SUPPLEMENTAL MATERIAL

Supplementary Table 1. Development of propensity score showing propensity to be black compared to white.

Covariates Included in Propensity Score	C statistic	White patients propensity score, median (IQR)	Black patients propensity score, median (IQR)
Individually Included			
Age, Sex	0.72	0.24 (0.16-0.34)	0.36 (0.26-0.52)
ADI	0.77	0.22 (0.18-0.28))	0.33 (0.27-0.45)
Boston Metro	0.58	0.35 (0.35-0.35)	0.35 (0.35-0.35)
ADI, Boston Metro	0.79	0.15 (0.14-0.24)	0.38 (0.24-0.71)
Other features	0.70	0.26 (0.18-0.34)	0.36 (0.26-0.47)
Iterative			
Age, Sex	0.72	0.24 (0.16-0.34)	0.36 (0.26-0.52)
ADI	0.80	0.19 (0.13-0.29)	0.39 (0.25-0.61)
Boston Metro	0.82	0.17 (0.22-0.29)	0.43 (0.27-0.67)
Other features	0.85	0.15 (0.07-0.28)	0.48 (0.31-0.73)

Abbreviations: ADI, Area Deprivation Index; IQR, interquartile range

1   **Supplementary Table 2.** Development of propensity score showing propensity to be Latinx

2   compared to white.

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Covariates Included in Propensity Score	C statistic	White patients propensity score, median (IQR)	Latinx patients propensity score, median (IQR)
Individually Included			
Age, Sex	0.64	0.14 (0.10-0.17)	0.17 (0.13-0.20)
ADI	0.80	0.09 (0.07-0.13)	0.20 (0.12-0.74)
Boston Metro	0.58	0.18 (0.18-0.18)	0.18 (0.18-0.18)
ADI, Boston Metro	0.83	0.09 (0.07-0.13)	0.23 (0.14-0.79)
Other features	0.73	0.11 (0.07-0.15)	0.17 (0.12-0.32)
Iterative			
Age, Sex	0.64	0.14 (0.10-0.17)	0.17 (0.13-0.20)
ADI	0.82	0.09 (0.06-0.13)	0.23 (0.13-0.65)
Boston Metro	0.85	0.08 (0.05-0.13)	0.26 (0.15-0.72)
Other features	0.85	0.06 (0.03-0.12)	0.42 (0.16-0.73)

4   Abbreviations: ADI, Area Deprivation Index; IQR, interquartile range
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14 **Supplementary Table 3.** Development of propensity score showing propensity to be female

15 compared to male.

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Covariates Included in Propensity Score	C statistic	Male patients propensity score, median (IQR)	Female patients propensity score, median (IQR)
Individually Included			
Age, Race	0.64	0.14 (0.10-0.17)	0.17 (0.13-0.20)
ADI	0.53	0.48 (0.47-0.50)	0.49 (0.47-0.52)
Boston Metro	0.52	0.52 (0.52-0.52)	0.52 (0.52-0.52)
ADI, Boston Metro	0.55	0.49 (0.47-0.51)	0.49 (0.47-0.52)
Other features	0.66	0.45 (0.37-0.55)	0.54 (0.45-0.63)
Iterative			
Age, Race	0.61	0.47 (0.43-0.55)	0.50 (0.46-0.60)
ADI	0.61	0.46 (0.42-0.54)	0.49 (0.45-0.60)
Boston Metro	0.61	0.46 (0.42-0.54)	0.50 (0.45-0.60)
Other features	0.70	0.42 (0.32-0.55)	0.56 (0.44-0.69)

17 Abbreviations: ADI, Area Deprivation Index; IQR, interquartile range
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24 **Supplementary Table 4**. Propensity score model components (black vs white), strength of

25 association

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Covariate	Wald Chi-square
Area Deprivation Index, National Percentile	186
Age	151
Boston Metro Resident	76
Sex	50
Seen by institutional PCP in last year	27
Hypertension	24
Chronic Kidney Disease	22
Psychiatric history	19
Elixhauser, non-cardiovascular component	11
Seen by institutional Cardiologist in last year	8
End-Stage Renal Disease	8
Valvular Disease	8
Elixhauser Comorbidity Index	6
Drug Use Disorder	6
HFpEF	2
Diabetes	2
English as Primary Language	2
Cancer	2
Chronic Pulmonary Disease	1

Medicaid	0
Chronic Liver Disease	0

27 Abbreviations: HFpEF, heart failure with preserved ejection fraction
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46 **Supplementary Table 5**. Propensity score model components (Latinx vs white), strength of

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Covariate	Wald Chi-square
Area Deprivation Index, National Percentile	220
Medicaid	54
Boston Metro Resident	32
Sex	22
End Stage Renal Disease	11
Hypertension	10
Drug Use Disorder	8
Cancer	7
Elixhauser Comorbidity Index	6
Age	6
Seen by institutional PCP within last year	5
Seen by institutional cardiologist within last year	4
HFpEF	4
Elixhauser, non-cardiovascular component	2
Chronic Pulmonary Disease	2
Chronic Kidney Disease	2
Psychiatric Disease	2
Chronic Liver Disease	1
Diabetes	0

Valvular Disease	0
Medicaid	0
Chronic Liver Disease	0

49 Abbreviations: HFpEF, heart failure with preserved ejection fraction; PCP, primary care provider
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67 **Supplementary Table 6**. Propensity score model components (female vs male), strength of

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Covariate	Wald Chi-square
Race	60
HFpEF	67
Chronic Pulmonary Disease	55
Age	31
Seen by institutional PCP within last year	25
End Stage Liver Disease	13
Psychiatric Disease	13
Chronic Kidney Disease	9
Seen by institutional cardiologist within last year	9
Cancer	8
Elixhauser Comorbidity Index	6
End-Stage Renal Disease	5
Area Deprivation Index	3
Valvular Disease	3
Boston Metro Resident	1
English	1
Medicaid	0
Elixhauser, non-cardiovascular component	0
Diabetes	0

Hypertension	0
Drug Use Disorder	0
Chronic Liver Disease	0

Abbreviations: HFpEF, heart failure with preserved ejection fraction; PCP, primary care provider

79   **Supplementary Table 7**. Cohort matched by propensity to be black (compared to white)

80   (N=782)

	White	Black	
	n=391	n=391	p-value
Propensity Score	0.36 (0.25-0.53)	0.37 (0.25-0.53)	0.99
Age	68 (55-80)	68 (58-78)	0.56
Female	166 (43)	181 (46)	0.28
Boston Metro Resident[*]	357 (91)	360 (92)	0.70
English as Primary Language	365 (93)	367 (94)	0.77
Medicaid	33 (8)	38 (10)	0.53
Area Deprivation Index National Percentile	20 (11-31)	27 (18-34)	0.13
Seen in institutional cardiology clinic in last year	212 (54)	205 (52)	0.62
Seen by institutional PCP in last year	177 (45)	186 (48)	0.52
HFpEF	135 (35)	128 (33)	0.60
Specific Comorbidity			
Arrhythmia	58 (15)	61 (16)	0.77
Valvular Disease	91 (23)	102 (26)	0.36
Chronic Pulmonary Disease	126 (32)	132 (34)	0.65
Diabetes	7 (2)	5 (2)	0.56
Psychiatric disease	58 (15)	61 (16)	0.77
Cancer	27 (7)	38 (10)	0.15

Drug Use Disorder	8 (2)	10 (3)	0.63
Alcohol Use Disorder	5 (1)	4 (1)	0.73
Hypertension	307 (79)	301 (77)	0.61
Chronic Kidney Disease	206 (53)	190 (49)	0.25
End-Stage Renal Disease	26 (7)	27 (7)	0.89
Chronic Liver Disease	23 (6)	22 (6)	0.88
Elixhauser Comorbidity Index			
Overall	13 (9-17)	12 (10-17)	0.46
Cardiovascular	7 (7-11)	7 (7-11)	0.56
Non-cardiovascular	5 (0-8)	5 (0-8)	0.58
Year of first admission			
2008-2010	132 (34)	118 (30)	0.29
2011-2013	142 (36)	163 (42)	
2014-2017	117 (30)	110 (28)	

81   Data are presented as N (%) unless otherwise specified. For continuous variables, median (IQR)
82   are shown.
83   [*] Per US Census Bureau
84   Abbreviations: HFpEF, heart failure with preserved ejection fraction; PCP, primary care provider

85   **Supplementary Table 8**. Cohort matched by propensity to be Latinx (compared to white)

86   (N=336)

	White	Latinx	
	n=168	n=168	p-value
Propensity Score	0.24 (0.14-0.48)	0.24 (0.13-0.47)	0.96
Age	71.5 (57-82.5)	72 (63.5-78.5)	0.88
Female	69 (41)	77 (46)	0.38
Boston Metro Resident[*]	163 (97)	158 (94)	0.19
English as Primary Language	153 (91)	48 (29)	<.0001
Medicaid	40 (24)	36 (21)	0.60
Area Deprivation Index National Percentile	26.5 (14.5-50)	31.5 (20.5-46.5)	0.55
Seen in institutional cardiology clinic in last year	104 (62)	101 (60)	0.73
Seen by institutional PCP in last year	74 (44)	87 (52)	0.15
HFpEF	61 (36)	52 (31)	0.30
Specific Comorbidity			
Arrhythmia	20 (12)	14 (9)	0.28
Valvular Disease	49 (29)	46 (27)	0.72
Chronic Pulmonary Disease	63 (38)	59 (35)	0.65
Diabetes	3 (2)	3 (2)	1
Psychiatric disease	28 (17)	29 (17)	0.88
Cancer	16 (10)	10 (6)	0.22

Drug Use Disorder	1 (1)	3 (2)	0.31
Alcohol Use Disorder	3 (65)	2 (1)	0.65
Hypertension	135 (80)	133 (79)	0.79
Chronic Kidney Disease	81 (48)	77 (46)	0.66
End-Stage Renal Disease	13 (8)	15 (9)	0.6
Chronic Liver Disease	13 (8)	12 (7)	0.84
Elixhauser Comorbidity Index			
Overall	12 (9-17)	12 (9-16)	0.42
Cardiovascular	7 (7-9)	7 (7-9)	0.33
Non-cardiovascular	5 (0-8)	5 (0.5-8)	0.61
Year of first admission			
2008-2010	59 (35)	57 (34)	0.97
2011-2013	61 (36)	63 (38)	
2014-2017	48 (29)	48 (29)	

87 Data are presented as N (%) unless otherwise specified. For continuous variables, median (IQR)
88 are shown.
89 * Per US Census Bureau
90 Abbreviations: HFpEF, heart failure with preserved ejection fraction; PCP, primary care provider
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98   **Supplementary Table 9**. Cohort matched by propensity to be female (compared to male)

99   (N=1558)

	Male	Female	
	n=779	n=779	p-value
Propensity Score	0.49 (0.39-0.59)	0.49 (0.39-0.59)	0.83
Age	74 (63-82)	75 (62-83)	0.75
Race			0.69
White	507 (65)	517 (66)	
Black	189 (24)	175 (22)	
Latinx	83 (11)	87 (11)	
Boston Metro Resident[*]	658 (84)	660 (85)	0.89
English as Primary Language	675 (87)	669 (86)	0.66
Medicaid	70 (9)	66 (8)	0.72
Area Deprivation Index National Percentile	19 (9-31)	18 (9-30)	0.88
Seen in institutional cardiology clinic in last year	431 (53)	416 (53)	0.44
Seen by institutional PCP in last year	301 (39)	307 (39)	0.76
HFpEF	252 (32)	254 (33)	0.91
Specific Comorbidity			
Arrhythmia	114 (15)	92 (12)	0.10
Valvular Disease	258 (33)	259 (33)	0.96
Chronic Pulmonary Disease	228 (29)	234 (30)	0.74

Diabetes	13 (2)	12 (2)	0.84
Psychiatric disease	119 (15)	128 (16)	0.53
Cancer	69 (9)	82 (11)	0.27
Drug Use Disorder	13 (2)	16 (2)	0.57
Alcohol Use Disorder	6 (1)	6 (1)	1
Hypertension	581 (75)	581 (75)	0.91
Chronic Kidney Disease	353 (45)	347 (45)	0.76
End-Stage Renal Disease	29 (4)	36 (5)	0.38
Chronic Liver Disease	45 (6)	34 (4)	0.20
Elixhauser Comorbidity Index			
Overall	12 (9-17)	12 (9-16)	0.74
Cardiovascular	7 (7-10)	7 (7-10)	0.64
Non-cardiovascular	5 (0-8)	5 (0-8)	0.56
Year of first admission			
2008-2010	255 (33)	258 (33)	0.30
2011-2013	286 (37)	309 (40)	
2014-2017	238 (31)	212 (27)	

Data are presented as N (%) unless otherwise specified. For continuous variables, median (IQR)
are shown.
[*] Per US Census Bureau
Abbreviations: HFpEF, heart failure with preserved ejection fraction; PCP, primary care provider

106   **Supplementary Table 10.** Distribution of chief complaints by race for patients at the time of

107   their first admission for heart failure during the study period (N=1361)

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	White	Black	Latinx	p-value
	N=897	N=318	N=146	
Shortness of Breath	549 (61)	194 (61)	83 (57)	0.60
Chest Pain	110 (12)	40 (13)	33 (23)	0.0027
Cough	18 (2)	11 (3)	5 (3)	0.27
Abdominal complaint	21 (2)	9 (3)	7(5)	0.24
"Congestive Heart Failure"	51 (6)	14 (4)	2 (1)	0.07
Leg edema	52 (5)	16 (5)	6 (4)	0.66
Fluid overload	5 (1)	2 (1)	0 (0)	0.65

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121 **Supplementary Table 11.** Adjusted rate ratios for admission to cardiology with addition of shortness of breath and chest pain to the

122 primary model (N=1983 admissions)

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	No chief complaint in model			With chief complaint in model		
	ARR admission to cardiology	95% CI	p-value	ARR admission to cardiology	95% CI	p-value
Race						
White	ref			ref		
Black	0.89	0.81, 0.97	0.0094	0.88	0.81, 0.97	0.0067
Latinx	0.84	0.72, 0.97	0.021	0.83	0.72, 0.97	0.015

124 Abbreviations: ARR, adjusted rate ratio
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Supplementary Table 12. Multivariable Cox Regression analysis[*] showing factors associated with death within 30 days after discharge for people admitted to the general medical or cardiology services with a principal diagnosis of HF after self-referral to the Emergency Department of the Brigham and Women's Hospital from 2008-2017 (N=3133)

Characteristic	Hazard Ratio	95% CI	p-value
Admission to Cardiology	0.83	0.55, 1.24	0.36
Race			
White	ref		
Black	0.52	0.30, 0.91	0.02
Latinx	0.89	0.46, 1.73	0.73
Age			
<50	ref		
50-75	0.76	0.33, 1.77	0.52
>75	1.72	0.76, 3.88	0.19
Comorbidity			
Chronic Kidney Disease	1.16	0.76, 1.77	0.50
Elixhauser Index	1.09	1.06, 1.13	<.0001

[*]Multivariable model includes admission to cardiology, race, age, chronic liver disease, and Elixhauser Comorbidity Index