



FULL COVERAGE FOR PREVENTIVE MEDICATIONS AFTER MYOCARDIAL INFARCTION

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Background

- **Adherence to evidence-based medications prescribed after myocardial infarction (MI) remains poor**
 - Within 2 years of initiating therapy, only half of patients are adherent to their prescribed statins, beta-blockers, or ACEI/ARBs

- **Drug costs appear to be a central reason for medication underuse**
 - Even among patients with insurance, utilization varies according to the comprehensiveness of coverage

- **Eliminating out-of-pocket costs for evidence-based therapies may promote adherence and improve outcomes**
 - Referred to as “value-based insurance design” or “evidence-based plan design”
 - Observational studies support the ability of this strategy to increase adherence but its impact on health outcomes and spending has not been rigorously evaluated

Post-Myocardial Infarction Free Rx Event and Economic Evaluation (MI FREEE) Trial

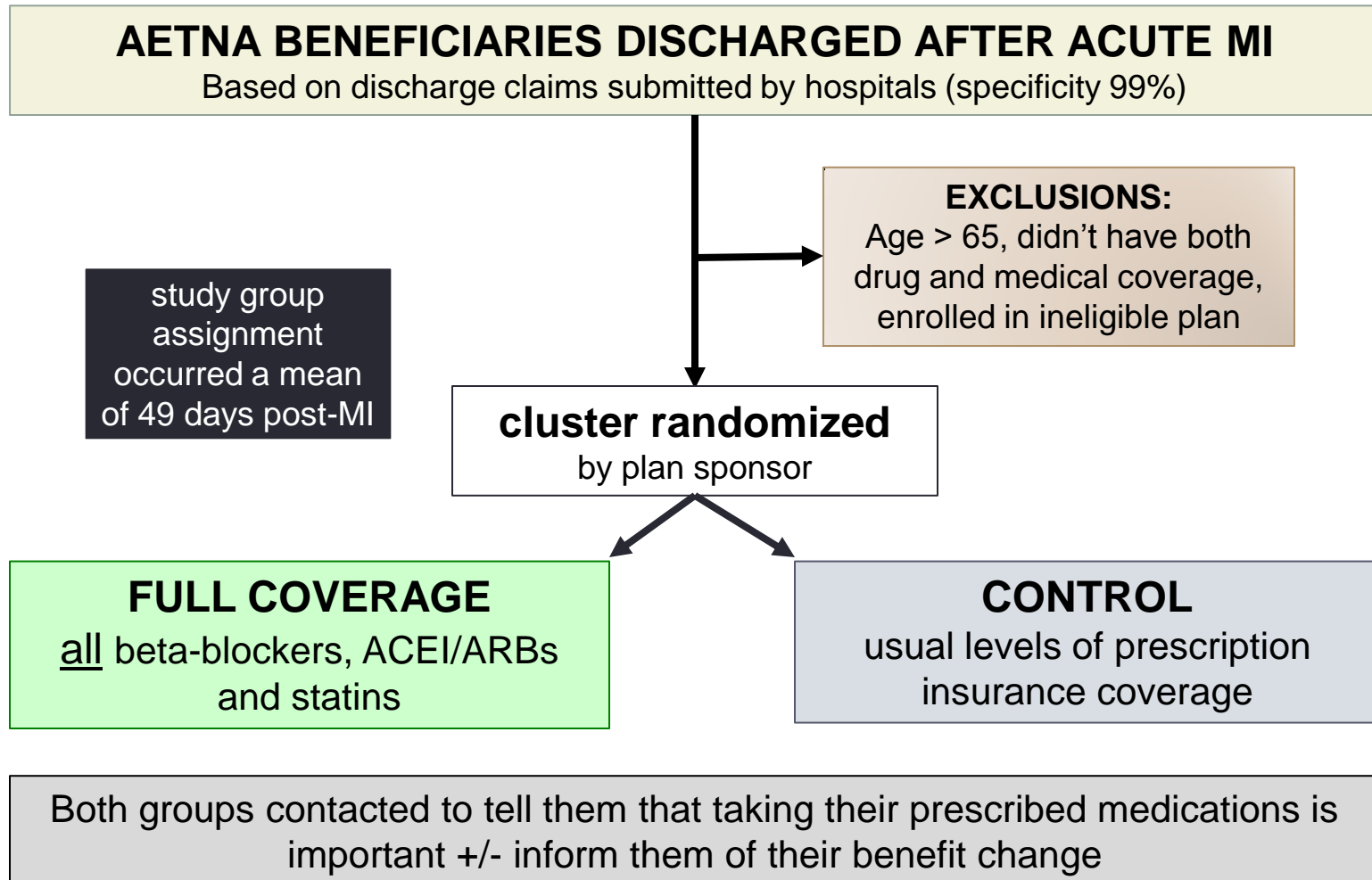


OBJECTIVE:

To evaluate the impact of eliminating copayments for statins, beta-blockers and ACEI/ARB prescribed to post-MI patients on rates of major vascular events and health spending

Overall Design

MI FREEE



Outcomes and analysis

MI FREEE

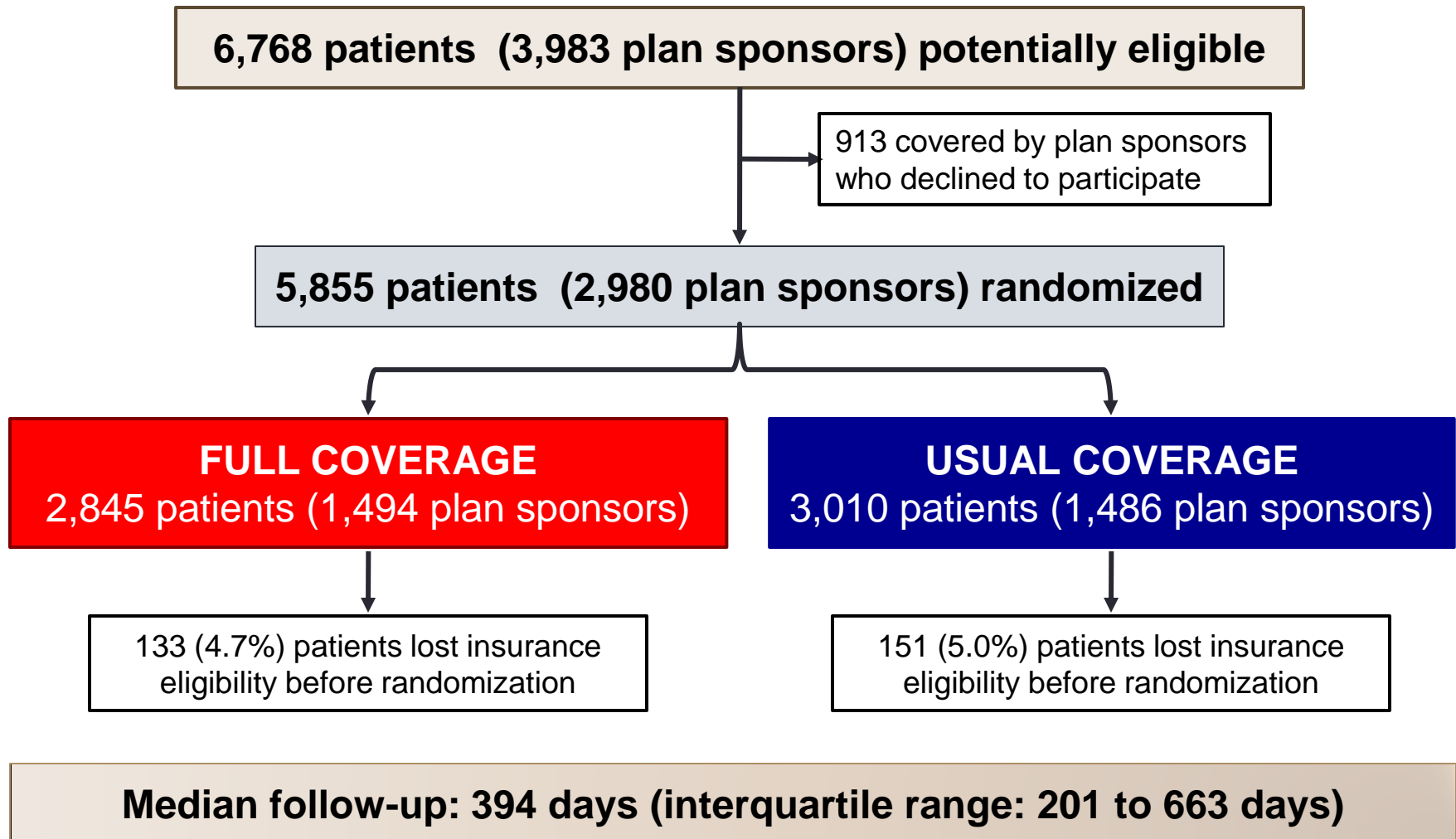
Primary	First major vascular event* or revascularization
Secondary	Total major vascular events and revascularization
	First major vascular event
	Medication adherence (proportion of days covered)
	Pharmacy and medical spending

*Fatal or non-fatal acute MI, unstable angina, stroke, congestive heart failure

- **Outcomes assessed using validated health services claims and based on intention to treat principles**
 - Included only verifiable (in hospital) fatal events
- **Clinical events evaluated using time-to-event (Cox) modeling; adherence and spending evaluated using generalized estimating equations**
 - Analyses adjusted for the cluster and block randomized design

Enrollment and Randomization

MI FREEE





Baseline characteristics (selected)*

MI FREEE

CHARACTERISTIC	FULL COVERAGE (N=2845)	USUAL COVERAGE (N=3010)
Age, mean	53.6	53.7
Male sex, %	75.6	74.7
Comorbidities, %		
Congestive heart failure	27.0	29.1
Diabetes	34.3	34.8
Hypertension	71.2	72.4
Prior MI	15.6	17.4
Stroke	5.8	6.7
Procedures on index hospitalization, %		
Angiography	94.7	93.7
PCI	67.3	66.0
CABG	17.9	18.1
Monthly baseline copayment, mean		
ACEI/ARB	\$13.48	\$13.35
Beta-blocker	\$12.64	\$12.83
Statin	\$24.98	\$24.92

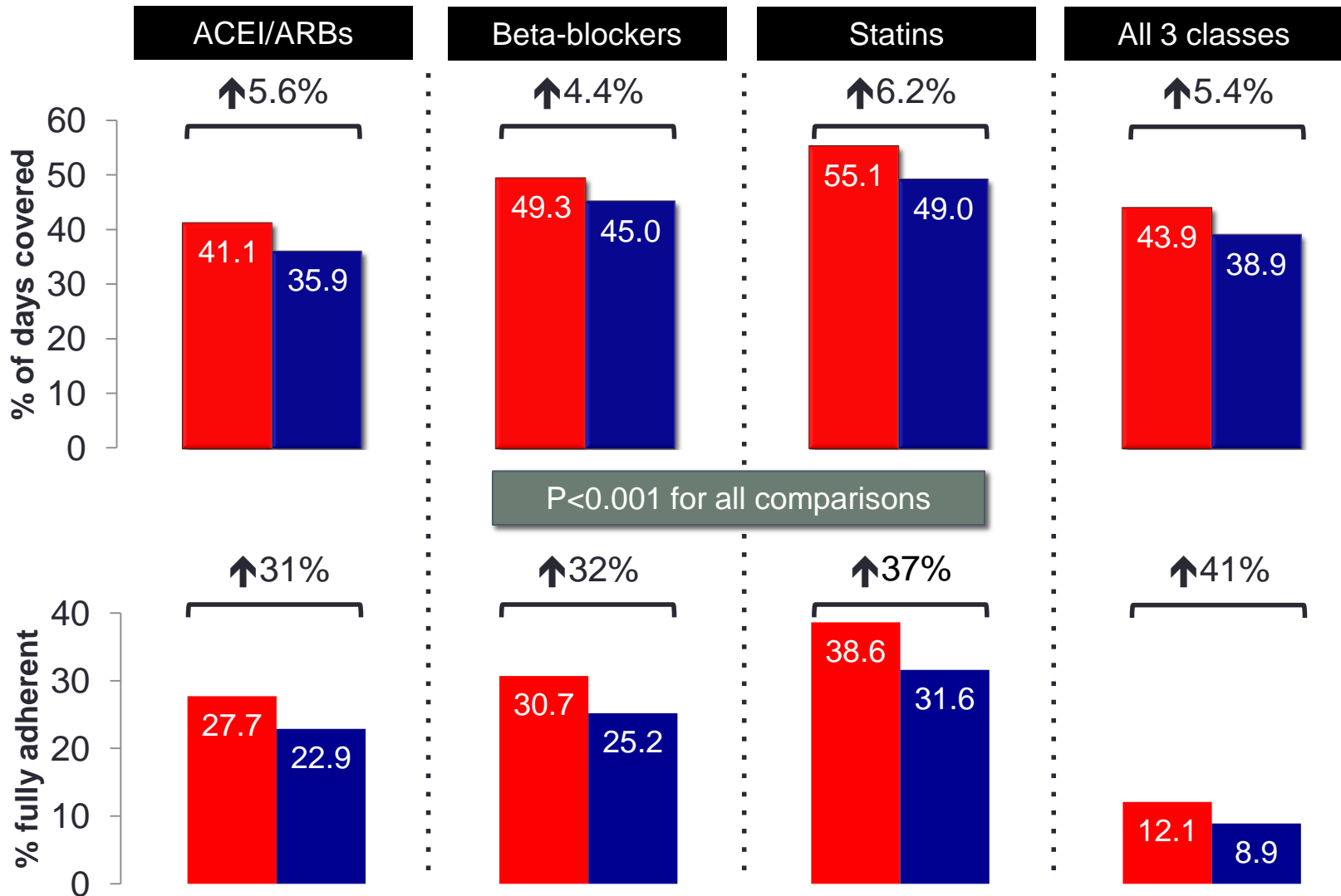
*There was no significant between-group difference in any category

Medication adherence

MI FREEE

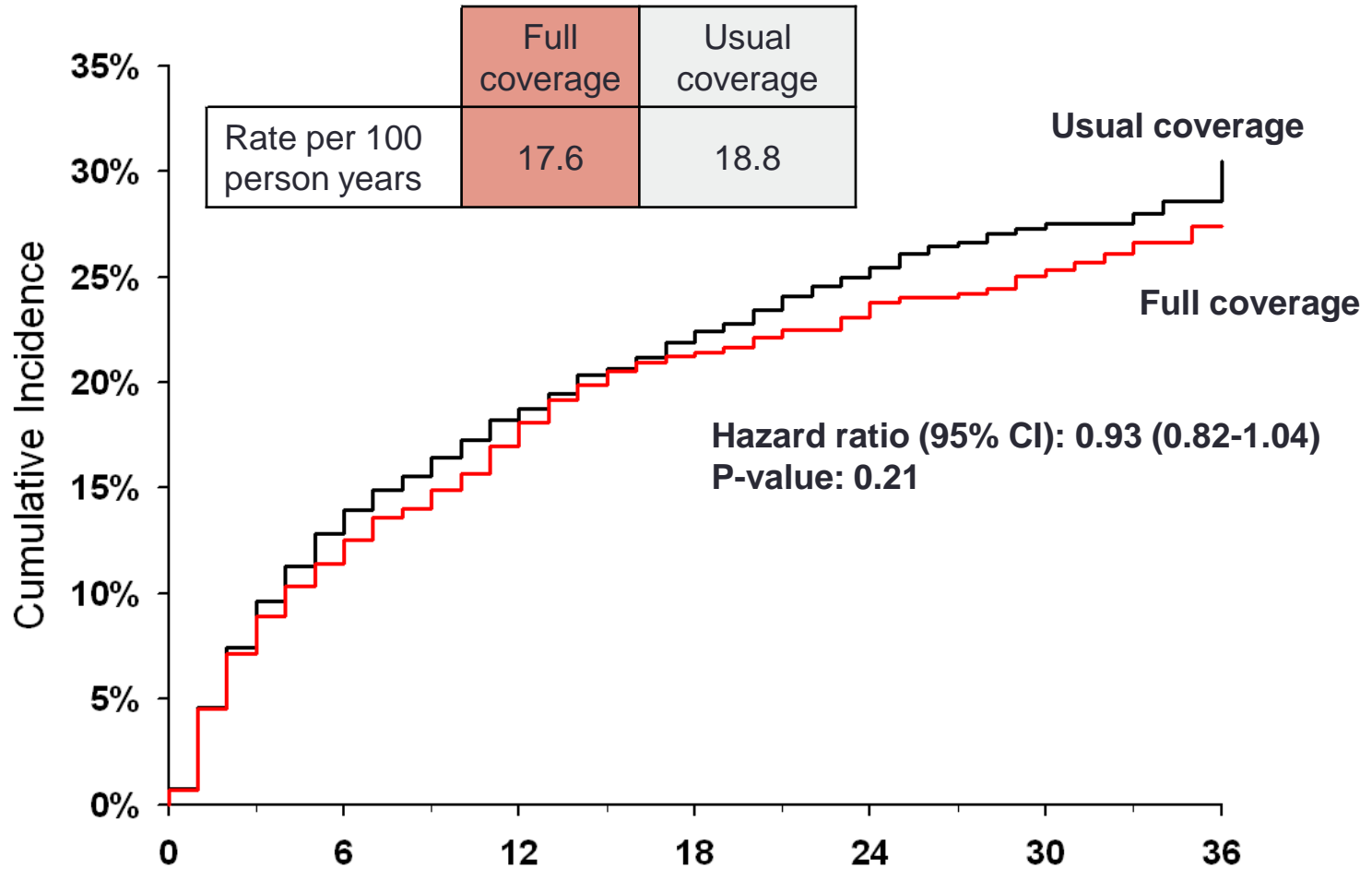


Full coverage Usual coverage



Major vascular event or revascularization

MI FREE

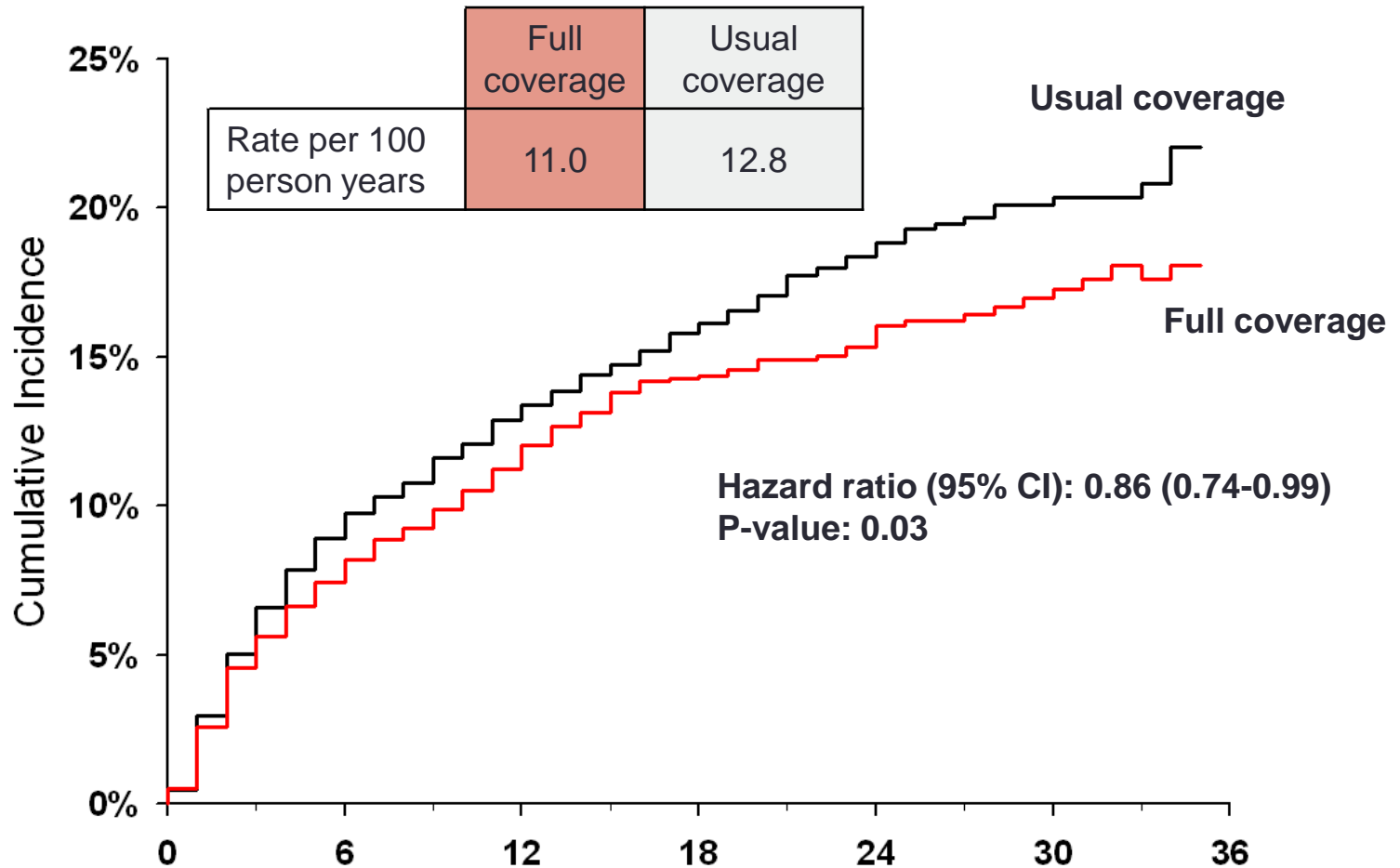


No. at Risk

	0	6	12	18	24	30	36
Usual coverage	3010	2361	1652	1099	662	379	131
Full coverage	2845	2295	1572	1013	625	340	135

Major vascular events (Fatal or nonfatal MI, unstable angina, CHF, stroke)

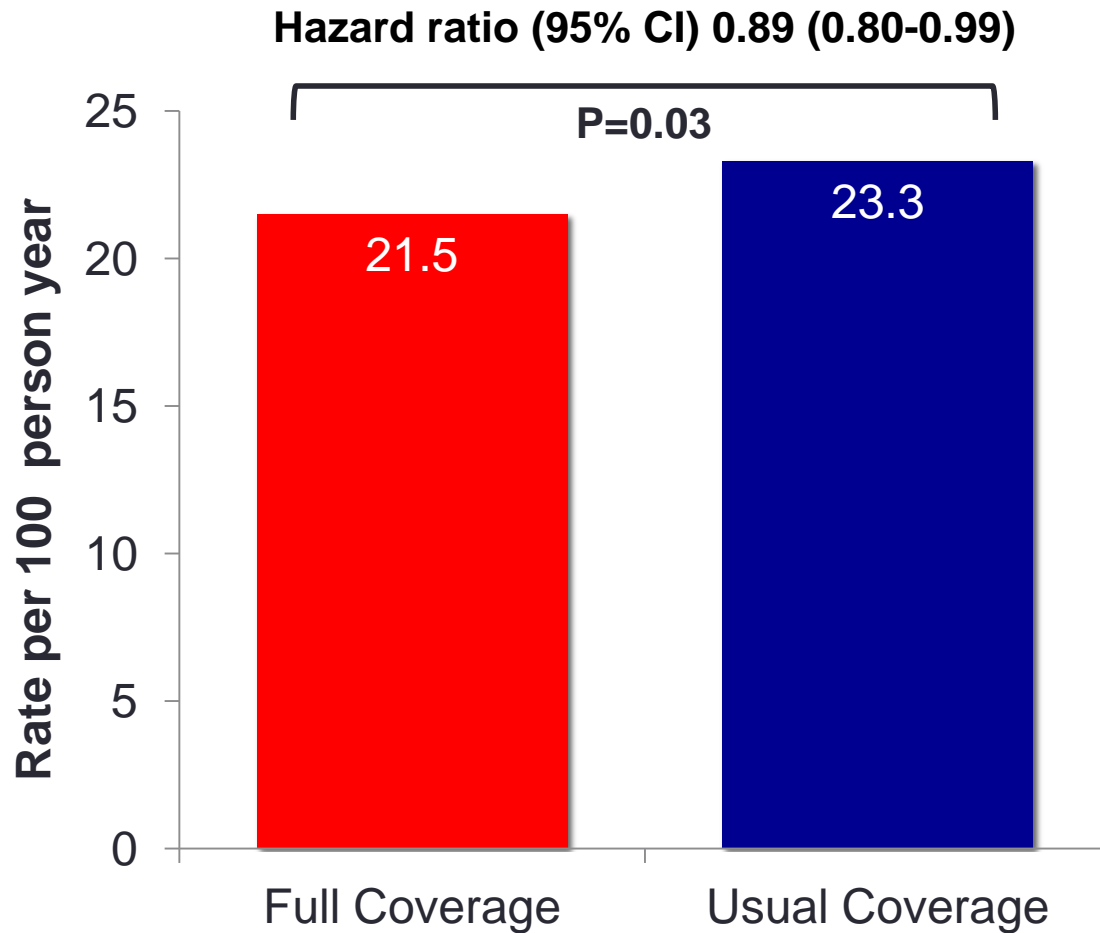
MI FREE



No. at Risk

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Total major vascular events or revascularization* **MI FREEE**



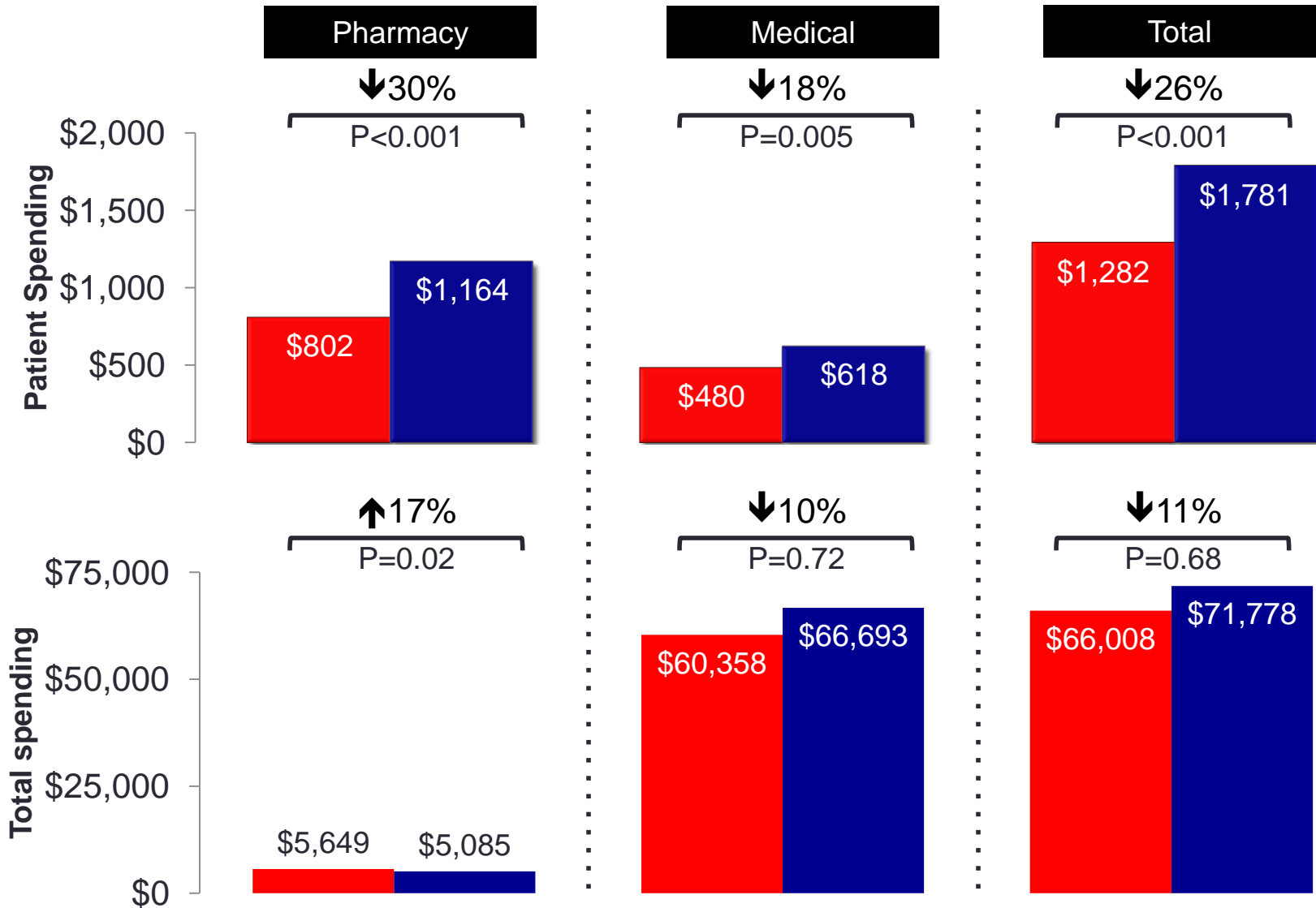
*Considers all events experienced by each patient

Health spending

MI FREEE

Full coverage

Usual coverage

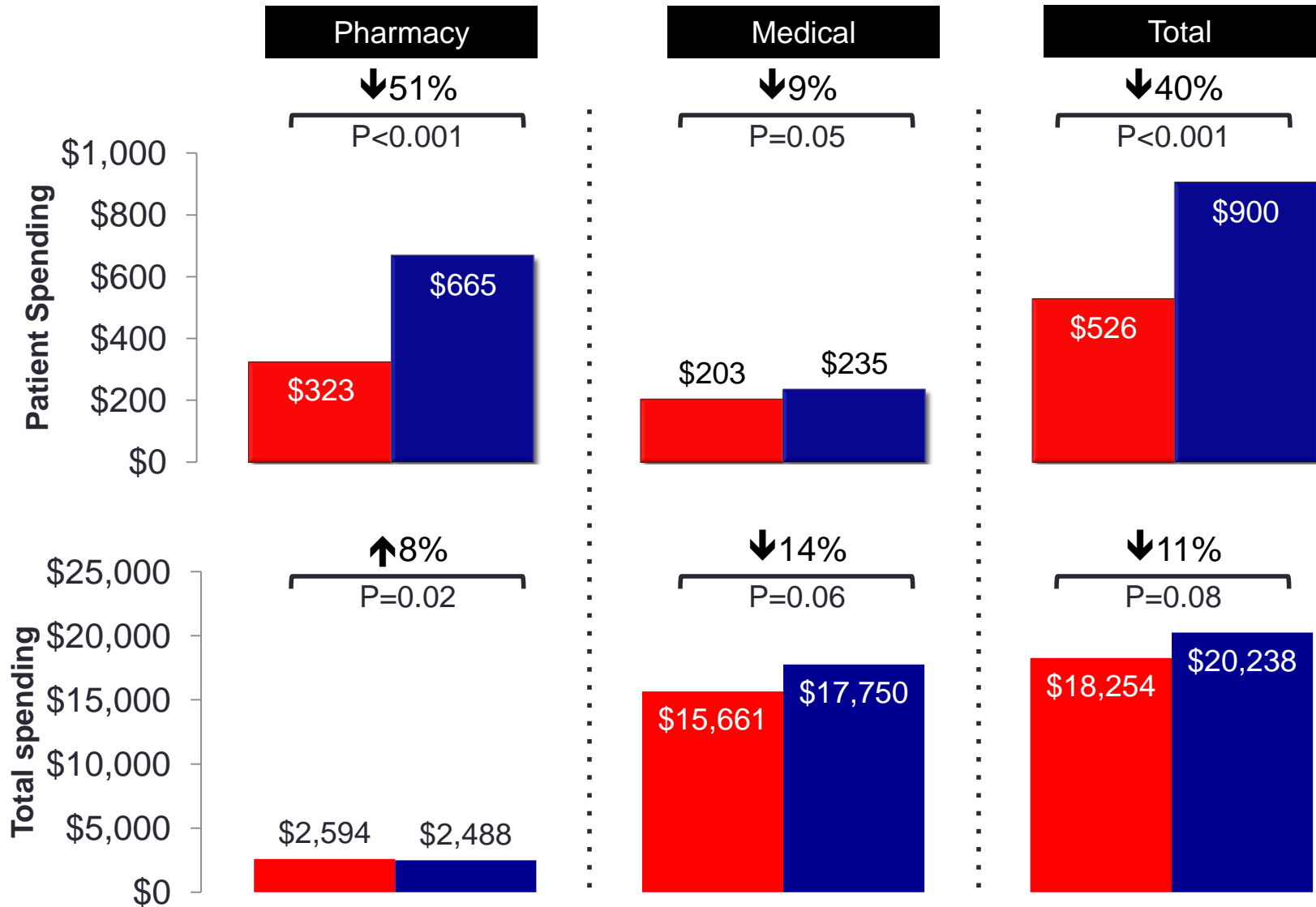


Cardiovascular spending

MI FREEE

Full coverage

Usual coverage



Summary

MI FREEE

- **Eliminating copayments for post-MI secondary prevention:**
 - Improved adherence
 - Reduced rates of major vascular events*
 - Reduced patient out-of-pocket spending for drugs and other non-drug services
 - Did not increase insurer or total spending
 - Did not significantly reduce the composite outcome of major vascular events plus revascularization

*Fatal or non-fatal acute MI, unstable angina, stroke, congestive heart failure

Implications

MI FREEE

- **This quality-improvement strategy could contribute to ongoing efforts to improve post-MI outcomes**
 - Probably cost-effective
 - Could be easily scaled

- **Adherence was improved but remained poor even for patients who received full coverage**
 - Average adherence to all 3 of the study medication classes remained < 50%

- **Our results highlight the need for other interventions to promote adherence**
 - Should target other causes of non-adherence: complex treatment regimens, difficulties accessing medications, knowledge gaps, adverse effects, forgetfulness

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