SUPPLEMENTAL MATERIAL

Table S1. **Summary of ICD-9, ICD-10, and CPT codes.**

	ICD-9	ICD-10	CPT
Myocardial Infarction	410.00, 410.01, 410.02, 410.10, 410.11, 410.12, 410.20, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.70, 410.71, 410.72, 410.80, 410.81, 410.82, 410.90, 410.91, 410.92	I21.0, I21.01, I21.02, I21.09, I21.1, I21.11, I21.19, I21.2, I21.21, I21.29, I21.3, I21.4, I21.9, I21.A1†, I21.A9†, I22.0, I22.1, I22.2, I22.8, I22.9	
Coronary Artery Bypass Grafting	36.10, 36.11, 36.12, 36.13, 36.14, 36.15, 36.16, 36.17, 36.19, 36.2	0210X, 0211X, 0212X, 0213X	33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33530, 33533, 33534, 33535, 33536, 33572, 35600, S2205, S2206, S2207, S2208, S2209
Valve Repair/Replacement	35.00, 35.01, 35.02, 35.03, 35.04, 35.05, 35.06, 35.07, 35.08, 35.09, 35.10, 35.11, 35.12, 35.13, 35.14, 35.20, 35.21, 35.22, 35.23, 35.24, 35.25, 35.26, 35.27, 35.28, 35.33, 35.96, 35.97, 35.99	027F, 027G, 027H, 027J, 02CF, 02CG, 02CH, 02CJ, 02NF, 02NG, 02NH, 02NJ, 02QF, 02QG, 02QH, 02QJ, 02RF, 02RG, 02RH, 02RJ, 02ND, 02VG, 02UF, 02UG, 02UH, 02UJ, 06BQ, 5A12	33361-33417, 33418-33430, 33460-33468, 33470-33478

Table S2. Summary of Elixhauser comorbidity ICD10 codes.

Group	DX	Weight (AHQR)	Weight (van Walraven)	CORRESPONDING CODES
1	CHF	9	7	I09.9 I11.0 I13.0 I13.2 I25.5 I42.0 I42.5 I42.6 I42.7 I42.8 I42.9 I43.X I50.X P29.0
2	Arrhythmias	0	5	I44.1 I44.2 I44.3 I45.6 I45.9 I47.X I48.X I49.X R00.0 R00.1 R00.8 T82.1 Z45.0 Z95.0
3	Valvular disease	0	-1	A52.0 I05.X I06.X I07.X I08.X I09.1 I09.8 I34.X I35.X I36.X I37.X I38.X I39.X Q23.0 Q23.1 Q23.2 Q23.3 Z95.2 Z95.3 Z95.4
4	Pulmonary circulation disorders	6	4	I26.X I27.X I28.0 I28.8 I28.9
5	Peripheral vascular disorders	3	2	I70.X I71. I73.1 I73.8 I73.9 I77.1 I79.0 I79.2 K55.1 K55.8 K55.9 Z95.8 Z95.9
6	Hypertension (uncomplicated)	-1	0	I10.
7	Hypertension (complicated)	-1	0	I11.X I12.X I13.X I15.X
8	Paralysis	5	7	G04.1 G11.4 G80.1 G80.2 G81.X G82.X G83.0 G83.1 G83.2 G83.3 G84.4 G83.9
9	Other neurological disorders	5	6	G10.X G11.X G12.X G13.X G20.X G21.X G22.X G25.4 G25.5 G31.2 G31.8 G31.9 G32.X G35.X G36.X G37.X G40.X G41.X G93.1 G93.4 R47.0 R56.X
10	Chronic pulmonary disease	3	3	I27.8 I27.9 J40.x J41.X J42.X J43.X J44.X J45.X J46.X J47.X J60 J61 J62 J63 J64 J65 J66 J67 J68.4 J70.1 J70.3
11	Diabetes (uncomplicated)	0	0	E10.0 E10.1 E10.9 E11.0 E11.1 E11.9 E12.0 E12.1 E12.9 E13.0 E13.1 E13.9 E14.0 E14.1 E14.9
12	Diabetes (complicated)	-3	0	E10.2 E10.3 E10.4 E10.5 E10.6 E10.7 E10.8 E11.2 E11.3 E11.4 E11.5 E11.6 E11.7 E11.8 E12.2 E12.3 E12.4 E12.5 E12.6 E12.7 E12.8 E13.2 E13.3 E13.4 E13.5 E13.6 E13.7 E13.8 E14.2 E14.3 E14.4 E14.5 E14.6 E14.7 E14.8
13	Hypothyroidism	0	0	E00.X E01.X E02.X E03.X E89.0
14	Renal failure	6	5	I12.0 I13.1 N18.X N19.X N25.0 Z49.0 Z49.1 Z49.2 Z94.0 Z99.2
15	Liver disease	4	11	B18.X I85.X I86.4 I98.2 K70.X K71.1 K71.3 K71.4 K71.5 K71.7 K72.X K73.X K74.4 K76.0 K76.2 K76.3 K76.4 K76.5 K76.6 K76.7 K76.8 K76.9 Z94.4
16	Peptic ulcer disease (excluding bleeding)	0	0	K25.7 K25.9 K26.7 K26.9 K27.7 K27.9 K28.7 K28.9
17	AIDS/HIV	0	g	B20.X B21.X B22.X B24.X
18	Lymphoma	6	9	C81. C82. C83. C84. C85. C88. C96. C90.0 C90.2
19	Metastatic cancer	14	12	C77. C78. C79. C80.
20	Solid tumor w/o metastasis	7	4	C00. C01. C02. C03. C04. C05. C06. C07. C08. C09. C10. C11. C12. C13. C14. C15. C16. C17. C18. C19. C20. C21. C22. C23. C24. C25. C26. C30. C31. C32. C33. C34. C37. C38. C39. C40. C41. C43. C45. C46. C47. C48. C49. C50. C51. C52. C53. C54. C55. C56. C57. C58. C60. C61. C62. C63. C64. C65. C66. C67. C68. C69. C70. C71. C72. C73. C74. C75. C76. C97.
21	Rheumatoid arthritis/collagen vascular disease	0	0	L94.0 L94.1 L94.3 M05.X M06.X M08.X M12.0 M12.3 M30.X M31.0 M31.1 M31.2 M31.3 M32. M33. M34. M35. M45. M46.1 M46.8 M46.9
22	Coagulopathy	11	3	D65. D66. D67. D68. D69.1 D69.3 D69.4 D69.5 D69.6
23	Obesity	-5	-4	E66.
24	Weight loss	9	6	E40. E41. E42. E43. E44. E45. E46. R63.4 R64.
25	Fluid and electrolyte disorders	11	5	E22.2 E86.x E87.x
26	Blood loss anemia	-3	-2	D50.0
27	Deficiency anemia	-2	-2	D50.8 D50.9 D51. D52. D53.
28	Alcohol abuse	-1	0	F10 E52 G62.1 I42.6 K29.2 K70.0 K70.3 K70.9 T51. Z50.2 Z71.4 Z72.1
29	Drug abuse	-7	-7	F11. F12. F13. F14. F15. F16. F18. F19. Z71.5 Z72.2
30	Psychoses	-5	0	F20. F22. F23. F24. F25. F28. F29. F30. F30.2 F31.2 F31.5
31	Depression	-5	3	F20.4 F31.3 F31.4 F31.5 F32. F33. F34.1 F41.2 F43.2

source: https://cran.r-project.org/web/packages/comorbidity/vignettes/comorbidityscores.html

source: Coding algorithms for defining comorbidities in ICD-9-CM and ICD-10 administrative data. Quan et al. Med Care 2005.

Table S3. **Associations between race or ethnicity and participation in cardiac rehabilitation, by age.**

Outcome[*] by age, RR (95% CI)	Race or Ethnicity				P, interaction[†]
	Asian n = 2651 (2.5%)	Black n = 12613 (11.8%)	Hispanic n = 10462 (9.8%)	White n = 81473 (76.0%)	
Attendance at ≥1 CR sessions[‡]					
<65 years	0.87 (0.79, 0.95)	0.85 (0.80, 0.91)	0.73 (0.68, 0.78)	Ref	< 0.0001
≥65	0.58 (0.53, 0.65)	0.80 (0.76, 0.84)	0.50 (0.47, 0.53)	Ref	
Number of CR sessions attended[§]					
<65 years	0.0 (-1.0, 1.0)	1.6 (0.8, 2.4)	-0.1 (-0.8, 0.6)	Ref	0.002
≥65	1.0 (-0.6, 2.6)	0.7 (-0.1, 1.5)	-1.4 (-2.4, -0.4)	Ref	
Time to initiation of CR, days[§]					
<65 years	9.9 (4.2, 15.6)	8.6 (4.9, 12.3)	7.1 (3.0, 11.2)	Ref	0.95
≥65	9.4 (3.2, 15.6)	11.1 (8.1, 14.1)	9.3 (5.6, 12.9)	Ref	

CI indicates confidence interval; CR, cardiac rehabilitation; RR, risk ratio

[*] Adjusted for income, sex, Elixhauser score, hypertension, diabetes, depression, ischemic stroke, education, and qualifying diagnosis. Robust variances were specified in all models.

[†] From Poisson or linear regression models with a term for interaction between race or ethnicity and age. P-values were calculated with the use of generalized score tests for binary outcomes and F-tests for continuous outcomes.

[‡] Risk ratios (95% CI) from Poisson regression models.

[§] Mean differences (95% CI) from linear regression models.

Table S4. **Unadjusted associations between race/ethnicity and participation in cardiac rehabilitation, by income.**

Outcome[*] by income category, RR (95% CI)	Race/Ethnicity				*P*, interaction[†]
	Asian n = 2651 (2.5%)	Black n = 12613 (11.8%)	Hispanic n = 10462 (9.8%)	White n = 81473 (76.0%)	
Attendance at ≥1 CR sessions[‡]					
<40k	0.73 (0.58, 0.92)	0.70 (0.66, 0.75)	0.48 (0.43, 0.53)	Ref	
40k to <60k	0.58 (0.45, 0.75)	0.69 (0.63, 0.75)	0.45 (0.40, 0.50)	Ref	
60k to <75k	0.68 (0.55, 0.84)	0.68 (0.61, 0.76)	0.42 (0.36, 048)	Ref	<0.0001
75k to <100k	0.66 (0.56, 0.77)	0.83 (0.75, 0.92)	0.63 (0.57, 0.70)	Ref	
≥100k	0.74 (0.67, 0.81)	0.83 (0.75, 0.92)	0.67 (0.62, 0.73)	Ref	
Number of CR sessions attended[§]					
<40k	-0.4 (-3.8, 3.0)	0.3 (-0.7, 1.3)	-1.2 (-2.7, 0.3)	Ref	
40k to <60k	1.3 (-2.5, 5.0)	0.5 (-0.9, 1.9)	-2.0 (-3.7, -0.3)	Ref	
60k to <75k	-2.8 (-5.9, 0.4)	1.1 (-0.8, 3.0)	-2.6 (-4.6, -0.5)	Ref	0.20
75k to <100k	0.6 (-2.2, 3.4)	0.7 (-1.1, 2.4)	-3.2 (-4.7, -1.7)	Ref	
≥100k	-2.6 (-4.0, -1.1)	-1.4 (-2.9, 0.2)	-2.1 (-3.4, -0.9)	Ref	
Time to initiation of CR, days[§]					
<40k	9.1 (-5.0, 23.3)	11.9 (8.2, 15.7)	6.4 (0.6, 12.2)	Ref	
40k to <60k	7.1 (-8.0, 22.2)	14.2 (9.2, 19.1)	8.0 (2.4, 13.5)	Ref	
60k to <75k	-0.1 (-10.1, 9.8)	13.3 (6.5, 20.1)	6.6 (0.3, 12.9)	Ref	0.35
75k to <100k	15.1 (5.1, 25.1)	12.6 (6.7, 18.5)	11.8 (5.6, 18.0)	Ref	
≥100k	7.9 (2.2, 13.6)	5.3 (-0.2, 10.9)	8.5 (3.2, 13.7)	Ref	

CI indicates confidence interval; CR, cardiac rehabilitation; RR, risk ratio

[*] Robust variances were specified in all models.

[†] From Poisson or linear regression models with a term for interaction between race/ethnicity and income. *P*-values were calculated with the use of generalized score tests for binary outcomes and F-tests for continuous outcomes.

[‡] Risk ratios (95% CI) from Poisson regression models.

[§] Mean differences (95% CI) from linear regression models.