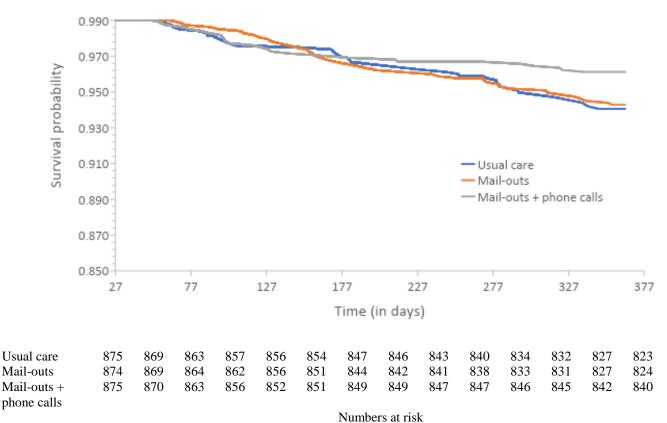


## Supplementary material

## eFigure 1. CONSORT diagram.

**eFigure 2. Probability of survival over 12-month follow-up by treatment group among 2,624 post-myocardial infarction patients.** *Note:* No patients were censored as administrative claims data was used to assess whether patients died during follow-up. 8 patients could not be linked to administrative claims data and were excluded from initial sample of 2,632 patients. X-axis starts at 27 days as only patients who survived through the first 27 days post-randomization were eligible for analysis.



### STATISTICAL APPENDIX

#### Multiple imputation

Multiple imputation consists of three phases: 1) imputation; 2) analysis; and 3) pooling.

To complete the first phase, the PROC MI procedure in SAS Version 9.4 was used to specify imputation models for each variable with missing data. Fully conditional specification (FCS) was the method chosen for imputation, as it allows specification of different conditional distributions for each imputed variable. Additionally, FCS is preferred when there are many continuous and categorical variables with missing observations. We imputed 20 data sets as the percentage of incomplete cases<sup>1,2</sup> for both primary outcomes was approximately 20%.

In running the imputation procedure (via PROC MI), the order of variables in the VAR statement was decided by the % missingness in the raw data (arranged from lowest to highest). The frequency of missing responses can be found between Table 1 (baseline characteristics) and Supplemental Table 2 (outcomes). Variables were eligible for the imputation model if they met at least one of the following criteria: 1) present in any analytic model specified a priori (includes dependent and independent variables, as well as any interaction terms in planned subgroup analyses), and/or 2) auxiliary variable (correlated with imputed variable and/or associated with missingness for imputed variable). The inclusion of auxiliary variables helps to strengthen the plausibility of the missing at random (MAR) assumption underlying multiple imputation, i.e. the probability of an observation being missing for a given variable is dependent on the observed value(s) of other variable(s) within the data set. Furthermore, any variables explicitly mentioned as auxiliary variables in the protocol were included as such without formal testing. Predictive mean matching was used, rather than linear regression, to impute continuous variables as the former method does not assume normality. It is worth noting that several outcomes - medication adherence (ordinal), medication persistence (binary), and cardiac rehabilitation attendance (percentage completed, continuous) – were not directly imputed. Instead, the component variables in the original data set that were used to define these composite outcomes were imputed. Following imputation, these outcomes were defined and calculated using the completed (observed and imputed) data.

Following multiple imputation, we then analyzed each outcome (as detailed in the statistical analysis section) per imputed data set. For example, cardiac rehabilitation completion (a dichotomous outcome) was analyzed via logistic regression, with one model independently fit to each of the 20 imputed data sets. Estimated coefficients and standard errors obtained from each independent regression model were then pooled using Rubin's rules (via PROC MIANALYZE in SAS) to obtain the final treatment effect estimates (and corresponding 95% CI) presented throughout the paper.

Imputation diagnostics are presented in the following outputs: a) **Supplemental Table 2**, which compares the descriptive statistics for outcomes between participants with an observed response and all participants (observed plus imputed responses from one randomly selected imputed data set); b) **Supplemental Table 5**, which illustrates the implications of different assumptions about missingness on differences in cardiac rehabilitation completion and c) **Supplemental Table 6**, which compares the regression results for both the complete case and imputation analyses for both co-primary outcomes.

SAS Code available upon request.

1. Bodner TE. What improves with increased missing data imputations? *Structural Equation Modeling: A Multidisciplinary Journal*. 2008;15(4):651-675.

2. Graham JW, Olchowski AE, Gilreath TD. How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention science*. 2007;8(3):206-213.

	Outcome asses	_	
	Refused	Did not refuse	
Characteristic	(n = 319)	(n = 2183)	P-value
Treatment group, n (%)			<.001*
Usual care	34 (10.7)	795 (36.4)	
Mail-outs	54 (16.9)	775 (35.5)	
Mail-outs plus phone calls	231 (72.4)	613 (28.1)	
Centre, n (%)			.11
А	60 (18.8)	443 (20.3)	
В	19 (6.0)	156 (7.2)	
С	45 (14.1)	322 (14.8)	
D	24 (7.5)	187 (8.6)	
Ε	21 (6.6)	182 (8.3)	
F	46 (14.4)	283 (13.0)	
G	14 (4.4)	145 (6.6)	
Н	23 (7.2)	150 (6.9)	
Ι	67 (21.0)	315 (14.4)	
Age, mean $\pm$ SD	68.2 (12.4)	65.1 (12.2)	<.001*
ODB coverage due to age $\geq 65$ y, n (%)			<.001*
No	122 (38.2)	1082 (49.6)	
Yes	197 (61.8)	1101 (50.4)	
Sex, n (%)			.17
Male	218 (68.3)	1572 (72.0)	
Female	101 (31.7)	611 (28.0)	
Rurality, n (%)			.96
Rural	52 (16.3)	351 (16.2)	
Urban	267 (83.7)	1818 (83.8)	
Missing	0	14	
Neighbourhood income quintile <sup>a</sup> , n (%)			.06
1 (lowest)	81 (25.4)	462 (21.3)	
2	75 (23.5)	461 (21.3)	
3	64 (20.1)	413 (19.0)	
4	59 (18.5)	430 (19.8)	
5 (highest)	40 (12.5)	403 (18.6)	
Missing	0	14	
Prior cardiac event or procedure <sup>b</sup> , n (%)	5		<.001*
No	167 (53.9)	1356 (64.4)	
Yes	143 (46.1)	750 (35.6)	
Missing	9	77	
History of smoking, n (%)			.93
Never	121 (42.8)	814 (42.1)	
Current	79 (27.9)	533 (27.5)	
Carrent	(2,.))	555 (21.5)	

**Supplemental Table 1.** Distribution of baseline characteristics based on refusal to complete an ISLAND outcome assessment at 12 months among those still alive at 12 months, N=2,502 patients.

Former	83 (29.3)	589 (30.4)	
Missing	36	247	
Diabetes, n (%)			.005*
No	199 (62.8)	1522 (70.6)	
Yes	118 (37.2)	635 (29.4)	
Missing	2	26	
Treatment at index catheterization			.002*
Surgery + medication	4 (1.3)	62 (2.8)	
Stent + medication	185 (58.0)	1381 (63.3)	
Medication only	130 (40.8)	740 (33.9)	

*Notes*: \*Statistically significant difference at *P*-value  $\leq$ . 05 (missing values excluded from tests of statistical significance and column percentage calculations). SD = standard deviation; ODB = Ontario Drug Benefit Plan. Column percentages are reported. Due to rounding, the sum of column percentages may exceed 100%. The listed variables (identical to **Table 1**) represent a subset of those collected by the investigators from the CorHealth registry, which were adjusted for in at least one multiple imputation model (see **Statistical Appendix**).

<sup>a</sup> Derived based on participant's postal code using a macro created by Statistics Canada.

<sup>b</sup> Indicator representing whether patient had history of prior myocardial infarction, coronary vascular disease, or coronary revascularization (percutaneous coronary intervention or coronary artery bypass graft) procedure. <sup>c</sup> Surgery defined as either bypass surgery or balloon angioplasty.

**Supplemental Table 2.** Patient-reported primary and secondary outcomes at 12-month follow-up by group prior to multiple imputation among participating post-coronary acute syndrome patients.

	Prior to imputation					n <sup>a</sup>
	Treatment group				ıp	
			Mail-outs			Mail-outs
Outcomes	Usual care	Mail-outs	+ Phone calls	Usual care	Mail-outs	+ Phone calls
Primary outcomes, N=2,632						
No. participants	876	876	878	876	876	878
Cardiac rehabilitation completion, n (%)						
Yes	174 (27.1)	200 (31.8)	196 (36.9)	234 (26.7)	271 (30.9)	342 (38.9)
No	469 (72.9)	428 (68.2)	335 (63.1)	642 (73.3)	607 (69.1)	536 (61.1)
Missing	233	250	347	0	0	0
<b>Medication adherence</b> (No. of drug classes with no days missed in last 7 days), n (%)						
0	70 (12.2)	68 (12.5)	57 (11.7)	99 (11.3)	90 (10.3)	86 (9.8)
1	48 (8.4)	37 (6.8)	29 (6.0)	118 (13.5)	106 (12.1)	110 (12.5)
2	75 (13.1)	74 (13.6)	70 (14.4)	162 (18.5)	181 (20.6)	166 (18.9)
3	174 (30.3)	164 (30.2)	160 (32.9)	242 (27.6)	257 (29.3)	296 (33.7)
4	207 (36.1)	200 (36.8)	170 (35.0)	255 (29.1)	244 (27.8)	220 (25.1)
Missing	302	335	392	0	0	0
Secondary outcomes, N=2,502						
No. participants <sup>b</sup>	829	829	844	829	829	844
Cardiac rehabilitation enrollment, n(%)						
Yes	290 (48.7)	322 (55.6)	308 (61.9)	377 (45.6)	422 (50.9)	483 (57.2)
No	306 (51.3)	257 (44.4)	190 (38.2)	452 (54.5)	407 (49.1)	361 (42.8)
Missing	233	250	346	0	0	0
Cardiac rehabilitation completion (%),						
mean (SD)	37.5 (45.6)	43.8 (46.7)	50.7 (48.1)	36.4 (45.0)	41.4 (46.2)	49.9 (46.9)
Missing, n	255	274	408	0	0	0
Medication adherence to all four classes (last 7 days), n(%)						
Yes	207 (39.3)	200 (40.5)	170 (37.6)	255 (30.8)	244 (29.4)	220 (26.1)
No	320 (60.7)	294 (59.5)	282 (62.4)	574 (69.2)	585 (70.6)	624 (73.9)
Missing	302	335	392	0	0	0
Statin adherence (last 7 d), n(%)						
Yes	410 (76.5)	395 (78.4)	350 (75.9)	575 (69.4)	599 (72.3)	588 (69.7)
No	126 (23.5)	109 (21.6)	111 (24.1)	254 (30.6)	230 (27.7)	256 (30.3)
Missing	293	325	383	0	0	0
Beta-blocker adherence (last 7 d), n(%)						
Yes	346 (64.7)	329 (65.4)	298 (64.5)	501 (60.4)	496 (59.8)	503 (59.6)
No	189 (35.3)	174 (34.6)	164 (35.5)	328 (39.6)	333 (40.2)	341 (40.4)
Missing	294	326	382	0	0	0
Antiplatelet adherence (last 7 d), n(%)						
Yes	471 (88.2)	437 (87.6)	398 (86.5)	628 (75.8)	590 (71.2)	585 (69.3)
No	63 (11.8)	62 (12.4)	62 (13.5)	201 (24.3)	239 (28.8)	259 (30.7)
No	63 (11.8)	62 (12.4)	62 (13.5)	201 (24.3)	239 (28.8)	259 (30.7)

Missing	295	330	384	0	0	0
Angiotensin system inhibitor adherence (last 7 d), n(%)						
Yes	337 (62.8)	331 (65.7)	298 (64.9)	484 (58.4)	530 (63.9)	534 (63.3)
No	200 (37.2)	173 (34.3)	161 (35.1)	345 (41.6)	299 (36.1)	310 (36.7)
Missing	292	325	385	0	0	0
Medication adherence (No. drug classes with <6 days missed in last 30 days), n(%)						
0	11 (2.1)	11 (2.2)	5 (1.1)	66 (8.0)	80 (9.7)	84 (10.0)
1	34 (6.5)	31 (6.3)	24 (5.3)	125 (15.1)	122 (14.7)	142 (16.8)
2	72 (13.8)	65 (13.2)	63 (14.0)	163 (19.7)	166 (20.0)	175 (20.7)
3	182 (34.8)	173 (35.0)	172 (38.2)	227 (27.4)	231 (27.9)	230 (27.3)
4	224 (42.8)	214 (43.3)	186 (41.3)	248 (29.9)	230 (27.7)	213 (25.2)
Missing	306	335	394	0	0	0
Quality of life <sup>c</sup> , mean (SD)	86.8 (13.3)	87.2 (12.8)	86.1 (13.5)	86.9 (13.6)	86.7 (13.0)	85.7 (13.8)
Missing	260	280	369	0	0	0
Smoking status, n (%)						
Smoker	75 (12.8)	67 (11.8)	52 (10.6)	126 (15.2)	134 (16.2)	131 (15.5)
Non-smoker	513 (87.2)	500 (88.2)	437 (89.4)	703 (84.8)	695 (83.8)	713 (84.5)
Missing	241	262	355	0	0	0
Medication persistence (all 4 classes), n (%)						
Yes	230 (42.7)	220 (43.3)	194 (41.7)	326 (39.3)	322 (38.8)	315 (37.3)
No	309 (57.3)	288 (56.7)	271 (58.3)	503 (60.7)	507 (61.2)	529 (62.7)
Missing	290	321	379	0	0	0
Statin persistence, n(%)						
Yes	441 (81.8)	421 (83.9)	383 (82.4)	655 (79.0)	650 (78.4)	658 (78.0)
No	98 (18.2)	87 (17.1)	82 (17.6)	174 (21.0)	179 (21.6)	186 (22.0)
Missing	290	321	379	0	0	0
Beta-blocker persistence, n(%)						
Yes	373 (69.2)	353 (69.5)	333 (71.6)	564 (68.0)	569 (68.6)	594 (70.4)
No	166 (30.8)	155 (30.5)	132 (28.4)	265 (32.0)	260 (31.4)	250 (29.6)
Missing	290	321	379	0	0	0
Antiplatelet persistence, n(%)						
Yes	501 (93.0)	461 (90.8)	424 (91.2)	767 (92.5)	749 (90.4)	775 (91.8)
No	38 (7.1)	47 (9.3)	41 (8.8)	62 (7.5)	80 (9.7)	69 (8.2)
Missing	290	321	379	0	0	0
Angiotensin system inhibitor persistence, n(%)						
Yes	360 (66.8)	348 (68.5)	324 (69.7)	521 (62.9)	542 (65.4)	567 (67.2)
No	179 (33.2)	160 (31.5)	141 (30.3)	308 (37.2)	287 (34.6)	277 (32.8)
Missing	290	321	379	0	0	0
Dual-platelet adherence (last 7 d), n (%)						
Yes	223 (41.8)	201 (40.2)	185 (40.3)	377 (45.5)	378 (45.6)	375 (44.4)
No	311 (58.2)	299 (59.8)	274 (59.7)	452 (54.5)	451 (54.4)	469 (55.6)

Missing	295	329	385	0	0	0
Dual-platelet adherence (last 30 d), n (%)						
Yes	239 (45.1)	212 (42.2)	199 (43.4)	407 (49.1)	401 (48.4)	395 (46.8)
No	291 (54.9)	289 (57.7)	260 (56.6)	422 (50.9)	428 (51.6)	449 (53.2)
Missing	299	328	385	0	0	0

*Notes*: Primary trial outcomes are **bolded.** SD = standard deviation; ODB = Ontario Drug Benefit Plan. Column percentages are reported excluding missing responses to facilitate comparison of distributions between the raw (observed) and imputed (observed and imputed) data sets. Due to rounding, the sum of column percentages may exceed 100%.

<sup>a</sup> Responses imputed using fully conditional specification multiple imputation. See **Statistical Appendix** for full details on procedure.

The descriptive statistics are from one randomly selected data set of the 20 total imputed data sets.

<sup>b</sup> Excludes those who died between 28 and 365 days after randomization.

<sup>c</sup> Derived using the SAQ quality of life scale.

**Supplemental Table 3.** Estimates of intervention effects on medication adherence contingent on proportionality assumption.

		OR (95% CI)					
			Medication adheren	nce (No. drug classes)			
Model	Intervention <sup>a</sup>	4 v <4	≥3 v <3	≥2 v <2	≥1 v 0		
Fully proportional odds model <sup>b</sup> (primary analysis)	Mail-outs	0.98 (0.81 to 1.19)	0.98 (0.81 to 1.19)	0.98 (0.81 to 1.19)	0.98 (0.81 to 1.19)		
	Mail-outs + Phone calls	0.99 (0.82 to 1.20)	0.99 (0.82 to 1.20)	0.99 (0.82 to 1.20)	0.99 (0.82 to 1.20)		
Partial proportional odds	Mail-outs	0.96 (0.76 to 1.22)	0.98 (0.79 to 1.22)	1.03 (0.78 to 1.36)	1.02 (0.73 to 1.44)		
model <sup>c</sup> (sensitivity analysis)	Mail-outs + Phone calls	0.88 (0.69 to 1.13)	1.02 (0.81 to 1.27)	1.16 (0.86 to 1.58)	1.15 (0.81 to 1.64)		

*Notes:* OR = odds ratio; CI = confidence interval. All OR values adjusted for fixed effect of centre (stratifying factor in randomization). Fully conditional specification was used to create 20 imputed data sets per outcome (i.e., multiple imputation). These multiple data sets were then analyzed independently using regression analysis. All OR and corresponding 95% CI presented in this table were obtained by pooling regression results across the imputed data sets using Rubin's rules (see**Statistical Appendix**for more details).

<sup>a</sup> Reference group = usual care.

<sup>b</sup> Assumes proportionality of effect across all four logit (4 v <4,  $\ge$ 3 v <3,  $\ge$ 2 v <2,  $\ge$ 1 v 0).

<sup>c</sup> Does not assume proportionality of effect across all four logit.

**Supplemental Table 4.** Exploratory analysis results assessing whether intervention effects (on the log odds scale) differ across selected socio-demographic and clinical subgroups among 2,632 patients.

		Co-primary outcomes					
		Cardiac reha	-	Medication adherence (No.			
Subgroup by in	ntervention interaction	complet	tion	classes)			
Subgroup	Intervention	Coefficient <sup>a</sup> (SE)	P-value	Coefficient <sup>a</sup> (SE)	P-value		
Male	Mail-outs	-0.13 (0.28)	.63	0.12 (0.21)	.58		
Male	Mail-outs plus phone calls	0.06 (0.27)	.81	0.36 (0.22)	.10		
Age≥65 y	Mail-outs	0.23 (0.25)	.35	0.15 (0.20)	.45		
Age≥65 y	Mail-outs plus phone calls	0.05 (0.26)	.85	-0.04 (0.19)	.83		
Current smoker	Mail-outs	0.11 (0.36)	.77	0.12 (0.26)	.65		
Current smoker	Mail-outs plus phone calls	0.21 (0.36)	.57	-0.09 (0.28)	.74		
Former smoker	Mail-outs	0.43 (0.29)	.14	0.05 (0.24)	.84		
Former smoker	Mail-outs plus phone calls	0.06 (0.30)	.84	-0.10 (0.26)	.71		
Diabetes=yes	Mail-outs	0.21 (0.27)	.44	0.05 (0.22)	.81		
Diabetes=yes	Mail-outs plus phone calls	0.26 (0.31)	.41	0.43 (0.21)	.05		
Prior cardiac event or procedure=yes	Mail-outs	-0.07 (0.28)	.81	-0.17 (0.22)	.44		
Prior cardiac event or procedure=yes	Mail-outs plus phone calls	0.21 (0.28)	.46	-0.08 (0.22)	.72		
Income quintile=2	Mail-outs	0.00 (0.38)	.99	0.42 (0.32)	.19		
Income quintile=2	Mail-outs plus phone calls	-0.03 (0.41)	.94	0.60 (0.31)	.05		
Income quintile=3	Mail-outs	0.50 (0.40)	.21	-0.23 (0.32)	.47		
Income quintile=3	Mail-outs plus phone calls	0.53 (0.45)	.24	0.10 (0.30)	.73		
Income quintile=4	Mail-outs	0.14 (0.38)	.70	0.35 (0.33)	.28		
Income quintile=4	Mail-outs plus phone calls	-0.51 (0.41)	.21	0.24 (0.30)	.42		
Income quintile=5	Mail-outs	-0.38 (0.40)	.35	-0.06 (0.30)	.83		
Income quintile=5	Mail-outs plus phone calls	-0.07 (0.38)	.85	0.03 (0.31)	.92		
Rural=yes	Mail-outs	0.44 (0.31)	.15	0.14 (0.25)	.59		
Rural=yes	Mail-outs plus phone calls	-0.14 (0.34)	.67	-0.24 (0.27)	.37		

*Notes:* \*Statistically significant at *P*-value<.05. SE = standard error. Each row represents the results of a statistical interaction between subgroup and intervention added to the primary regression analysis for both co-primary outcomes (independently). Fully conditional specification was used to create 20 imputed data sets per outcome (i.e., multiple imputation). These multiple data sets were then analyzed independently using regression analysis. The interaction term coefficient estimates and standard errors presented were obtained by pooling regression results across the imputed data sets using Rubin's rules (see **Statistical Appendix** for more details). Binary logistic regression and ordinal logistic regression models used for cardiac rehabilitation completion and medication adherence outcomes respectively. Each coefficient estimate (for statistical interaction term) based on a regression model identical to primary regression analysis for that primary outcome, with addition of main effect for subgroup variable (e.g., male sex) and tested statistical interaction terms (e.g., male sex \* mail-outs; male sex \* mail-outs plus phone calls).

<sup>a</sup> For corresponding statistical interaction (i.e., cross-product) term. Coefficient reported on the log odds scale.

**Supplemental Table 5.** Sensitivity analysis to assess implications of different assumptions about missingness on differences in cardiac rehabilitation completion.

**Complete cases (observed)**: raw data taken from **Table 2** [used as reference for each single imputation scenario below].

		Treatment group				
			Mail-outs plus			
Cardiac rehabilitation completion	Usual care	Mail-outs	phone calls	<i>P</i> -value		
Yes	174 (27.1%)	200 (31.8%)	196 (36.9%)	0.002*		
No	469 (72.9%)	428 (68.2%)	335 (63.1%)			
Missing	233	250	347			

**Missing Completely At Random (MCAR):** All participants with missing values have the same likelihood of completing cardiac rehabilitation as complete cases (570/1802=31.6%).

			Mail-outs plus	
Cardiac rehabilitation completion	Usual care	Mail-outs	phone calls	P-value
Yes	248 (28.3%)	279 (31.8%)	306 (34.8%)	0.01*
No	628 (71.7%)	599 (68.2%)	572 (65.2%)	

**Missing At Random (MAR):** All participants with missing values have the same probability of completing cardiac rehabilitation as complete cases in their own treatment group.

			Mail-outs plus				
Cardiac rehabilitation completion	Usual care	Mail-outs	phone calls	<i>P</i> -value			
Yes	237 (27.1%)	280 (31.8%)	324 (36.9%)	<.001*			
No	639 (72.9%)	598 (68.2%)	554 (63.1%)				
Missing Not At Random (MNAR): All participants with missing values in the two active treatment groups have							
the same probability of completing c	ardiac rehabilitation	n as the usual care c	ontrol group.				
			Mail-outs plus				
Cardiac rehabilitation completion	Usual care	Mail-outs	phone calls	P-value			
Yes	237 (27.1%)	268 (30.5%)	290 (33.0%)	.02*			
No	639 (72.9%)	610 (69.5%)	588 (67.0%)				

*Note:* \*Statistically significant at *P*-value <<.05 using a simple chi-squared test for independence.

**Supplemental Table 6.** Results of co-primary outcome regression analysis using multiple imputation versus complete case analysis.

			FCS multiple imputation			Complete case analysis	
Outcome	Intervention <sup>a</sup>	Ν	OR (95% CI)	P-value <sup>c</sup>	Ν	OR (95% CI)	P-value <sup>c</sup>
Cardiac rehabilitation completion (yes/no)	Mail-outs	2632	1.19 (0.95 to 1.50)	.34	1802	1.26 (0.99 to 1.60)	.18
	Mail-outs + phone calls	2632	1.55 (1.18 to 2.03)	.007*	1802	1.59 (1.24 to 2.04)	<.001
Medication	Mail-outs <sup>d</sup>	2632	0.98 (0.81 to 1.19)	.98	1603	1.03 (0.83 to 1.27)	.96
adherence (# drug classes, 0-4)	Mail-outs + phone calls <sup>d</sup>	2632	0.99 (0.82 to 1.20)	.98	1603	1.02 (0.82 to 1.27)	.96

*Notes*: OR = odds ratio; CI = confidence interval; FCS = fully conditional specification. Fully conditional specification was used to create 20 imputed data sets per outcome (i.e., multiple imputation). These multiple data sets were then analyzed independently using regression analysis. Odds ratios and 95% CI were obtained by pooling regression results across the imputed data sets using Rubin's rules (see**Statistical Appendix**for more details). Odds ratios obtained from binary logistic regression and ordinal logistic regression models used for cardiac rehabilitation. Odds ratios adjusted for fixed effect of centre (centre 1 = [reference] category). completion and medication adherence outcomes respectively.

<sup>a</sup> Reference group = usual care.

<sup>b</sup> Adjusted for multiple comparisons and multiple primary outcomes using step-down Šidák procedure.

<sup>c</sup> Assumes proportionality of effect across all four logit (4 v <4,  $\ge$ 3 v <3,  $\ge$ 2 v <2,  $\ge$ 1 v 0).