

Supplementary Materials File S1: Supplementary Table

Supplementary Table S1. Interrelationships among secondary-prevention domains

Concurrent use of four medication classes	Behavioral implementation: No, n (%)	Behavioral implementation: Yes, n (%)	P value
No	572 (56.1)	448 (43.9)	0.138
Yes	184 (51.5)	173 (48.5)	
Concurrent use of four medication classes	Frequent lipid monitoring: No, n (%)	Frequent lipid monitoring: Yes, n (%)	P value
No	459 (45.0)	561 (55.0)	0.445
Yes	169 (47.3)	188 (52.7)	
Behavioral implementation	Frequent lipid monitoring: No, n (%)	Frequent lipid monitoring: Yes, n (%)	P value
No	360 (47.6)	396 (52.4)	0.098
Yes	268 (43.2)	353 (56.8)	

Supplementary Table S2: Associations between individual secondary preventive medication classes and clinical outcomes (Fully Adjusted Model).

Medication Class	Recurrent MI		Repeat revascularization	
	OR(95%CI)	P value	OR(95%CI)	P value
Antiplatelet drugs	1.068 (0.480–2.379)	0.872	1.508 (0.706–3.219)	0.289
Statins	1.428 (0.724–2.817)	0.304	1.152 (0.634–2.093)	0.643
Beta-blockers	1.434 (0.923–2.227)	0.109	1.652 (1.106–2.467)	0.014
ACEI/ARB	1.064 (0.706–1.604)	0.767	0.820 (0.560–1.202)	0.309

Note: Odds ratios (ORs) were derived from multivariable logistic regression models (Model 3) with simultaneous entry of all four medication classes. The models were additionally adjusted for age, sex, AMI subtype, multivessel disease, time since index MI, hypertension, diabetes mellitus, overweight/obesity (BMI ≥ 24 kg/m²), LDL-C level, and mutual adjustment for behavioral and monitoring secondary-prevention implementation domains.

Supplementary Table S3. Multivariable logistic regression analysis of individual and cumulative health behaviors with recurrent cardiovascular events

Behavioral Metrics	Recurrent MI Adjusted OR (95% CI)*	Revascularization Adjusted OR (95% CI)*
Number of Ideal Behaviors (Ordinal)		
0–1 (Reference)	1.00	1.00
2 behaviors	0.739 (0.467–1.172)	0.748 (0.495–1.128)
3 behaviors	0.515 (0.313–0.849)	0.665 (0.436–0.953)
4 behaviors	0.166 (0.063–0.436)	0.438 (0.236–0.811)
Individual Behavioral Domains		
Smoking abstinence / Cessation	0.561 (0.382–0.825)	0.723 (0.526–0.995)
Physical activity	0.686 (0.451–1.044)	0.781 (0.545–1.119)
Healthy diet	0.622 (0.423–0.913)	0.710 (0.514–0.982)
Adequate sleep	1.008 (0.672–1.513)	1.207 (0.856–1.703)

* Fully adjusted Model 3: adjusted for age, sex, AMI type, multivessel disease, time from index AMI to enrollment, hypertension, diabetes, BMI, LDL-C, and mutually adjusted for other secondary-prevention implementation domains.

Supplementary Table S4. Sensitivity analysis for the association between secondary-prevention implementation domains and recurrent cardiovascular events after excluding participants with events during the 12-month recall window (n = 1,372).

Clinical outcome	Primary Analysis (n=1,377)		Sensitivity Analysis (n=1,372)*	
	OR(95%CI)	P value	OR(95%CI)	P value
Recurrent MI				
Medication use	1.472(0.979-2.212)	0.063	1.455(0.961-2.204)	0.078
Good behavioral implementation	0.487(0.324-0.731)	<0.001	0.517(0.343-0.799)	0.002
frequent lipid monitoring	0.928(0.632-1.362)	0.702	0.857(0.580-1.267)	0.430
Repeat Revascularization				
Medication use	1.222(0.861-1.736)	0.262	1.258(0.883-1.792)	0.203
Good behavioral implementation	0.723(0.522-1.001)	0.050	0.747(0.537-1.038)	0.083
frequent lipid monitoring	1.059(0.767-1.461)	0.729	1.003(0.724-1.390)	0.984

Note: Models were fully adjusted for age, sex, type of myocardial infarction, multivessel disease, time since index MI, hypertension, diabetes mellitus, overweight/obesity, LDL-C level, and mutual adjustment for other secondary-prevention implementation domains (Model 3). *Sensitivity analysis excluded 5 patients who experienced a recurrent clinical event within the 12-month recall window prior to the study visit.

Supplementary Table S5. Sensitivity analysis restricting the study population strictly to male participants

Clinical outcome	Overall population		Male-only analysis (n=1,321)*	
	OR(95%CI) (n=1,377)	P value	OR(95%CI)	P value
Recurrent MI				
Medication use	1.472(0.979-2.212)	0.063	1.494(0.993-2.249)	0.054
Good behavioral implementation	0.487(0.324-0.731)	<0.001	0.476(0.316-0.717)	<0.001
Frequent lipid monitoring	0.928(0.632-1.362)	0.702	0.920(0.625-1.354)	0.672
Repeat Revascularization				
Medication use	1.222(0.861-1.736)	0.262	1.267(0.889-1.805)	0.190
Good behavioral implementation	0.723(0.522-1.001)	0.050	0.693(0.497-0.965)	0.030
Frequent lipid monitoring	1.059(0.767-1.461)	0.729	1.076(0.776-1.492)	0.663

Note: Analysis restricted to male participants (n = 1,321). Models were fully adjusted for age, AMI subtype, multivessel disease, time since index MI, hypertension, diabetes mellitus, overweight/obesity (BMI $\geq$ 24 kg/m²), LDL-C level, and mutual adjustment for other secondary-prevention implementation domains.