

# Determinants of Lipid-Lowering Therapy Adherence After Acute Coronary Syndromes in Patients with Cardiometabolic Disease



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## Objective

- Cardiovascular-Kidney-Metabolic Syndrome significantly increases residual cardiovascular risk following acute coronary syndromes (ACS)
- Lipid-lowering therapy (LLT) is critical for secondary prevention; however, adherence remains suboptimal
- Using the Transitions, Risks, and Actions in Coronary Events (TRACE-CORE) cohort, we evaluated patient-level determinants of LLT adherence in the context of broader cardiometabolic risk factors
- The purpose of this study is to better understand factors that influence LLT adherence in patients hospitalized for ACS following discharge. This information can help us develop strategies for improving LLT adherence and improving cardiometabolic outcomes

## Methods

- 1,200 TRACE-CORE participants (mean age 63.2 ± 10.8 years; 39% female) hospitalized for ACS at six hospitals across Massachusetts and Georgia
- Baseline demographics, comorbidities, and cardiometabolic risk factors were obtained via structured interviews and medical record abstraction
- LLT adherence was assessed at time of discharge, 6, and 12 months
- Full adherence was defined as being on LLT at all follow-up interviews, all others were considered partially adherent
- Multivariable logistic regression identified independent predictors of partial adherence

Characteristic	Category	Partially Adherent N (%)	Adherent N (%)
		381 (31.75)	819 (68.25)
Gender	Male	227 (59.58)	560 (68.38)
	Female	154 (40.42)	259 (31.62)
Age	Mean (Std Dev)	63.5 (10.7)	63.0 (10.8)
Race	White	306 (80.31)	710 (86.69)
	Non-White	75 (19.69)	109 (13.31)
Coronary Heart Disease (CHD)	No	224 (58.79)	498 (60.81)
	Yes	157 (41.21)	321 (39.19)
Chronic Kidney Disease (CKD)	No	338 (88.71)	740 (90.35)
	Yes	43 (11.29)	79 (9.65)
Type 2 Diabetes Mellitus (T2DM)	No	269 (70.60)	549 (67.03)
	Yes	112 (29.40)	270 (32.97)

Variable	Comparison	Odds Ratio (95% CI)	p-value
Sex	Male vs Female	1.45 (1.12 – 1.89)	0.005
White race	White vs Non-White	1.60 (1.14 – 2.26)	0.007
T2DM	Diabetes vs No diabetes	1.29 (0.97 – 1.71)	0.084
CHD	CHD vs No CHD	0.91 (0.70 – 1.18)	0.481
CKD	CKD vs No CKD	0.81 (0.54 – 1.23)	0.328
Age	Continuous (per unit increase)	1.00 (0.99 – 1.01)	0.76
BMI	Continuous (per unit increase)	1.01 (0.99 – 1.03)	0.25

## Results

- Overall, 32% of participants were partially adherent to LLT
- The overall model was significant ( $\chi^2 = 22.4$ , df = 7, p = 0.002)
- Adherence varied significantly by race (White race (OR 1.60, 95% CI 1.14–2.26, p = 0.007)) and was greater in men than in women (OR 1.45, 95% CI 1.12-1.89), p=0.005)
- A history of type 2 diabetes showed a non-significant trend toward greater adherence (OR 1.29, p = 0.084)
- Age, body mass index, chronic kidney disease, and coronary heart disease were not significant predictors

## Conclusions

- In our multicenter ACS cohort, partial LLT adherence was common
- Partial adherence disproportionately affected women, racial/ethnic minorities, and patients with T2DM
- These findings underscore the need for integrated, patient-centered strategies targeting cardiometabolic disease management to improve LLT adherence and reduce recurrent cardiovascular events