166 (73.8%)	220 (78.6%)	67 (75.3%)	153 (80.1%)
History of hypertension	313 (77.1%)	115 (82.1%)	198 (74.4%)	276 (80.0%)	87 (80.6%)	189 (79.7%)
History of diabetes mellitus	203 (50.0%)	70 (50.0%)	133 (50.0%)	176 (51.0%)	54 (50.0%)	122 (51.5%)
History of coronary artery disease	236 (58.3%)	80 (57.1%)	156 (58.9%)	218 (63.2%)	78 (72.2%)	140 (59.1%)
History of cerebrovascular disease	73 (18.0%)	24 (17.1%)	49 (18.4%)	59 (17.1%)	14 (13.0%)	45 (19.0%)
History of peripheral arterial vascular disease	62 (15.3%)	24 (17.1%)	38 (14.3%)	47 (13.6%)	17 (15.7%)	30 (12.7%)
Baseline chronic respiratory disease	108 (26.6%)	41 (29.3%)	67 (25.2%)	83 (24.1%)	28 (25.9%)	55 (23.2%)
History of atrial fibrillation/flutter	182 (44.8%)	72 (51.4%)	110 (41.4%)	153 (44.3%)	46 (42.6%)	107 (45.1%)
History of ICD/CRT	65 (16.0%)	19 (13.6%)	46 (17.3%)	62 (18.0%)	19 (17.6%)	43 (18.1%)
Current smoker	57 (14.0%)	22 (15.7%)	35 (13.2%)	45 (13.0%)	9 (8.3%)	36 (15.2%)
<b>Laboratory values</b>						
Baseline systolic BP, mmHg	122 (110–137)	124 (111–140)	122 (110–136)	120 (109–136)	121 (108–135)	120 (109–138)
Baseline diastolic BP, mmHg	71 (64–81)	75 (65–86)	70 (64–80)	72 (63–80)	71 (63–80)	72 (64–81)
Baseline heart rate, b.p.m.	82 (70–95)	80 (70–94)	82 (70–96)	80 (70–90)	80 (70–90)	80 (70–90)
Baseline respiratory rate, breaths/min	22 (20–24)	22 (21–24)	22 (20–24)	23 (20–25)	22 (20–25)	23 (21–25)
Baseline sodium, mmol/L	139 (136–141)	138 (136–141)	139 (136–141)	139 (136–141)	138 (136–141)	139 (136–141)
Baseline BUN, mg/dL	27 (19–40)	27 (19–41)	27 (20–39)	29 (20–43)	28 (18–42)	29 (20–44)
Baseline creatinine, mg/dL	1.3 (1.0–1.6)	1.4 (1.1–1.8)	1.3 (1.0–1.6)	1.4 (1.1–1.9)	1.4 (1.1–1.8)	1.4 (1.1–1.9)
Baseline haemoglobin, g/dL	12 (11–14)	12 (11–14)	13 (11–14)	12 (11–13)	12 (11–13)	12 (11–14)
Baseline NT-proBNP, pg/mL	4913 (2532–10 265)	5263 (2128–10 252)	4878 (2671–10 595)	6555 (3487–13 792)	8370 (3881–15 008)	6196 (2965–13 612)
Baseline BNP, pg/mL	1070 (647–1757)	1027 (601–1570)	1110 (655–1759)	1306 (656–2315)	992 (619–2530)	1429 (710–2275)
Baseline GFR	55 (43–72)	54 (38–69)	57 (44–73)	52 (37–67)	53 (40–66)	52 (37–67)
<b>Medication at/before baseline</b>						
ACEI or ARB	255 (62.8%)	85 (60.7%)	170 (63.9%)	227 (65.8%)	76 (70.4%)	151 (63.7%)
Beta-blockers	269 (66.3%)	93 (66.4%)	176 (66.2%)	248 (71.9%)	71 (65.7%)	177 (74.7%)
MRA	112 (27.6%)	34 (24.3%)	78 (29.3%)	109 (31.6%)	33 (30.6%)	76 (32.1%)
Chronic use of loop diuretics	307 (75.6%)	104 (74.3%)	203 (76.3%)	296 (85.8%)	91 (84.3%)	205 (86.5%)

Nitrates	94 (23.2%)	39 (27.9%)	55 (20.7%)	106 (30.7%)	38 (35.2%)	68 (28.7%)
Hydralazine	50 (12.3%)	25 (17.9%)	25 (9.4%)	61 (17.7%)	17 (15.7%)	44 (18.6%)
Digoxin	110 (27.1%)	30 (21.4%)	80 (30.1%)	109 (31.6%)	27 (25.0%)	82 (34.6%)
Oral anticoagulants	139 (34.2%)	45 (32.1%)	94 (35.3%)	118 (34.2%)	37 (34.3%)	81 (34.2%)
Aspirin	229 (56.4%)	76 (54.3%)	153 (57.5%)	202 (58.6%)	68 (63.0%)	134 (56.5%)
<b>Clinical profile</b>						
Baseline BMI	28.7 (24.6–33.2)	29.1 (24.7–34.8)	28.5 (24.6–33.1)	29.0 (25.0–33.6)	28.5 (25.1–33.8)	29.2 (25.0–33.3)
Orthopnoea	326 (80.5%)	120 (85.7%)	206 (77.7%)	282 (81.7%)	92 (85.2%)	190 (80.2%)
Rales >1/3 lung fields	202 (49.8%)	68 (48.6%)	134 (50.4%)	169 (49.0%)	48 (44.4%)	121 (51.1%)
JVD	256 (63.1%)	90 (64.3%)	166 (62.4%)	232 (67.2%)	68 (63.0%)	164 (69.2%)
Peripheral oedema	312 (76.8%)	109 (77.9%)	203 (76.3%)	272 (78.8%)	81 (75.0%)	191 (80.6%)
<b>Clinical course</b>						
Actual treatment group						
Placebo	204 (50.9%)	73 (52.9%)	131 (49.8%)	166 (49.3%)	50 (46.3%)	116 (50.7%)
Nesiritide	197 (49.1%)	65 (47.1%)	132 (50.2%)	171 (50.7%)	58 (53.7%)	113 (49.3%)
Readmission reason						
Rehosp due to WHF	0 (0.0%)	0 (0.0%)	0 (0.0%)	345 (100.0%)	108 (100.0%)	237 (100.0%)
Rehosp due to MI	8 (2.5%)	4 (3.0%)	4 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Rehosp due to RSCD	2 (0.6%)	2 (1.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Rehosp due to other CV event	99 (30.5%)	49 (36.3%)	50 (26.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Rehosp due to non-CV event	216 (66.5%)	80 (59.3%)	136 (71.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; BMI, body mass index; BNP, b-type natriuretic

peptide; BP, blood pressure; BUN, blood urea nitrogen; CV, cardiovascular; GFR, glomerular filtration rate; HF, heart failure;

ICD/CRT, implantable cardioverter defibrillator/cardiac resynchronization therapy; JVD, jugular venous distension; LVEF, left

ventricular ejection fraction; MI, myocardial infarction; MRA, mineralocorticoid receptor antagonist; NT-proBNP, N terminal pro

brain natriuretic peptide; NYHA, New York Heart Association; RSCD, resuscitated sudden cardiac death; WHF, worsening heart failure.

<sup>a</sup>Physical and laboratory findings, median (interquartile range).

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Table S2 Discharge characteristics by timing and cause of 30-day rehospitalization

Discharge characteristic	All non-HF rehos (n = 354)	Early non-HF rehos (n = 114)	Late non-HF rehos (n = 240)	All HF rehos (n = 308)	Early HF rehos (n = 94)	Late HF rehos (n = 214)
<b>Discharge physical and laboratory findings, median (interquartile range) [xxx]</b>						
Systolic BP, mmHg	117 (105–130) [262]	120 (105–135) [87]	115 (106–130) [175]	115 (103–130) [224]	110 (98–135) [67]	116 (105–127) [157]
Diastolic BP, mmHg	68 (60–76) [262]	68 (61–77) [87]	68 (60–75) [175]	70 (61–76) [224]	69 (61–76) [67]	70 (61–76) [157]
Weight, kg	81 (66–94) [240]	80 (66–97) [78]	83 (67–93) [162]	81 (70–97) [206]	83 (70–99) [60]	81 (70–97) [146]
Heart rate, b.p.m.	75 (69–84) [261]	73 (69–86) [87]	75 (69–84) [174]	77 (68–85) [224]	75 (68–85) [67]	78 (68–84) [157]
Respiratory rate, breaths/min	20 (18–20) [244]	20 (18–20) [81]	20 (18–20) [163]	20 (18–20) [212]	20 (18–20) [62]	20 (18–20) [150]
Sodium, mg/dL	137 (134–140) [277]	138 (134–140) [87]	137 (135–139) [190]	138 (135–140) [251]	137 (135–140) [73]	138 (135–140) [178]
Potassium, mmol/L	4.10 (3.80–4.40) [278]	4.10 (3.70–4.50) [87]	4.20 (3.80–4.40) [191]	4.10 (3.80–4.50) [251]	4.10 (3.80–4.60) [73]	4.10 (3.73–4.50) [178]
BUN, mmol/L	11 (8–15) [275]	11 (8–16) [85]	11 (8–15) [190]	12 (9–17) [252]	13 (9–19) [75]	12 (8–16) [177]
Log of BUN, mmol/L	2.4 (2.1–2.7) [275]	2.4 (2.0–2.8) [85]	2.4 (2.1–2.7) [190]	2.5 (2.1–2.8) [252]	2.5 (2.2–3.0) [75]	2.5 (2.1–2.8) [177]
Creatinine, mmol/L	115 (91–150) [282]	124 (88–166) [91]	115 (93–143) [191]	125 (104–176) [256]	133 (106–171) [77]	124 (103–177) [179]
Creatinine, mg	1.30 (1.03–1.70) [282]	1.40 (1.00–1.88) [91]	1.30 (1.05–1.62) [191]	1.41 (1.18–1.98) [255]	1.50 (1.20–1.94) [77]	1.40 (1.16–2.00) [178]
<b>Medications at discharge, %</b>						
ACEI or ARB	273/354 (77.1%)	85/114 (74.6%)	188/240 (78.3%)	207/308 (67.2%)	66/94 (70.2%)	141/214 (65.9%)
Beta-blocker	275/354 (77.7%)	95/114 (83.3%)	180/240 (75.0%)	257/308 (83.4%)	78/94 (83.0%)	179/214 (83.6%)
MRA	147/354 (41.5%)	49/114 (43.0%)	98/240 (40.8%)	120/308 (39.0%)	40/94 (42.6%)	80/214 (37.4%)
Oral or topical nitrates	94/354 (26.6%)	41/114 (36.0%)	53/240 (22.1%)	100/308 (32.5%)	40/94 (42.6%)	60/214 (28.0%)
Digoxin	115/354 (32.5%)	29/114 (25.4%)	86/240 (35.8%)	93/308 (30.2%)	25/94 (26.6%)	68/214 (31.8%)
Inotropes	0/354 (0.0%)	0/114 (0.0%)	0/240 (0.0%)	0/308 (0.0%)	0/94 (0.0%)	0/214 (0.0%)
Loop diuretics	335/354 (94.6%)	109/114 (95.6%)	226/240 (94.2%)	281/308 (91.2%)	84/94 (89.4%)	197/214 (92.1%)
Oral anticoagulants	132/354 (37.3%)	38/114 (33.3%)	94/240 (39.2%)	112/308 (36.4%)	33/94 (35.1%)	79/214 (36.9%)
Aspirin	241/354 (68.1%)	82/114 (71.9%)	159/240 (66.3%)	212/308 (68.8%)	74/94 (78.7%)	138/214 (64.5%)
<b>Discharge time</b>						
Days from randomization to discharge	5.0 (4.0–8.0) [354]	5.0 (4.0–8.0) [114]	5.0 (4.0–7.5) [240]	5.0 (3.0–7.0) [308]	5.0 (4.0–7.0) [94]	5.0 (3.0–7.0) [214]

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ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; BP, blood pressure; BUN, blood urea nitrogen;

HF, heart failure; MRA, mineralocorticoid receptor antagonist.

Table S3 Baseline patient characteristics by exclusion status

Characteristic <sup>a</sup>	Exclusion status			P value
	All patients (n = 7143)	Excluded patients (n = 559)	Study cohort (n = 6584)	
<b>Demographics</b>				
Age, years	65 ± 14.1	66 ± 14.6	65 ± 14.1	0.489
Female gender	2444 (34.2%)	189 (33.8%)	2255 (34.3%)	0.830
Race groups				0.001
White	3989 (55.9%)	313 (56.0%)	3676 (55.9%)	
Black or African American	1077 (15.1%)	59 (10.6%)	1018 (15.5%)	
Asian	1767 (24.7%)	167 (29.9%)	1600 (24.3%)	
Other	307 (4.3%)	20 (3.6%)	287 (4.4%)	
Baseline weight, kg	78 (64, 95)	75 (63, 92)	78 (65, 95)	0.003
Baseline height, cm	168 (160, 175)	168 (160, 174)	168 (160, 175)	0.147
Region				<0.001
Asia-Pacific	1762 (24.7%)	166 (29.7%)	1596 (24.2%)	
Central Europe	967 (13.5%)	67 (12.0%)	900 (13.7%)	
Latin America	665 (9.3%)	55 (9.8%)	610 (9.3%)	
North America	3243 (45.4%)	198 (35.4%)	3045 (46.3%)	
Western Europe	504 (7.1%)	73 (13.1%)	431 (6.5%)	
<b>Medical history</b>				
NYHA classification				<0.001
NYHA class not assessed	1250 (17.5%)	86 (15.4%)	1164 (17.7%)	
I	255 (3.6%)	7 (1.3%)	248 (3.8%)	
II	1098 (15.4%)	73 (13.1%)	1025 (15.6%)	
III	2853 (39.9%)	203 (36.3%)	2650 (40.2%)	
IV	1687 (23.6%)	190 (34.0%)	1497 (22.7%)	
Ischaemic heart disease	4293 (60.1%)	327 (58.6%)	3966 (60.3%)	0.444
History of hypertension	5150 (72.1%)	370 (66.2%)	4780 (72.6%)	0.001
History of diabetes mellitus	3046 (42.7%)	239 (42.8%)	2807 (42.6%)	0.960
History of coronary artery disease	3904 (54.7%)	299 (53.5%)	3605 (54.8%)	0.554
Current smoker	963 (13.5%)	62 (11.1%)	901 (13.7%)	0.037
History of cerebrovascular disease	842 (11.8%)	67 (12.0%)	775 (11.8%)	0.882
History of peripheral arterial vascular disease	740 (10.4%)	42 (7.5%)	698 (10.6%)	0.021
Baseline chronic respiratory disease	1178 (16.5%)	88 (15.7%)	1090 (16.6%)	0.616

Characteristic <sup>a</sup>	Exclusion status			P value
	All patients (n = 7143)	Excluded patients (n = 559)	Study cohort (n = 6584)	
History of atrial fibrillation/flutter	2674 (37.4%)	206 (36.9%)	2468 (37.5%)	0.762
History of ICD/CRT	640 (9.0%)	57 (10.2%)	583 (8.9%)	0.287
HF hospitalization in past year	2785 (39.0%)	252 (45.2%)	2533 (38.5%)	0.002
LVEF in previous 12 months	30 ± 12.9	29 ± 13.5	30 ± 12.8	0.018
LVEF <40% in past year	4314 (80.2%)	325 (81.0%)	3989 (80.1%)	0.647
<b>Laboratory values</b>				
Baseline sodium, mmol/L	139 (136–141)	138 (134, 140)	139 (136–141)	<0.001
Baseline potassium, mmol/L	4.1 (3.7–4.5)	4.2 (3.7–4.5)	4.1 (3.7–4.4)	0.033
Baseline BUN, mg/dL	25 (18–39)	29 (20–48)	25 (18–38)	<0.001
Baseline creatinine, mg/dL	1.2 (1.0–1.6)	1.3 (1.0–1.7)	1.2 (1.0–1.6)	<0.001
Baseline haemoglobin, g/dL	13 (11–14)	12 (11–14)	13 (11–14)	0.018
Baseline NT-proBNP, pg/mL	4501 (2098–9177)	6743 (3177–11864)	4347 (2040–8973)	<0.001
Baseline BNP, pg/mL	990 (544–1850)	1187 (631–2072)	985 (541–1825)	0.047
Baseline RDW, %	15 (14–17)	16 (14–18)	15 (14–17)	<0.001
<b>Medication at/before baseline</b>				
ACEI or ARB	4340 (60.8%)	309 (55.4%)	4031 (61.3%)	0.006
Beta-blockers	4158 (58.2%)	295 (52.9%)	3863 (58.7%)	0.007
MRA	1992 (27.9%)	160 (28.7%)	1832 (27.8%)	0.671
Chronic thiazide diuretics	474 (6.6%)	40 (7.2%)	434 (6.6%)	0.597
Nitrates	1681 (23.5%)	137 (24.6%)	1544 (23.5%)	0.559
Digoxin	1895 (26.5%)	166 (29.7%)	1729 (26.3%)	0.074
Oral anticoagulants	1722 (24.1%)	133 (23.8%)	1589 (24.1%)	0.871
Aspirin	3507 (49.1%)	257 (46.1%)	3250 (49.4%)	0.132
<b>Clinical profile</b>				
Baseline BMI	27.6 (23.8–32.6)	26.9 (23.1–31.4)	27.6 (23.8–32.7)	0.005
Baseline SBP, mmHg	123 (110–140)	119 (108–135)	124 (110–140)	<0.001
Baseline DBP mmHg	74 (66–83)	72 (65–80)	74 (67–84)	0.004
Baseline heart rate, b.p.m.	82 (72–95)	82 (72–96)	82 (72–95)	0.414
Baseline respiratory rate, breaths/min	23 (21–26)	24 (20–26)	23 (21–26)	0.343
Orthopnoea	5485 (76.9%)	426 (76.6%)	5059 (76.9%)	0.867
Rales >1/3 lung fields	3734 (52.3%)	293 (52.4%)	3441 (52.3%)	0.975
JVD	4003 (56.1%)	311 (55.6%)	3692 (56.1%)	0.819
Peripheral oedema	5330 (74.6%)	429 (76.7%)	4901 (74.5%)	0.236

Characteristic <sup>a</sup>	Exclusion status			P value
	All patients (n = 7143)	Excluded patients (n = 559)	Study cohort (n = 6584)	
<b>Clinical course</b>				
Planned treatment group				0.053
Placebo	3577 (50.1%)	302 (54.0%)	3275 (49.8%)	
Nesiritide	3564 (49.9%)	257 (46.0%)	3307 (50.2%)	
Actual treatment group				0.065
Placebo	3509 (50.1%)	276 (54.0%)	3233 (49.8%)	
Nesiritide	3498 (49.9%)	235 (46.0%)	3263 (50.2%)	

ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; BMI, body mass index; BNP, b-type natriuretic peptide; BUN, blood urea nitrogen; DBP, diastolic blood pressure; HF, heart failure; ICD/CRT, implantable cardioverter defibrillator/cardiac resynchronization therapy; JVD, jugular venous distension; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; NT-proBNP, N terminal pro brain natriuretic peptide; NYHA, New York Heart Association; RDW, xxx; SBP, systolic blood pressure.

<sup>a</sup>Physical and laboratory findings, median (interquartile range).

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