Supplementary Material

LEFT VENTRICULAR EJECTION FRACTION DIGIT BIAS AND RECLASSIFICATION OF HEART FAILURE WITH MILDLY REDUCED VS. REDUCED EJECTION FRACTION BASED ON THE 2021 DEFINITION AND CLASSIFICATION OF HEART FAILURE

Supplementary Table 1. Baseline characteristics of the population with EF = 40%, EF = 36-39% and EF = 41-44%.

	Variable	Missing (%)	EF = 36-39%	EF = 40%	EF = 41-44%	p
	N (%)		1314 (35%)	1400 (37%)	1042 (28%)	
Demographics and socioeconomics	Regions	0.0				<0.001
	Eastern Europe		332 (25.3)	551 (39.4)	279 (26.8)	
	Northern Europe		40 (3.0)	86 (6.1)	36 (3.5)	
	Southern Europe		649 (49.4)	451 (32.2)	449 (43.1)	
	Western Europe		38 (2.9)	69 (4.9)	41 (3.9)	
	Middle East		16 (1.2)	26 (1.9)	8 (0.8)	
	North Africa		189 (14.4)	169 (12.1)	197 (18.9)	
	Other		50 (3.8)	48 (3.4)	32 (3.1)	
	Age, years	0.0	66.0 [56.0, 74.0]	67.0 [58.0, 76.0]	66.0 [56.0, 75.0]	0.032
	Age categorical (≥65 years)	0.0	698 (53.1)	803 (57.4)	567 (54.4)	0.076
	Female	0.0	349 (26.6)	446 (31.9)	336 (32.2)	0.002
	Abitation status	7.1				0.246
	Home alone		146 (11.9)	159 (12.2)	98 (10.2)	
	Home with partner		1053 (85.6)	1115 (85.6)	835 (86.5)	
	Nursing home		12 (1.0)	16 (1.2)	12 (1.2)	
	Other situation		19 (1.5)	12 (0.9)	20 (2.1)	
Comorbidities and risk factors	Stroke	0.1	97 (7.4)	116 (8.3)	83 (8.0)	0.669
	Atrial fibrillation	0.1	456 (34.7)	505 (36.1)	382 (36.7)	0.587
	Diabetes	0.0	446 (33.9)	498 (35.6)	317 (30.4)	0.027
	COPD	0.2	208 (15.8)	178 (12.7)	134 (12.9)	0.037
	Hepatic dysfunction	2.4	39 (3.0)	53 (3.8)	33 (3.2)	0.462
	Thyroid dysfunction	9.0	126 (10.4)	127 (9.8)	111 (11.5)	0.444
	Depression	0.3	103 (7.8)	80 (5.7)	55 (5.3)	0.021
	Current smoking	0.5	209 (15.9)	213 (15.2)	174 (16.7)	0.615
	Alcohol consumption	5.2				0.522
	Never		678 (53.5)	749 (55.5)	555 (55.4)	
	Former		142 (11.2)	127 (9.4)	116 (11.6)	
	Yes sometimes		402 (31.7)	423 (31.4)	292 (29.1)	
	Yes daily		46 (3.6)	50 (3.7)	39 (3.9)	
	BMI, Kg/m^2	3.3	27.8 [25.1, 31.2]	27.9 [25.1, 31.2]	27.3 [24.4, 31.1]	0.011
	BMI ≥ 25 Kg/m^2	3.3	989 (75.7)	1050 (75.5)	725 (69.9)	0.002
	Hypertension	0.2	797 (60.7)	892 (63.8)	624 (59.9)	0.110
	Myocardial infarction	0.2	658 (50.1)	753 (53.9)	474 (45.5)	<0.001
	PCI	2.3	323 (24.6)	348 (24.9)	212 (20.4)	0.018
	CABG	0.1	171 (13.0)	196 (14.0)	112 (10.8)	0.057
	Valvular surgery	0.1	82 (6.2)	100 (7.2)	78 (7.5)	0.455
Clinical	HF history	0.6				<0.001
	No		234 (17.8)	350 (25.2)	275 (26.4)	

	Yes (previous hospitalisation)		559 (42.6)	519 (37.3)	413 (39.6)	
	Yes (no previous hospitalisation)		519 (39.6)	521 (37.5)	354 (34.0)	
	HF diagnosis ≥12months	0.6	1078 (82.2)	1040 (74.8)	767 (73.6)	<0.001
	Ischemic aetiology	0.5	717 (54.6)	802 (57.3)	514 (49.3)	<0.001
	Diastolic BP, mmHg	0.4	70.0 [62.0, 80.0]	70.0 [64.0, 80.0]	70.0 [62.0, 80.0]	0.029
	Systolic BP, mmHg	0.3	120.0 [110.0, 130.0]	120.0 [110.0, 130.8]	120.0 [110.0, 130.0]	0.309
	LBBB	8.9	245 (20.0)	165 (12.6)	138 (14.4)	<0.001
	EF, %	16.9	38.0 [37.0, 38.0]	40.0 [40.0, 40.0]	43.0 [42.0, 43.8]	<0.001
	NYHA class	1.1				0.003
	NYHA I		304 (23.1)	295 (21.1)	293 (28.1)	
	NYHA II		772 (58.8)	805 (57.7)	563 (54.0)	
	NYHA III		220 (16.7)	273 (19.6)	173 (16.6)	
	NYHA IV		18 (1.4)	23 (1.6)	13 (1.2)	
	Mitral regurgitation	18.9	507 (39.2)	539 (39.6)	408 (39.7)	0.963
	Aortic stenosis	19.2	62 (4.8)	62 (4.6)	52 (5.1)	0.851
	Aortic regurgitation	19.2	75 (5.8)	98 (7.2)	76 (7.4)	0.228
	Tricuspid rigurgitation	19.2	266 (20.7)	296 (21.8)	209 (20.3)	0.647
	NT-proBNP, pg/mL	70.3	817.0 [284.0, 1910.0]	748.0 [255.0, 2235.0]	677.0 [230.0, 1603.0]	0.308
	K^+, mEq/L	16.9	4.4 [4.1, 4.8]	4.4 [4.0, 4.7]	4.3 [4.0, 4.7]	0.003
	eGFR (CKDEpi), mL/min/1.73m^2	13.9	70.1 [49.8, 88.6]	67.1 [49.7, 88.3]	70.3 [50.7, 89.4]	0.264
	Hemoglobin, g/dl	19.1	13.3 [11.8, 14.5]	13.1 [11.7, 14.4]	13.0 [11.7, 14.4]	0.066
Physical signs	Rales	3.1	175 (13.4)	191 (13.7)	130 (12.5)	0.678
	S3 Gallop	3.6	86 (6.6)	96 (6.9)	60 (5.8)	0.533
	JVP (≥6cm)	5.4	114 (8.9)	109 (8.0)	89 (8.7)	0.707
	Hypoperfusion	3.3	40 (3.1)	27 (1.9)	33 (3.2)	0.098
	Pleural effusion	3.3	42 (3.2)	68 (4.9)	31 (3.0)	0.022
	Hepatomegaly	3.1	118 (9.0)	108 (7.8)	86 (8.3)	0.485
	Peripheral oedema	2.9	196 (15.0)	233 (16.7)	173 (16.6)	0.404
Treatments	Loop diuretics	0.1	1021 (77.8)	1060 (75.8)	749 (71.9)	0.004
	MRA	0.1	839 (63.9)	850 (60.8)	616 (59.1)	0.053
	RASi/ARNI	0.1	1189 (90.5)	1223 (87.4)	913 (87.6)	0.023
	ARNi	92.7	14 (10.4)	6 (6.6)	7 (6.2)	0.418
	Beta-blockers	0.1	1148 (87.4)	1215 (86.8)	889 (85.3)	0.330
	CCb	2.3	135 (10.3)	201 (14.4)	132 (12.7)	0.005
	Nitrates	2.3	312 (23.7)	331 (23.7)	246 (23.6)	0.997
	Ivabradine	2.3	122 (9.3)	92 (6.6)	71 (6.8)	0.016

	Digoxin	0.1	283 (21.5)	241 (17.2)	180 (17.3)	0.006
	Amiodarone	1.9	172 (13.1)	191 (13.7)	109 (10.5)	0.049
	Antiarrhytmics	2.3	29 (2.2)	48 (3.4)	13 (1.2)	0.002
	Antiplatelets	0.1	780 (59.4)	853 (61.0)	583 (56.0)	0.042
	Anticoagulants	0.1	522 (39.7)	527 (37.7)	406 (39.0)	0.539
	Statins	0.1	876 (66.7)	914 (65.3)	626 (60.1)	0.003
	ICD	3.3	194 (14.8)	117 (8.4)	111 (10.7)	<0.001
	CRT	3.3	113 (8.6)	87 (6.3)	64 (6.2)	0.025

Categorical variables are presented with number (n) (percentage (%)) and continuous variables with median [first and third quartile].

ARNi = angiotensin receptor/neprilysin inhibitor, BMI = body mass index, BP = blood pressure, CABG = coronary artery bypass graft, CCb = calcium channel blockers, CDKEpi = Chronic Kidney Disease Epidemiology Collaboration, COPD = chronic obstructive pulmonary disease, CRT = cardiac resynchronization therapy, EF = ejaction fraction, eGFR = estimated glomerular filtration rate, HF = heart failure, HF with reduced EF (HFrEF), HF with mildly reduced EF (HFmrEF), HF with preserved EF (HFpEF), K = potassium, ICD = implantable cardioverter defibrillator, JVP = jugular venous pulse, LBBB = left bundle branch block, MRA = mineralocorticoid receptor antagonists, NT-proBNP = N-terminal pro b-type natriuretic peptide, NYHA = New York Heart Association, PCI = percutaneous coronary intervention, RASi = renin-angiotensin system inhibitors, S3 = third heart sound.

Supplementary Table 2. Absolute and relative differences of observed and expected ejection fraction values across the ejection fraction spectrum based on Normal distribution and Kernel density estimate

		Normal distribution			Kernel density estimate		
EF value	Observed %	Expected %	Absolute difference	Relative difference	Expected %	Absolute difference	Relative difference
10%	0.5	0.3	0.1	35	0.2	0.3	185.6
15%	1.8	0.7	1.1	166.6	0.6	1.2	177.8
20%	5	1.2	3.8	326.1	1.6	3.4	205.7
25%	6.8	1.8	5	283.7	2.4	4.4	181.5
30%	8.2	2.4	5.9	247	2.9	5.3	184.7
35%	7.9	2.8	5.1	185.1	2.9	5	170.1
40%	6.7	2.9	3.8	134.3	2.5	4.2	164.9
45%	5.5	2.6	2.9	112.8	2.1	3.4	162.1
50%	4.4	2.1	2.3	112	1.6	2.7	168.4
55%	3.6	1.4	2.2	154.1	1.4	2.2	161.9
60%	4	0.9	3.1	358.4	1.2	2.8	223.8
65%	1.2	0.5	0.7	158.6	0.6	0.6	109.8
70%	1.1	0.2	0.9	406.2	0.4	0.7	182.8

EF = ejection fraction, absolute difference = observed % - expected %, relative difference = (observed % - expected %)/expected %

Supplementary Table 3. Baseline characteristics according to the last ejection fraction digit (equal or different from 0 or 5)

	Variable	Missing (%)	**Last EF digit = 0 or 5**	**Last EF digit ≠ 0 or 5**	p
	n		11909 (57)	8987 (43)	
Demographic and socioeconomics	Regions	0			<0.001
	Eastern		3990 (34)	2599 (29)	
	Northern		1314 (11)	322 (4)	
	Southern		4116 (35)	4298 (48)	
	Western		712 (6)	361 (4)	
	Middle East		597 (5)	85 (1)	
	North Africa		782 (7)	956 (11)	
	Other		398 (3)	366 (4)	
	Age, years	0	68 [59, 77]	66 [57, 75]	<0.001
	Age categorical (≥65 years)	0	7195 (60)	4947 (55)	<0.001
	Female	0	3866 (32)	2823 (31)	0.107
	Home situation	6.9			<0.001
	Home alone		1522 (14)	943 (11)	
	Home with partner		9333 (84)	7205 (86)	
	Nursing home		110 (1)	61 (1)	
	Other situation		143 (1)	147 (2)	
Comorbidities and risk factors	Stroke	0.1	1218 (10)	863 (10)	0.134
	Atrial fibrillation	0	4941 (42)	3362 (37)	<0.001
	Diabetes	0	4106 (34)	2898 (32)	0.001
	COPD	0.2	1931 (16)	1365 (15)	0.042
	Sleep Apnea	4.1	486 (4)	357 (4)	0.335
	Hepatic dysfunction	2.6	548 (5)	345 (4)	0.001
	Thyroid dysfunction	9.1	1137 (11)	922 (11)	0.72

	Depression	0.3	846 (7)	670 (7)	0.393
	Current smoking	0.5	1637 (14)	1285 (14)	0.383
	Alcohol consumption	5			0.002
	Never		6018 (54)	4639 (54)	
	Former		1162 (10)	1033 (12)	
	Yes sometimes		3571 (32)	2621 (30)	
	Yes daily		448 (4)	353 (4)	
	BMI, Kg/m^2	3.6	28 [25, 31]	27 [25, 31]	0.053
	BMI ≥ 25 Kg/m^2	3.6	8197 (73)	6394 (72)	0.109
	Hypertension	0.2	7515 (63)	5485 (61)	0.001
	Myocardial infarction	0.2	5439 (46)	4126 (46)	0.848
	PCI	2.6	2711 (24)	2010 (22)	0.015
	CABG	0.1	1624 (14)	981 (11)	<0.001
	Valvular surgery	0.1	990 (8)	667 (7)	0.018
Clinical variables	HF history	0.5			<0.001
	No		2331 (20)	1634 (18)	
	Yes (previous hospitalisation)		4932 (42)	4009 (45)	
	Yes (no previous hospitalisation)		4561 (39)	3319 (37)	
	HF diagnosis ≥12months	7.6	4607 (43)	3729 (44)	0.174
	Ischemic aetiology	0.5	5778 (49)	4388 (49)	0.897
	Diastolic BP, mmHg	0.3	70 [64, 80]	70 [62, 80]	<0.001
	Systolic BP, mmHg	0.3	120 [110, 131]	120 [110, 130]	0.039
	LBBB	7.3	1903 (17)	1529 (18)	0.092
	EF, %	0	35 [30, 50]	38 [28, 48]	<0.001
	NYHA class	1.2			<0.001
	NYHA I		2005 (17)	2131 (24)	
	NYHA II		6247 (53)	4813 (54)	

	NYHA III		3071 (26)	1884 (21)	
	NYHA IV		360 (3)	139 (2)	
	Mitral regurgitation	4.2	4398 (39)	3477 (39)	0.736
	Aortic stenosis	4.5	693 (6)	493 (6)	0.053
	Aortic regurgitation	4.6	782 (7)	623 (7)	1
	Tricuspid regurgitation	4.6	2906 (26)	2102 (24)	<0.001
	NT-proBNP, pg/mL	68.6	1045 [374, 2912]	958 [325, 2670]	0.002
	K^+, mEq/L	15.1	4 [4, 5]	4 [4, 5]	<0.001
	eGFR CKDEpi, mL/min/1.73m2	16.2	63 [45, 82]	65 [46, 83]	<0.001
	Hemoglobin, g/dL	16.8	13 [12, 14]	13 [12, 14]	<0.001
Physical signs	Rales	3.3	1554 (14)	1189 (13)	0.348
	S3 Gallop	3.8	791 (7)	566 (6)	0.063
	JVP (≥6cm)	5.4	1189 (11)	779 (9)	<0.001
	Hypoperfusion	3.5	344 (3)	264 (3)	0.719
	Pleural effusion	3.6	642 (6)	326 (4)	<0.001
	Hepatomegaly	3.3	1122 (10)	883 (10)	0.9
	Periferical oedema	3.1	2074 (18)	1392 (16)	<0.001
Treatments	Loop diuretics	0	9132 (77)	6995 (78)	0.052
	MRA	0	6911 (58)	5531 (62)	<0.001
	RASi/ARNI	0.1	9924 (83)	7794 (87)	<0.001
	ARNi	92.1	72 (10)	79 (8)	0.354
	RASi	0.1	9854 (83)	7720 (86)	<0.001
	Beta-blockers	0	10086 (85)	7739 (86)	0.006
	CCb	2.5	1546 (14)	1046 (12)	<0.001
	Nitrates	2.5	2266 (20)	1947 (22)	0.002
	Ivabradine	2.5	685 (6)	750 (8)	<0.001
	Digoxin	0.1	2594 (22)	1883 (21)	0.149

	Amiodarone	2.1	1723 (15)	1282 (14)	0.138
	Antiarrhytmics	2.5	364 (3)	213 (2)	<0.001
	Antiplatelets	0	6469 (54)	4918 (55)	0.588
	Anticoagulants	0	5309 (45)	3819 (42)	0.003
	Statin	0	7116 (60)	5557 (62)	0.003
	ICD	3.3	1794 (16)	1660 (19)	<0.001
	CRT	3.4	995 (9)	889 (10)	0.006

Categorical variables are presented with number (n) (percentage (%)) and continuous variables with median [first and third quartile].

ARNi = angiotensin receptor/neprilysin inhibitor, BMI = body mass index, BP = blood pressure, CABG = coronary artery bypass graft, CCb = calcium channel blockers, CDKEpi = Chronic Kidney Disease Epidemiology Collaboration, COPD = chronic obstructive pulmonary disease, CRT = cardiac resynchronization therapy, EF = ejaction fraction, eGFR = estimated glomerular filtration rate, HF = heart failure, HF with reduced EF (HFrEF), HF with mildly reduced EF (HFmrEF), HF with preserved EF (HFpEF), K = potassium, ICD = implantable cardioverter defibrillator, JVP = jugular venous pulse, LBBB = left bundle branch block, MRA = mineralocorticoid receptor antagonists, NT-proBNP = N-terminal pro b-type natriuretic peptide, NYHA = New York Heart Association, PCI = percutaneous coronary intervention, RASi = renin-angiotensin system inhibitors, S3 = third heart sound.

Supplementary Table 4. Overall proportion of missing data/assessment by ejection fraction last digit (different or equal from 0 or 5)

Variable	% of Missing if Last EF digit ≠ 0 or 5	% of Missing if Last EF digit = 0 or 5	Absolute difference	Relative difference
Home situation	7	6.7	-0.3	-4.4
BMI	1	5.5	4.6	82.7
HF history	0.3	0.7	0.4	61
Aetiology	0	0.9	0.8	97.4
Smoking	0	0.9	0.9	97.5
Alcohol	3.8	6	2.2	36.4
Physical Activity	4	9.3	5.3	57.3
Sleep Apnea	1.8	5.8	4	68.2
NYHA class	0.2	1.9	1.7	88.3
Rales	0.7	5.4	4.7	87.1
S3 gallop	1.2	5.8	4.5	78.6
JVP (≥6cm)	2.9	7.2	4.2	59
Hypotension	0.8	5.5	4.8	86.3
Pleural effusion	1	5.5	4.6	82.6
Hepatomegaly	0.7	5.4	4.7	87.4
Mitral regurgitation	0.5	5.1	4.6	90.5
Periferical oedema	0.5	5.1	4.6	90.2
Aortic stenosis	0.5	5.1	4.7	90.7
Uric acid	49.8	55	5.2	9.4
Proteinuria	61.8	66.5	4.8	7.1
TSH	79.3	83	3.7	4.4
Hs-cTN	85.8	87.6	1.8	2.1
HbA1c	77.9	81	3.1	3.8
NT-proBNP	66.9	69.8	2.9	4.2
LVDD	8.1	15.2	7.1	46.7
LV hypertrofi	3.5	9.2	5.7	61.7
E deceleration time	68.9	74.6	5.7	7.6
LA diameter	40.1	46.9	6.9	14.6
Restrictive pattern	31	40.6	9.6	23.7
Mitral regurgitation	1.3	6.4	5.1	79

Aortic stenosis	1.6	6.7	5.1	75.9
Aortic regurgitation	1.7	6.8	5.1	75.5
Tricuspid regurgitation	1.7	6.7	5	74

BMI = body mass index, E = early diastolic transmitral flow velocity, EF = ejaction fraction, HbA1c = hemoglobin A1C, HF = heart failure, hs-cTN = high-sensitivity cardiac troponin, JVP = jugular venous pulse, LA = left atrium, LV= left ventricle, LVDD = left ventricle diastolic diameter, NT-proBNP = N-terminal pro b-type natriuretic peptide, NYHA = New York Heart Association, S3 = third heart sound, TSH = thyroid stimulating hormone,

Supplementary Table 5. Baseline characteristics according to reported vs. missing ejection fraction measurement

	Variable	Missing (%)	**EF missing**	**EF available**	p
	n		4258 (17)	20896 (83)	
Demographic and socioeconomics	Regions	0			<0.001
	Eastern		1204 (28)	6589 (32)	
	Northern		298 (7)	1636 (8)	
	Southern		1917 (45)	8414 (40)	
	Western		224 (5)	1073 (5)	
	Middle East		124 (3)	682 (3)	
	North Africa		390 (9)	1738 (8)	
	Other		101 (2)	764 (4)	
	Age, years	0	72 [62, 80]	67 [58, 76]	<0.001
	Age categorical (≥65 years)	0	2912 (68)	12142 (58)	<0.001
	Female	0	1536 (36)	6689 (32)	<0.001
	Home situation	7.1			<0.001
	Home alone		513 (13)	2465 (13)	
	Home with partner		3242 (83)	16538 (85)	
	Nursing home		79 (2)	171 (1)	
	Other situation		71 (2)	290 (1)	
Comorbidities and risk factors	Stroke	0.1	509 (12)	2081 (10)	<0.001
	Atrial fibrillation	0.1	1859 (44)	8303 (40)	<0.001
	Diabetes	0	1557 (37)	7004 (34)	<0.001
	COPD	0.2	734 (17)	3296 (16)	0.019
	Sleep Apnea	3.8	189 (5)	843 (4)	0.353
	Hepatic dysfunction	2.4	219 (5)	893 (4)	0.024
	Thyroid dysfunction	9	408 (10)	2059 (11)	0.54
	Depression	0.3	291 (7)	1516 (7)	0.36

	Current smoking	0.5	517 (12)	2922 (14)	0.001
	Alcohol consumption	5.2			<0.001
	Never		2424 (61)	10657 (54)	
	Former		366 (9)	2195 (11)	
	Yes sometimes		1077 (27)	6192 (31)	
	Yes daily		138 (3)	801 (4)	
	BMI, Kg/m^2	3.3	27 [25, 31]	28 [25, 31]	0.098
	BMI ≥ 25 Kg/m^2	3.3	2970 (71)	14591 (72)	0.175
	Hypertension	0.2	2794 (66)	13000 (62)	<0.001
	Myocardial infarction	0.2	1980 (47)	9565 (46)	0.37
	PCI	2.3	974 (23)	4721 (23)	0.9
	CABG	0.1	497 (12)	2605 (12)	0.163
	Valvular surgery	0.1	263 (6)	1657 (8)	<0.001
Clinical variables	HF history	0.6			<0.001
	No		605 (14)	3965 (19)	
	Yes (previous hospitalisation)		1734 (41)	8941 (43)	
	Yes (no previous hospitalisation)		1879 (45)	7880 (38)	
	HF diagnosis ≥12months	8.1	1837 (48)	8336 (43)	<0.001
	Ischemic aetiology	0.5	2166 (51)	10166 (49)	0.012
	Diastolic BP, mmHg	0.4	72 [64, 81]	70 [63, 80]	<0.001
	Systolic BP, mmHg	0.3	120 [110, 134]	120 [110, 130]	<0.001
	LBBB	8.9	564 (16)	3432 (18)	0.008
	EF, %	16.9		37 [28, 48]	
	NYHA class	1.1			<0.001
	NYHA I		804 (19)	4136 (20)	
	NYHA II		2449 (58)	11060 (54)	
	NYHA III		888 (21)	4955 (24)	

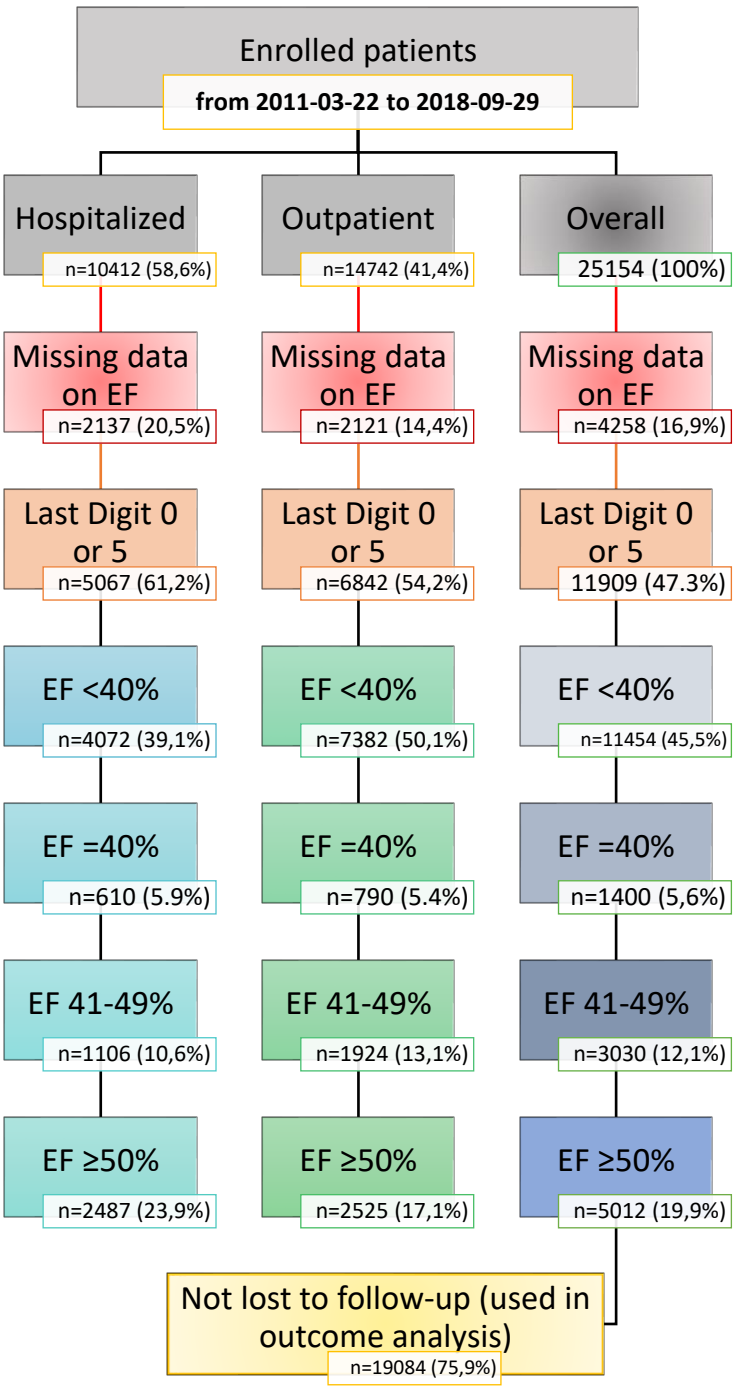
	NYHA IV		84 (2)	499 (2)	
	Mitral regurgitation	18.9	145 (38)	7875 (39)	0.535
	Aortic stenosis	19.2	57 (15)	1186 (6)	<0.001
	Aortic regurgitation	19.2	65 (17)	1405 (7)	<0.001
	Tricuspid regurgitation	19.2	91 (24)	5008 (25)	0.624
	NT-proBNP, pg/mL	70.3	1016 [396, 3066]	1002 [350, 2794]	0.234
	K^+, mEq/L	16.9	4 [4, 5]	4 [4, 5]	0.353
	eGFR CKDEpi, mL/min/1.73m2	17.7	56 [41, 76]	64 [46, 82]	<0.001
	Hemoglobin, g/dL	19.1	13 [12, 14]	13 [12, 14]	<0.001
Physical signs	Rales	3.1	670 (16)	2743 (14)	<0.001
	S3 Gallop	3.6	347 (8)	1357 (7)	<0.001
	JVP (≥6cm)	5.4	300 (7)	1968 (10)	<0.001
	Hypoperfusion	3.3	142 (3)	608 (3)	0.196
	Pleural effusion	3.3	200 (5)	968 (5)	1
	Hepatomegaly	3.1	290 (7)	2005 (10)	<0.001
	Periferical oedema	2.9	745 (18)	3466 (17)	0.281
Treatments	Loop diuretics	0.1	3429 (81)	16127 (77)	<0.001
	MRA	0.1	2163 (51)	12442 (60)	<0.001
	RASi/ARNI	0.1	3398 (80)	17718 (85)	<0.001
	ARNi	92.7	10 (6)	151 (9)	0.189
	RASi	0.1	3390 (80)	17574 (84)	<0.001
	Beta-blockers	0.1	3357 (79)	17825 (85)	<0.001
	CCb	2.3	671 (16)	2592 (13)	<0.001
	Nitrates	2.3	1166 (28)	4213 (21)	<0.001
	Ivabradine	2.3	171 (4)	1435 (7)	<0.001
	Digoxin	0.1	918 (22)	4477 (21)	0.829
	Amiodarone	1.9	596 (14)	3005 (15)	0.355

	Antiarrhytmics	2.3	148 (4)	577 (3)	0.021
	Antiplatelets	0.1	2259 (53)	11387 (55)	0.106
	Anticoagulants	0.1	1834 (43)	9128 (44)	0.519
	Statin	0.1	2441 (57)	12673 (61)	<0.001
	ICD	3.3	582 (14)	3454 (17)	<0.001
	CRT	3.3	303 (7)	1884 (9)	<0.001

Categorical variables are presented with number (n) (percentage (%)) and continuous variables with median [first and third quartile].

ARNi = angiotensin receptor/neprilysin inhibitor, BMI = body mass index, BP = blood pressure, CABG = coronary artery bypass graft, CCb = calcium channel blockers, CDKEpi = Chronic Kidney Disease Epidemiology Collaboration, COPD = chronic obstructive pulmonary disease, CRT = cardiac resynchronization therapy, EF = ejaction fraction, eGFR = estimated glomerular filtration rate, HF = heart failure, HF with reduced EF (HFrEF), HF with mildly reduced EF (HFmrEF), HF with preserved EF (HFpEF), K = potassium, ICD = implantable cardioverter defibrillator, JVP = jugular venous pulse, LBBB = left bundle branch block, MRA = mineralocorticoid receptor antagonists, NT-proBNP = N-terminal pro b-type natriuretic peptide, NYHA = New York Heart Association, PCI = percutaneous coronary intervention, RASi = renin-angiotensin system inhibitors, S3 = third heart sound.

Supplementary Figure 1. Flow chart reporting study population selection



Legend: n=number, EF= ejection fraction