Statins before, during and after **A**cute **C**oronary **S**yndromes

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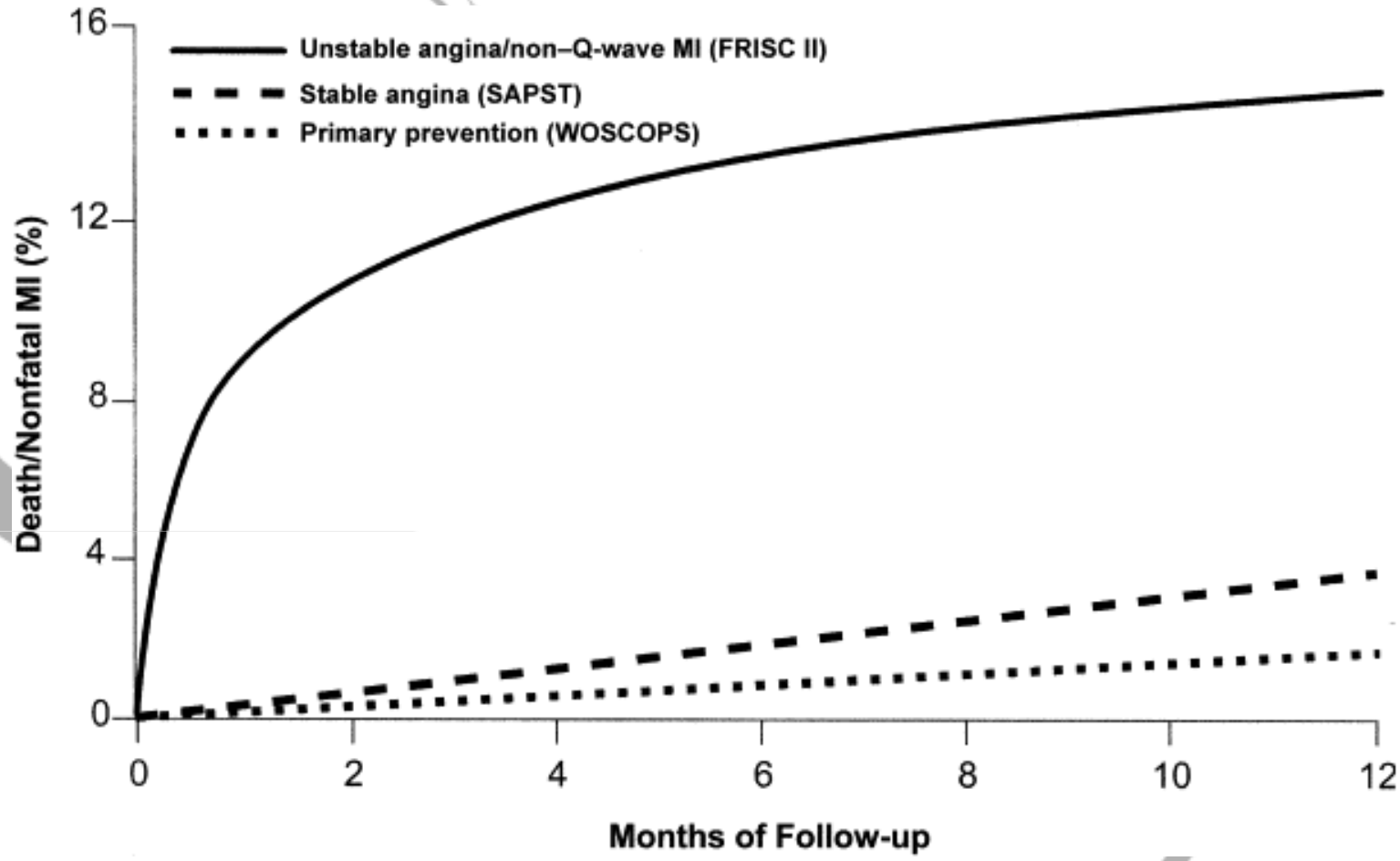


Estimated cumulative 1-year incidence of death or nonfatal myocardial infarction after ACS in patients from the Fast Revascularisation During Instability in Coronary Artery Disease (**FRISC II**), the Swedish Angina Pectoris Aspirin Trial (**SAPAT**) and the West of Scotland Coronary Prevention Study (**WOSCOPS**).

National Registry of Myocardial Infarction 4 (NRMI 4)

- **Setting**: 1230 participating hospitals throughout the USA.

- **Patients**: 300’823 patients who had an acute myocardial infarction.

All Acute Myocardial Infarction

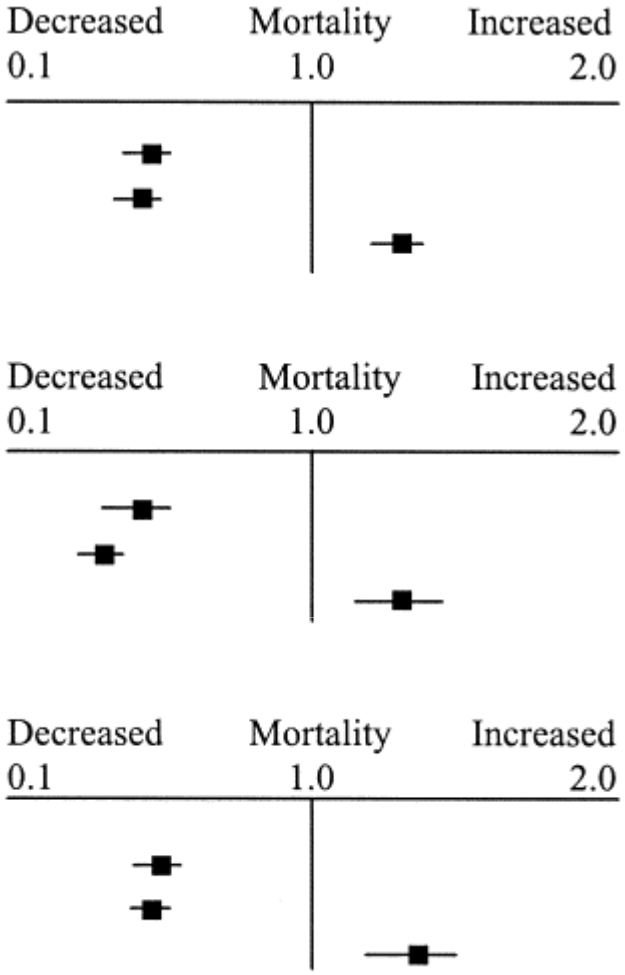
	Odds Ratio (95% CI)
Yes/Yes	0.46 (0.42-0.50)
No/Yes	0.42 (0.38-0.45)
Yes/No	1.25 (1.15-1.36)

ST Segment Elevation Myocardial Infarction

	Odds Ratio (95% CI)
Yes/Yes	0.40 (0.33-0.48)
No/Yes	0.32 (0.27-0.37)
Yes/No	1.25 (1.07-1.45)

Non-ST Segment Elevation Myocardial Infarction

	Odds Ratio (95% CI)
Yes/Yes	0.49 (0.44-0.54)
No/Yes	0.47 (0.42-0.52)
Yes/No	1.30 (1.18-1.45)



ORs for in-hospital mortality by statin use before hospitalization and within the first 24 hours after hospitalization after matching on propensity score.

Fonarow et al. American Journal of Cardiology - 2005;96:611-616.

The Impact of Statin Treatment on Presentation Mode and Early Outcomes in Acute Coronary Syndromes - Insights from the AMIS Plus Registry

- Time period 2001- 2006: 11,603 patients
- Major cardiac event rates (MACE) were compared between
  - patients who never received statins (group C), those
  - who started them in the hospital (group B) and those
  - who continued previously taken statins (group A).
- MACE: Composite endpoint of re-infarction, stroke or in-hospital death.

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Baseline characteristics of the population

	Group A *Chronic statin use* (n = 3274)	**Group B** *Statin after admission* (n = 5567)	**Group C** *No statin use* (n = 2762)
Mean age (±SD)	66 (12) y	63 (13) y	70 (14) y
Males (%)	75.8	74.8	65.0
Known history of:			
CAD (%)	66.4	25.0	32.7
Hypertension (%)	71.6	51.2	57.5
Diabetes (%)	28.5	15.6	20.0
Dyslipidemia (%)	88.8	57.2	41.1
Current smokers (%)	32.2	42.8	33.4
Overweight (BMI > 25) (%)	69.3	64.9	55.9

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Interventions, complications and outcome according to statin treatment

	Group A (n=3274)	Group B (n=5567)	Group C (n=2762)
Intervention			
Primary percutaneous intervention (%)	48.2	56.7	36.1
Thrombolysis (%)	6.3	10.8	10.4
Complication			
Cardiogenic shock (%)	4.3	3.3	10.3
Re-infarction (%)	1.8	1.8	2.3
Cerebrovascular incident (%)	0.5	0.7	1.2
Outcome			
Major adverse cardiac event (%)	6.5	5.6	15.3
In-hospital mortality (%)	4.5	3.6	12.8

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Independent Predictors for MACE in ACS Patients

	Odds ratio	95% CI	Significance
Chronic statin therapy (A)	**0.83**	0.61-1.12	0.226
Immediate statin therapy (B)	**0.77**	0.59-0.99	0.047
Age (per year)	**1.05**	1.04-1.06	<0.001
Gender	**1.03**	0.83-1.29	0.769
Diabetes	**1.58**	1.25-1.99	<0.001
Hypertension	**0.88**	0.71-1.11	0.285
Dyslipidemia	**0.75**	0.60-0.94	0.014
Smoking	**1.13**	0.88-1.45	0.322
History of CAD	**1.13**	0.91-1.42	0.275
Overweight (BMI >25)	**0.84**	0.68-1.03	0.095
ST segment elevation	**1.39**	1.11-1.72	0.003
Killip class II	**2.30**	1.81-2.93	<0.001
Killip class III	**3.40**	2.36-4.90	<0.001
Killip class IV	**9.69**	6.15-15.3	<0.001
PCI primary	**0.68**	0.54-0.87	0.002

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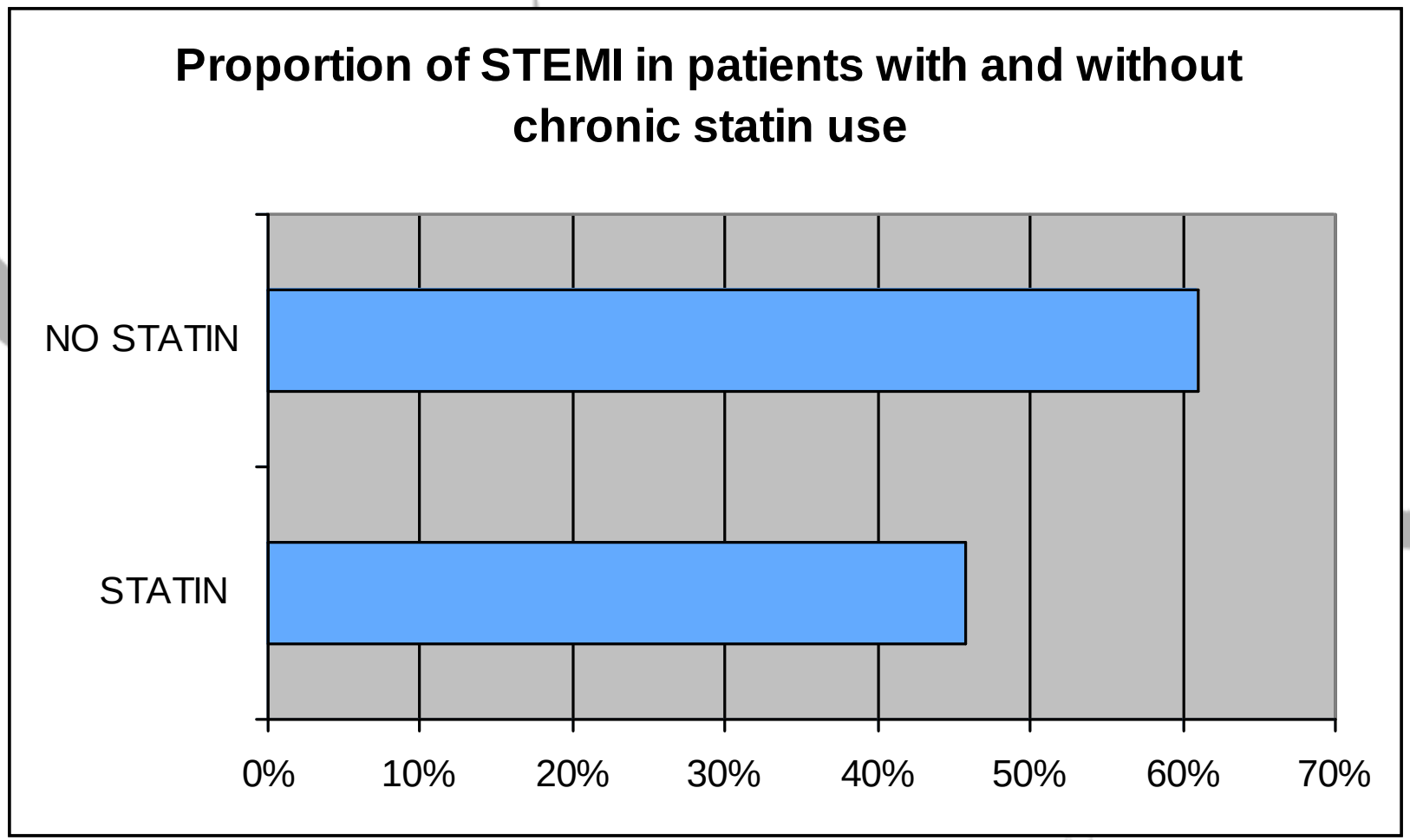
Presentation mode of ACS according to statin pre-treatment (n=11571)



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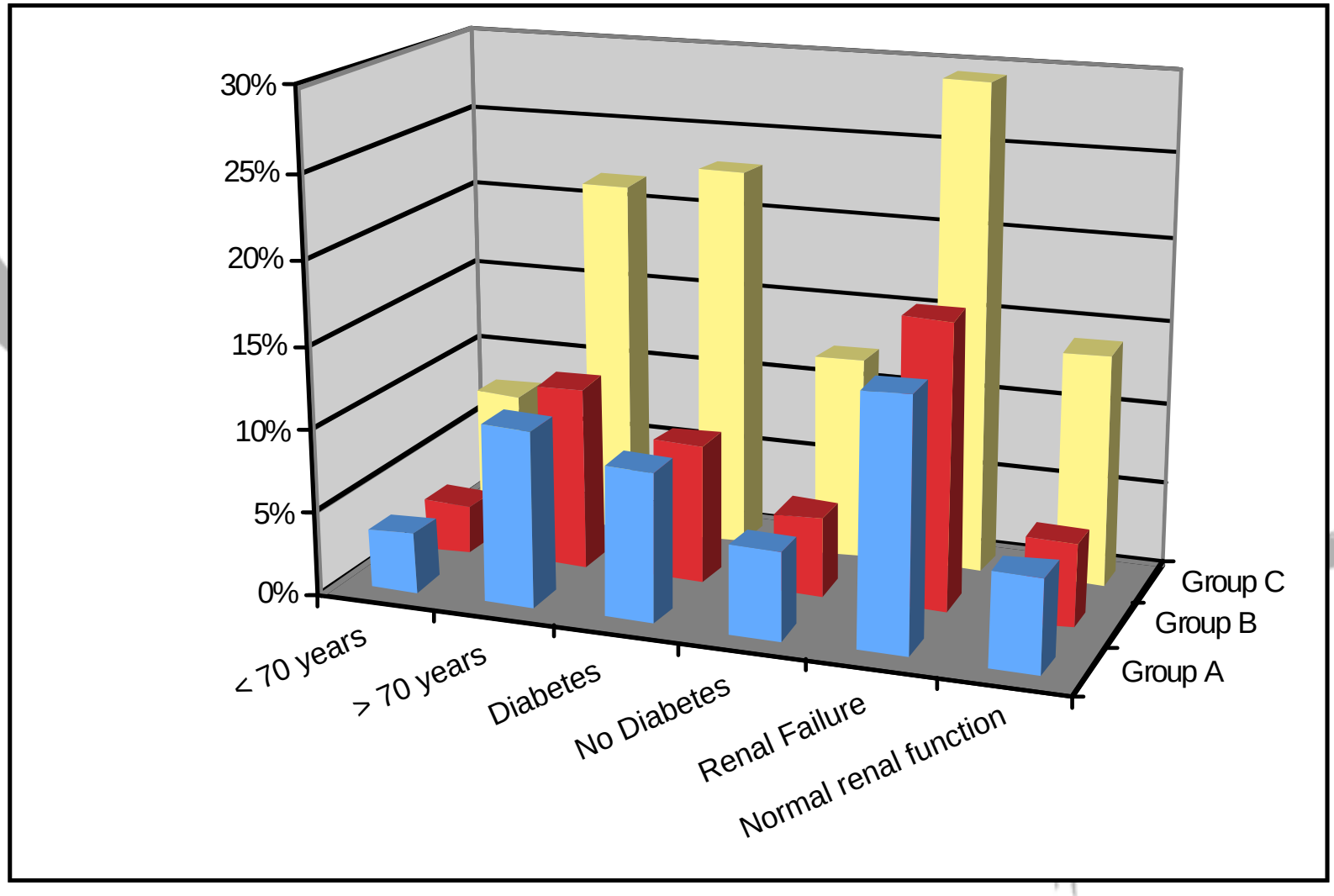
MACE rates in various risk populations (n=11603)



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Conclusions: Statin Pre-Treatment

- Our results support the importance of statin treatment in ACS.
- Chronic statin therapy seems to alter the initial presentation of ACS but it is questionable whether it provides an additional effect on early outcomes.

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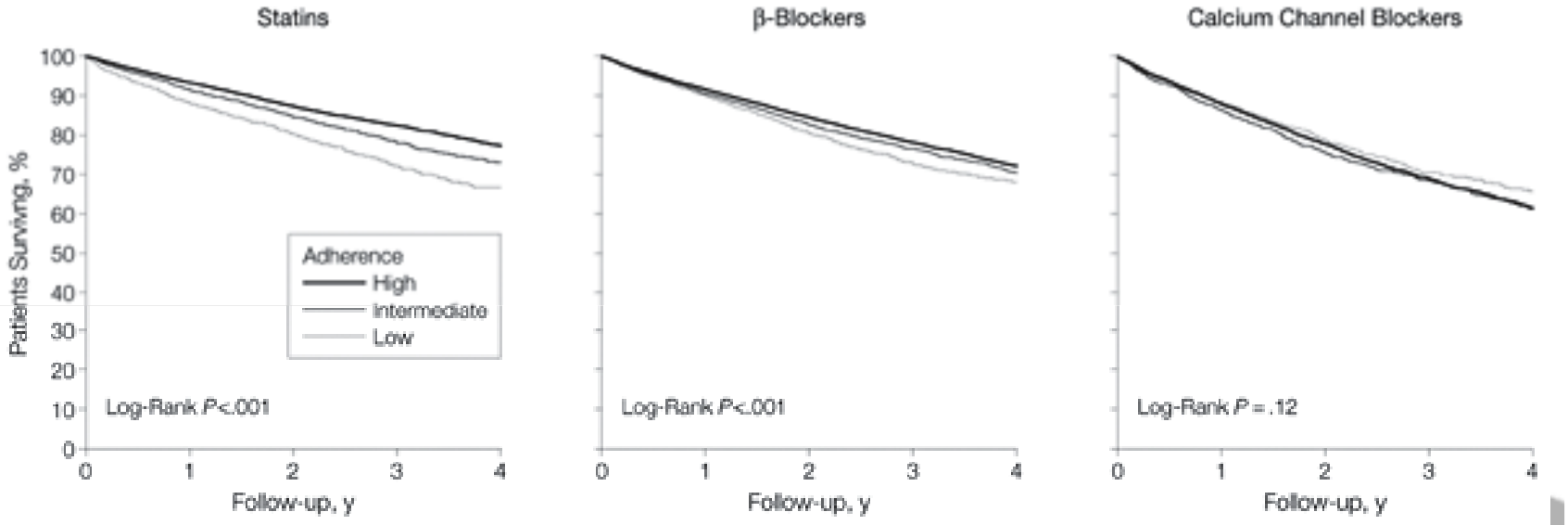
Statins after Acute Coronary Syndrome

- Data on long-term outcome according to statin treatment after ACS are sparse.
- Results of randomized-controlled trials have been conflicting.
- The AMIS Plus Registry offers an excellent opportunity to analyse the effect of statins on long-term outcomes after ACS.

Kaplan-Meier Estimates of Time to Death for Statin, beta-Blocker, and Calcium Channel Blocker Users According to Adherence Level



No. at Risk															
High Adherence	14345	13393	8787	5129	2200	17868	16361	11197	6827	3058	6243	5492	3702	2211	1023
Intermediate Adherence	2407	2202	1435	810	345	4287	3880	2729	1689	806	1506	1303	874	558	256
Low Adherence	1071	944	566	317	147	2164	1947	1325	795	384	1419	1255	856	512	238

Rasmussen, J. N. et al. JAMA 2007;297:177-186.