

# Left Main Revascularization: **Data Supports PCI in Most Cases**

***Gregg W. Stone, MD***

The Zena and Michael A. Wiener Cardiovascular Institute,  
Icahn School of Medicine at Mount Sinai, NY  
and the Cardiovascular Research Foundation

# Disclosure Statement of Financial Interest with Stent Manufacturers

**None**

# The Purpose of the Heart Team

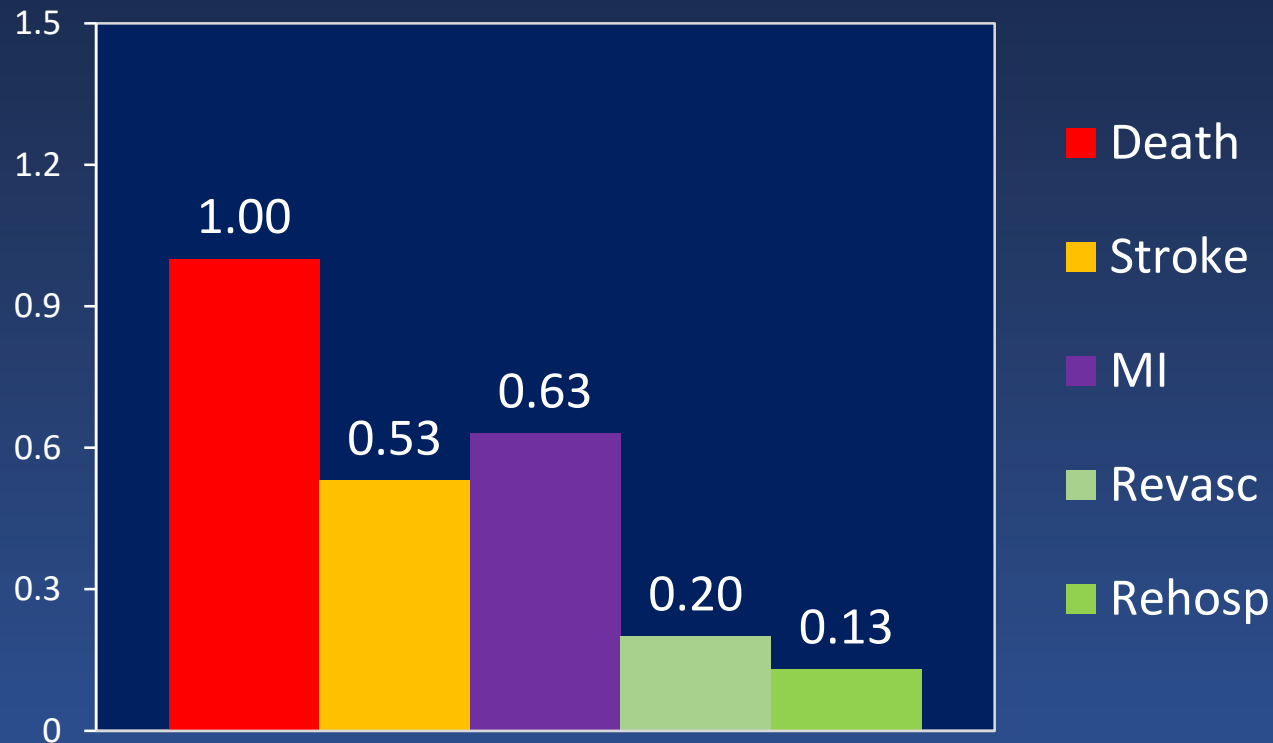


# What Outcomes Matter Most to Doctors and Patients?

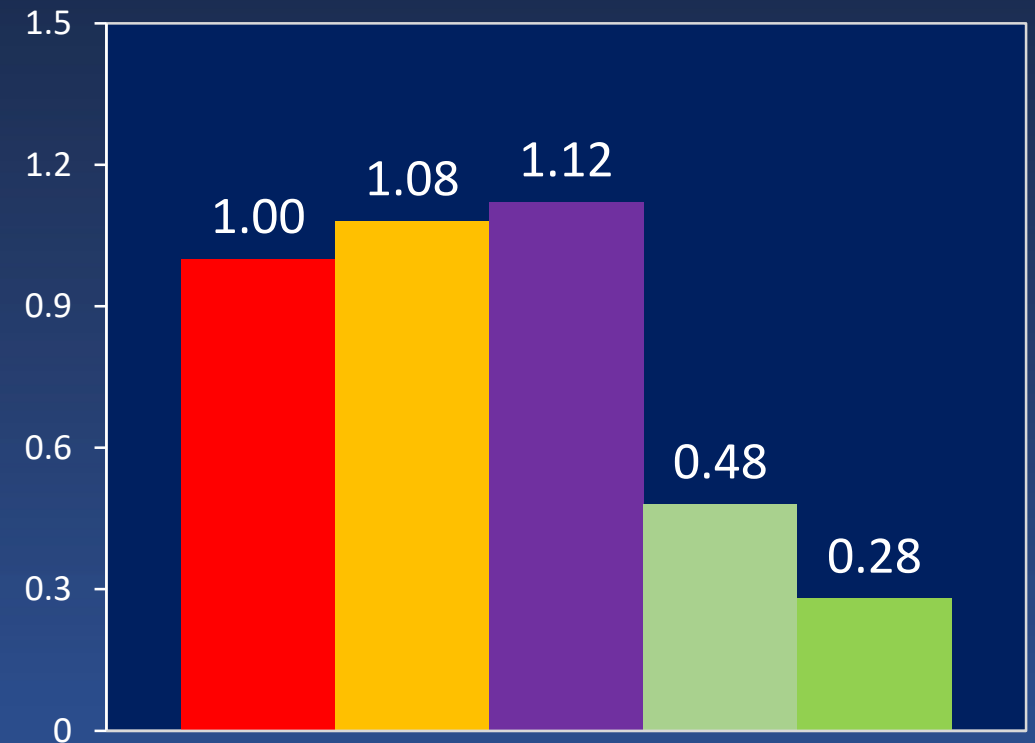
164 clinical trialists and 785 CV pts weighted the relative importance of death, stroke, MI coronary revasc (PCI or CABG), and hosp for angina

$P < 0.0001$

## Physicians



## Patients

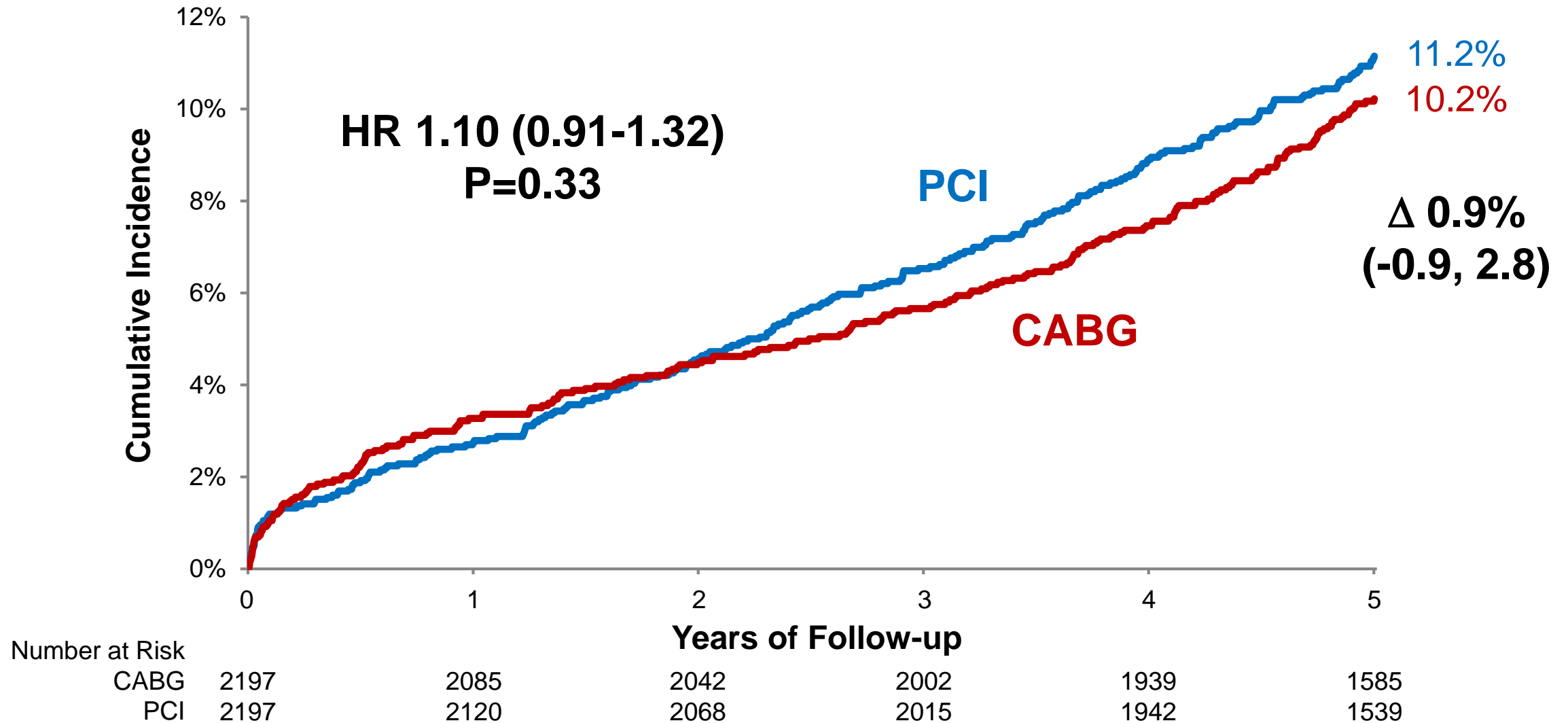


# LM PCI vs. CABG

Is **Mortality** Different?

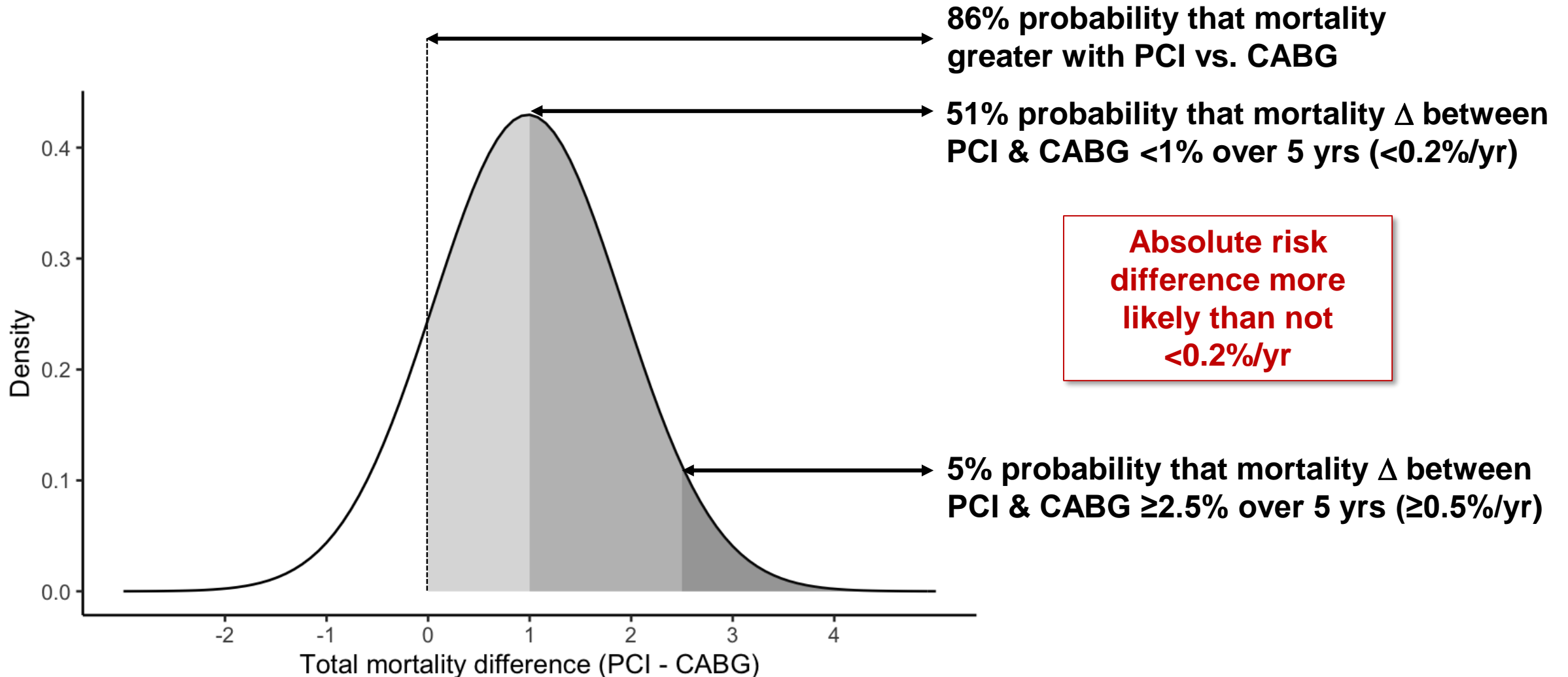
4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

# Primary Endpoint: All-cause Mortality



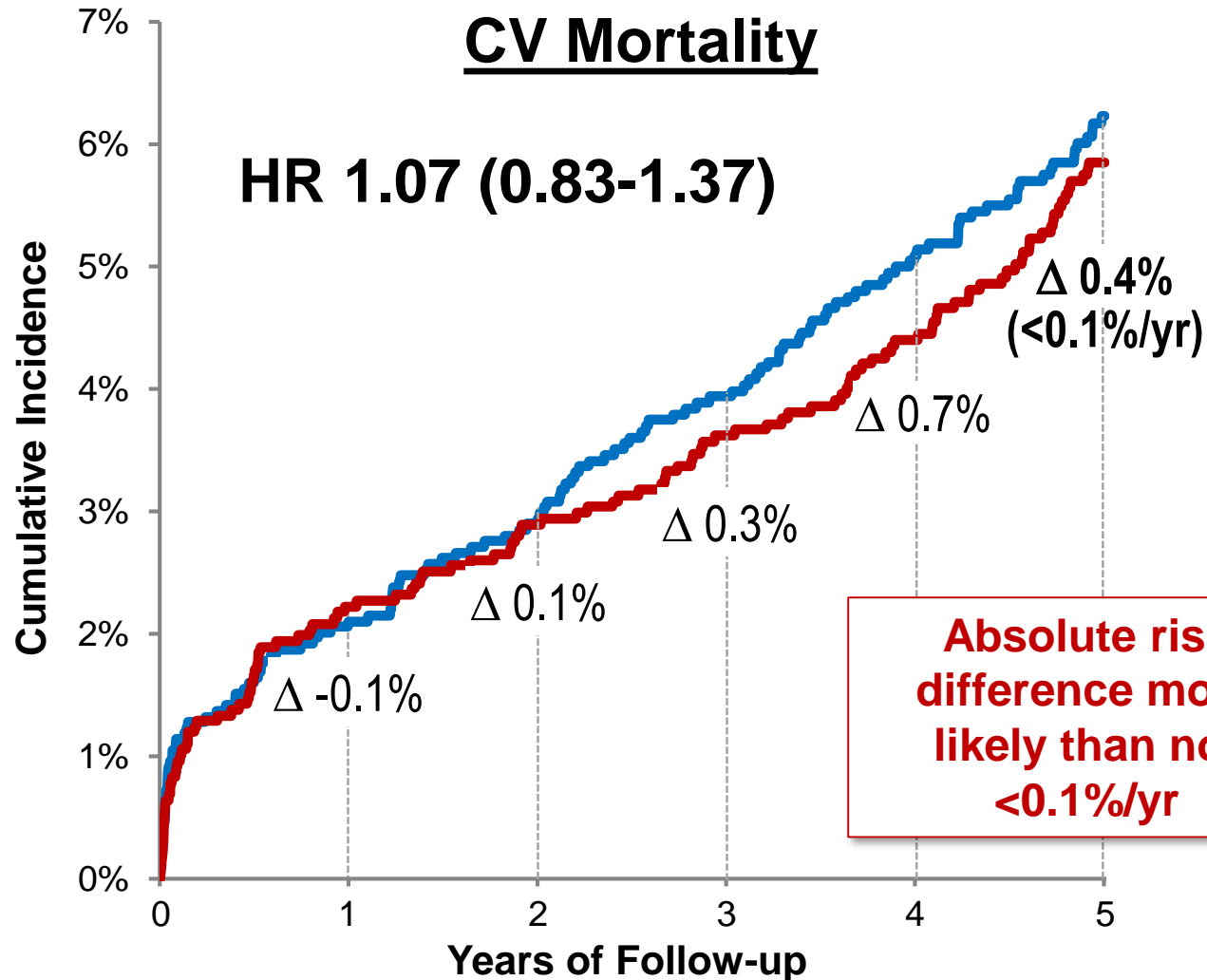
## 4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

# Bayesian Analysis of Mortality



## 4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

# CV and Non-CV Mortality



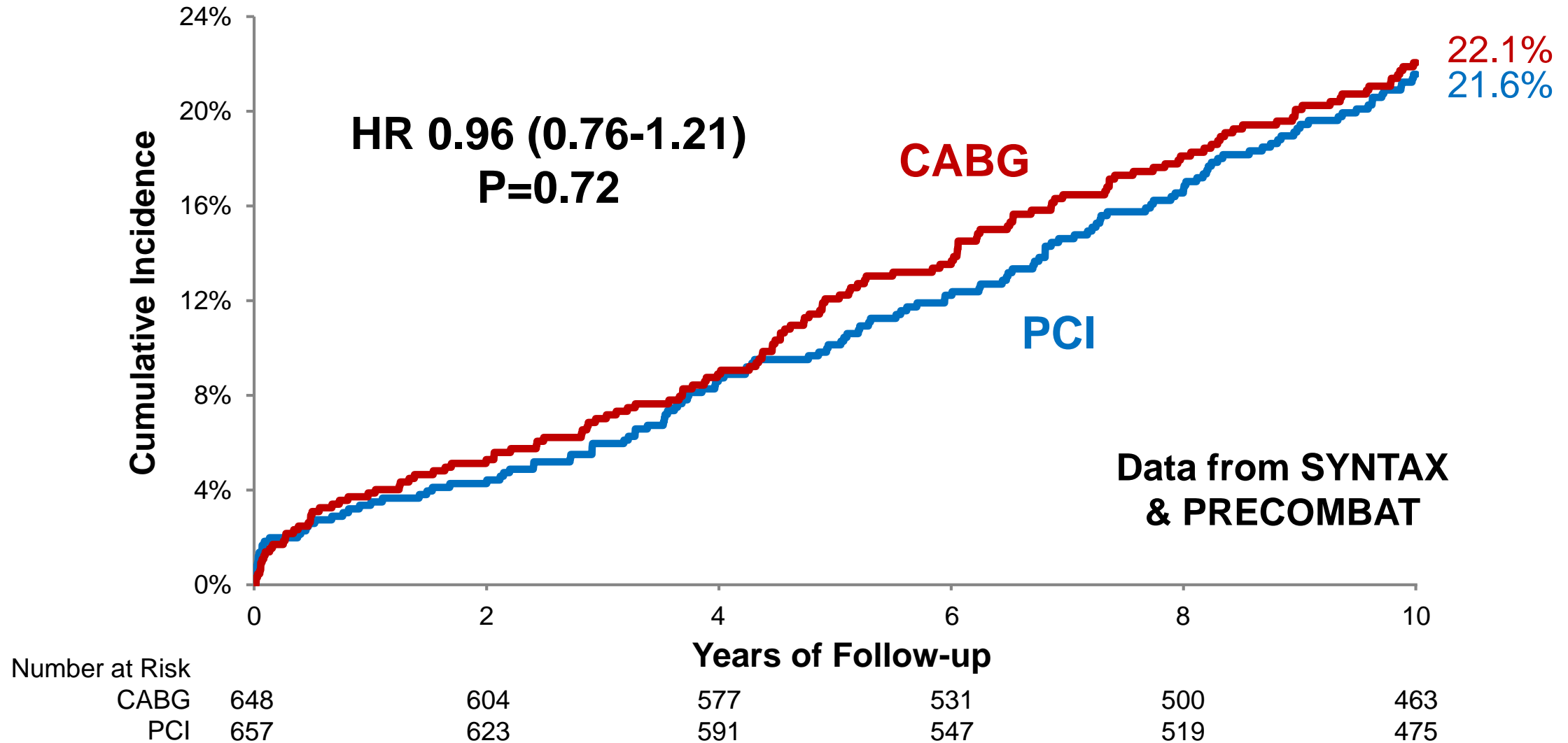
Type of Death	5-Year KM Rates		
	PCI	CABG	$\Delta$
CV	6.2	5.9	0.4 (-1.1, 1.8)
Non-CV	5.2	4.5	0.7 (-0.6, 2.0)

Higher rate of non-CV death was driven by increased late ( $>1$ -year) rates of malignancy and sepsis in PCI-treated pts in EXCEL, with no evidence of increased risk in the other 3 trials or any prior trial of PCI vs. CABG.



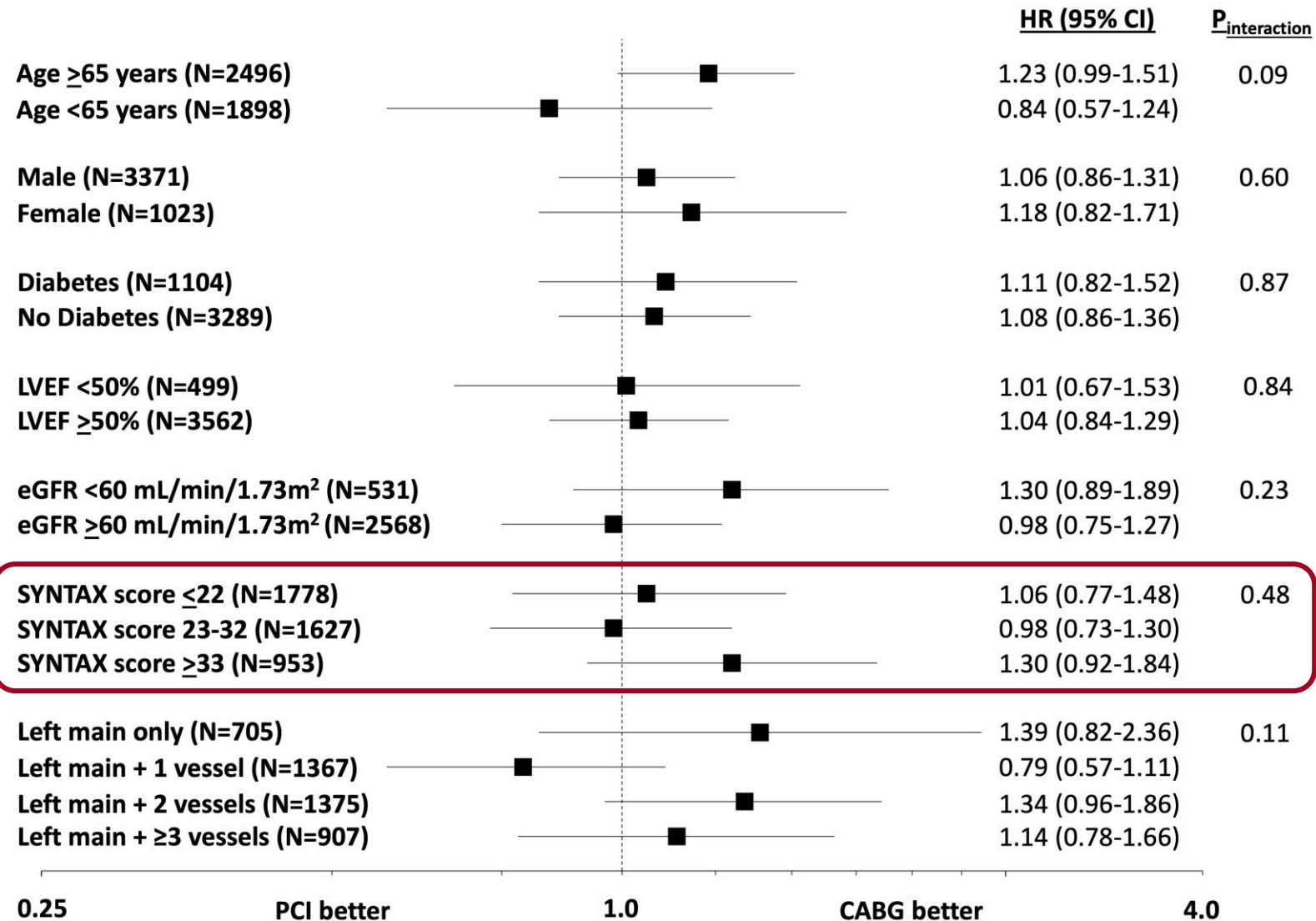
4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

# Two Trials with 10-Year Mortality Data



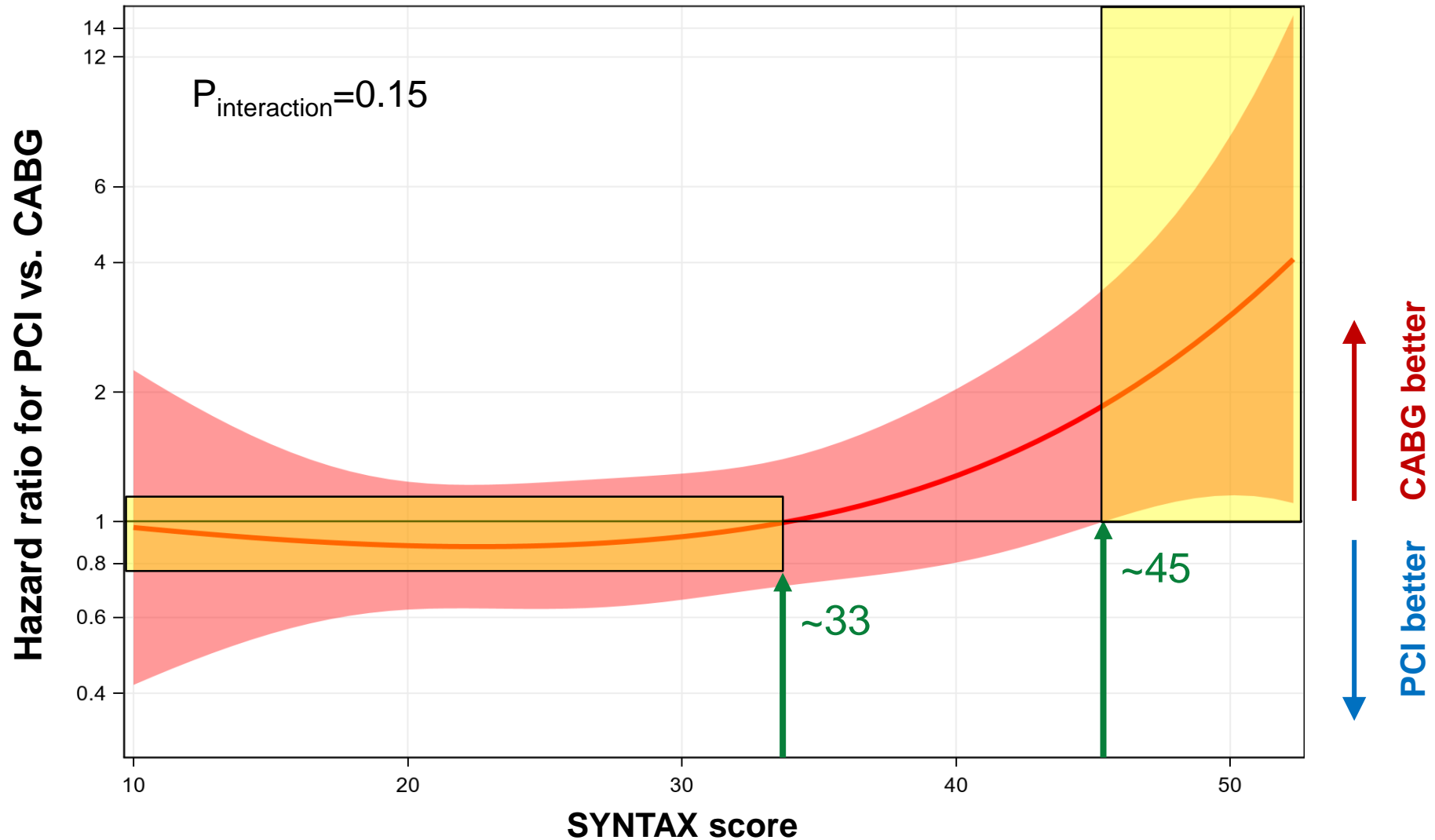
# 4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

## 5-Year Mortality Analysis: Subgroups



# 4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

## CV Mortality and SYNTAX Score: Spline analysis

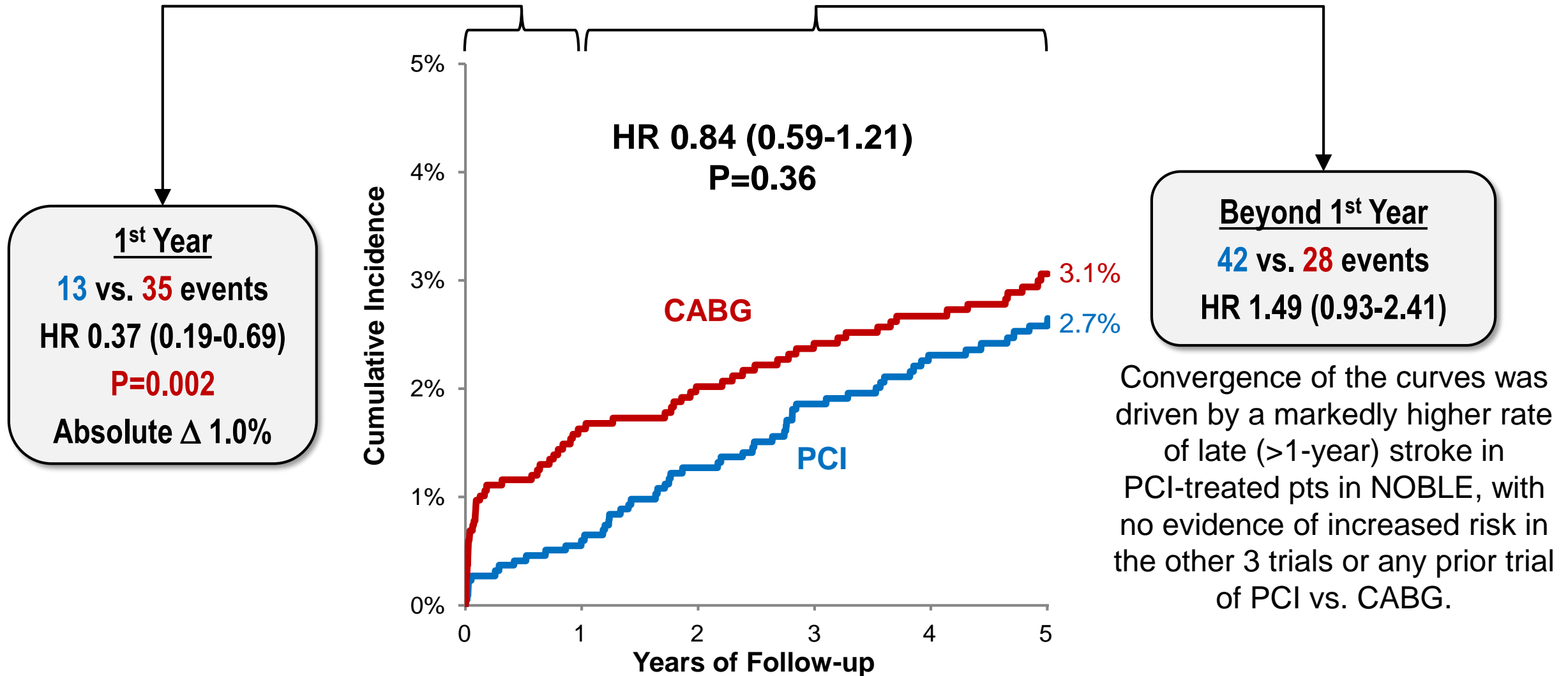


# LM PCI vs. CABG

Are **Stroke** Rates  
Different?

# 4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

## Stroke



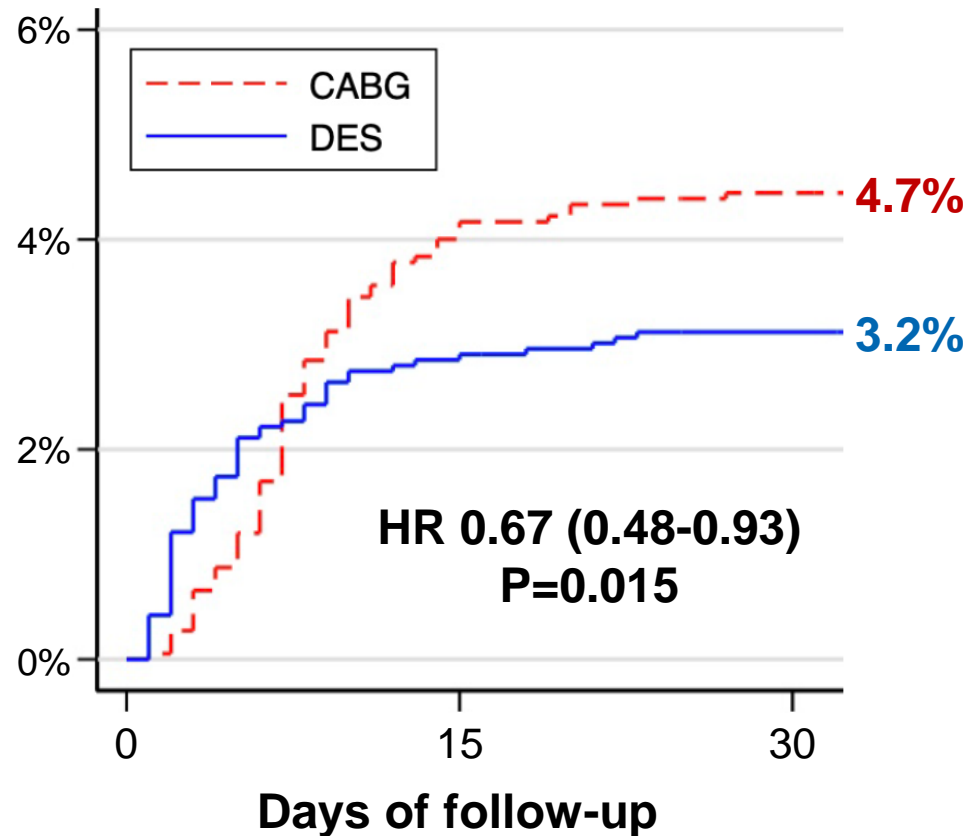
# LM PCI vs. CABG

Are **MI** Rates  
Different?

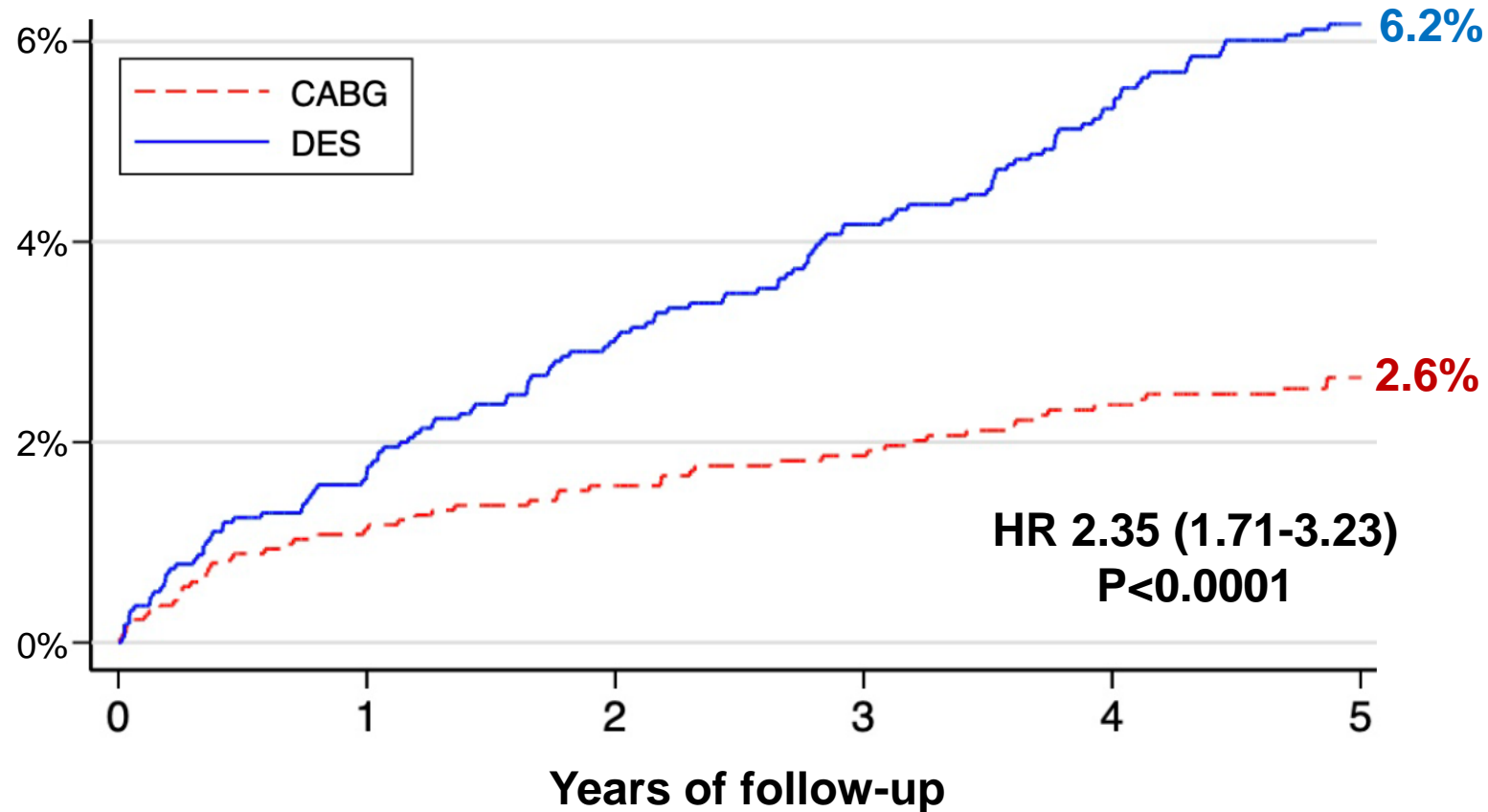
# 4 Randomized Trials of PCI with DES vs. CABG (n=4,394)

## Procedural and Spontaneous MI

### Procedural MI (protocol definition)



### Spontaneous MI



# What About All the Other Outcomes?

Recurrent angina

Chest pain

Musculoskeletal disorders

Infections/sepsis

Renal dysfunction

Atrial fibrillation/arrhythmias

Vascular complications

Major bleeding/transfusions

Repeat revascularization

Other reoperations

Rehospitalizations

Cognitive decline

Depression

Time to recovery



# Patients Want to **Live Longer** and **Live Better!**



**QOL!**

**Encapsulates  
all non-fatal  
outcomes**

# LM PCI vs. CABG

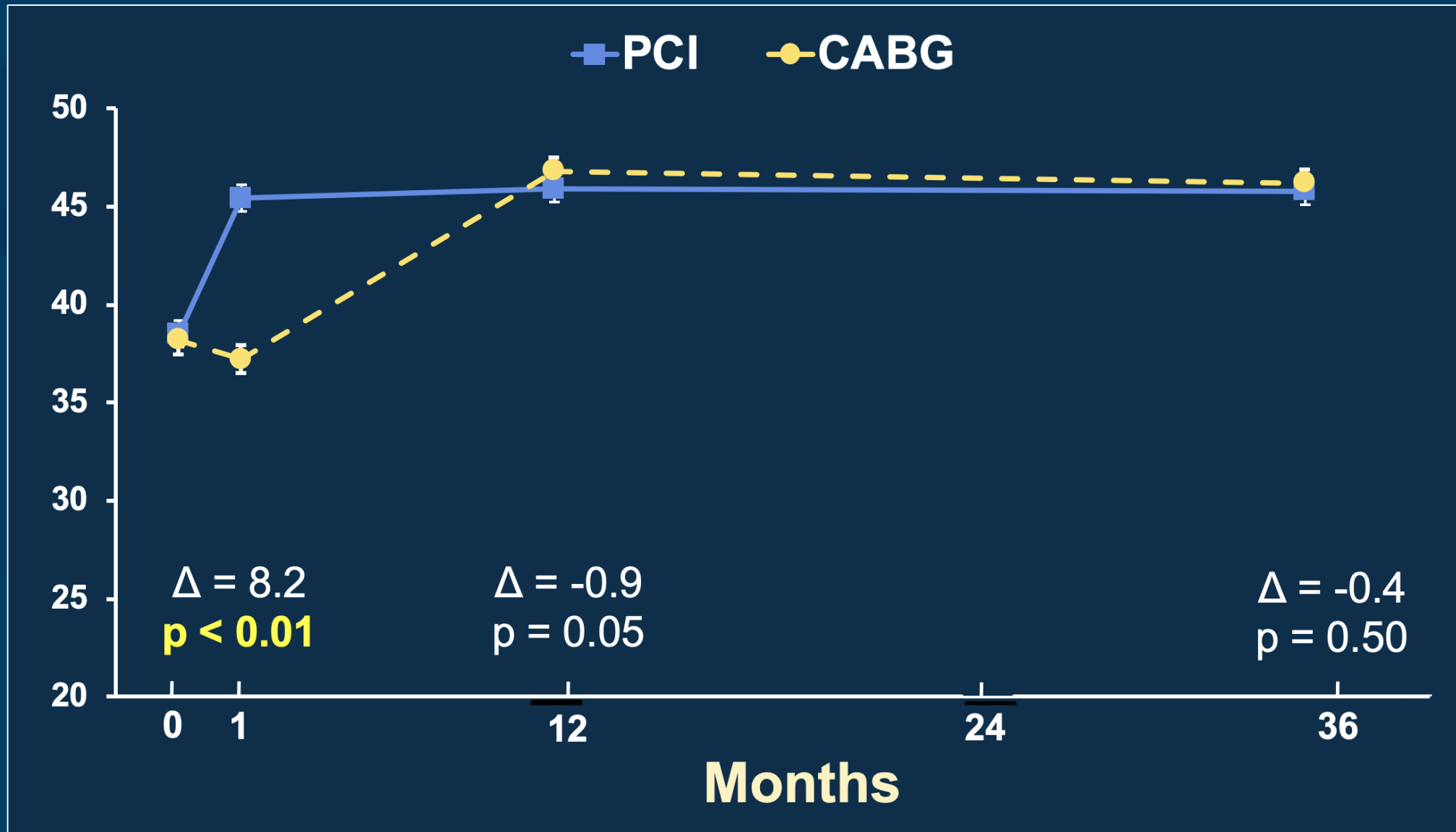
**Is Quality of Life  
Different?**

# Major Adverse Events Within 30 Days

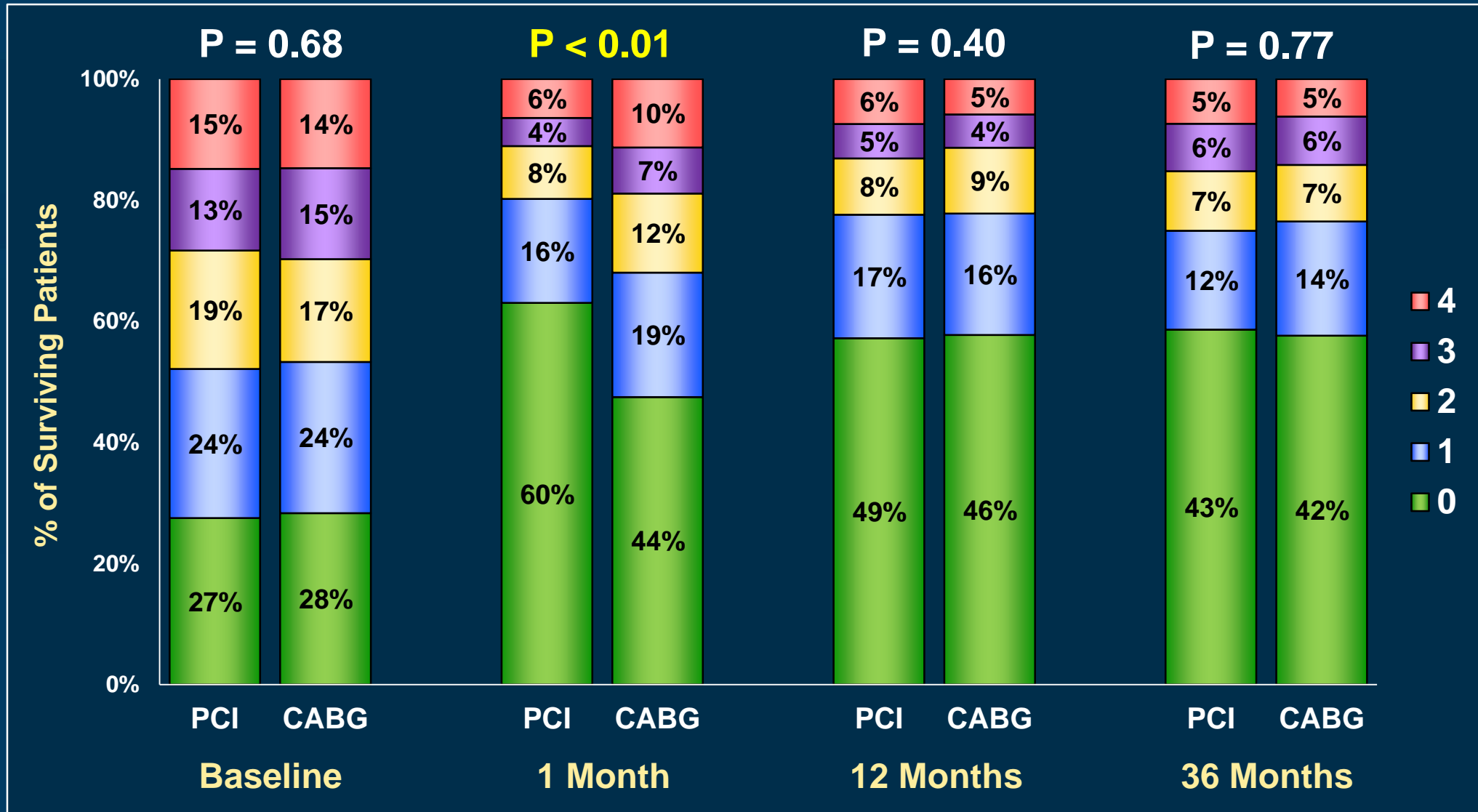
	PCI (n=948)	CABG (n=957)	RR [95%CI]	P-value
Peri-procedural MAE, any	12.4%	44.0%	0.28 [0.24, 0.34]	<0.001
- Death*	0.9%	1.0%	0.91 [0.39, 2.23]	0.83
- Stroke*	0.6%	1.3%	0.50 [0.19, 1.34]	0.16
- Myocardial infarction*	3.9%	6.2%	0.63 [0.42, 0.95]	0.02
- Ischemia-driven revascularization*	0.6%	1.4%	0.47 [0.18, 1.22]	0.11
- TIMI major/minor bleeding	3.7%	8.9%	0.42 [0.28, 0.61]	<0.001
- Transfusion ≥2 units	4.0%	17.0%	0.24 [0.17, 0.33]	<0.001
- Major arrhythmia**	2.1%	16.1%	0.13 [0.08, 0.21]	<0.001
- Surgery/radiologic procedure	1.3%	4.1%	0.31 [0.16, 0.59]	<0.001
- Renal failure†	0.6%	2.5%	0.25 [0.10, 0.61]	<0.001
- Sternal wound dehiscence	0.0%	2.0%	0.03 [0.00, 0.43]	<0.001
- Infection requiring antibiotics	2.5%	13.6%	0.18 [0.12, 0.28]	<0.001
- Prolonged intubation (>48 hours)	0.4%	2.9%	0.14 [0.05, 0.41]	<0.001
- Post-pericardiotomy syndrome	0.0%	0.4%	0.11 [0.01, 2.08]	0.12

\*Adjudicated events; others are site-reported. \*\*SVT requiring cardioversion, VT or VF requiring treatment, or bradyarrhythmia requiring temp or perm PM. †SCr increased by ≥0.5 mg/dL from baseline or need for dialysis.

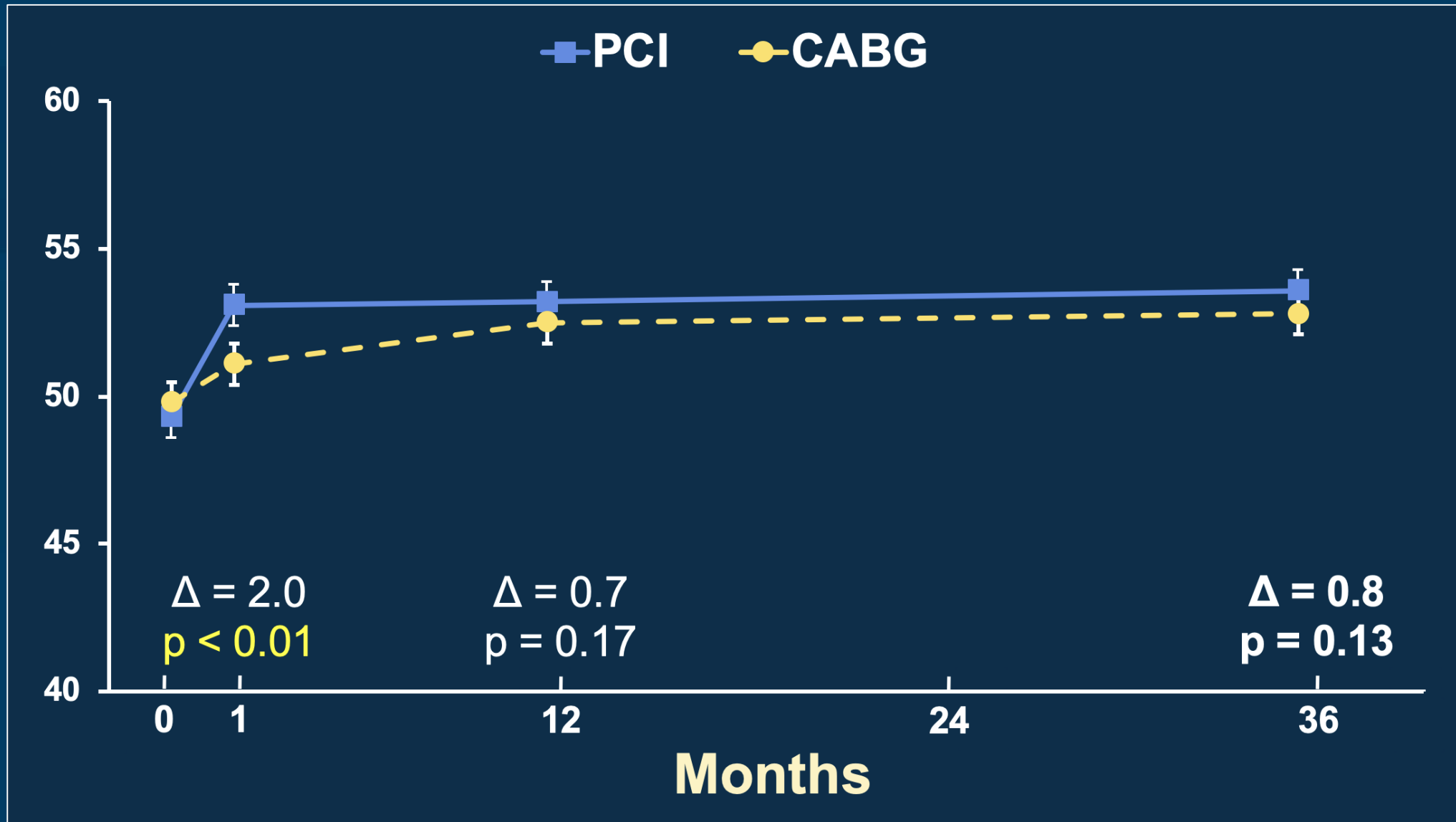
# SF-12 Physical Summary Scale



# Rose Dyspnea Scale

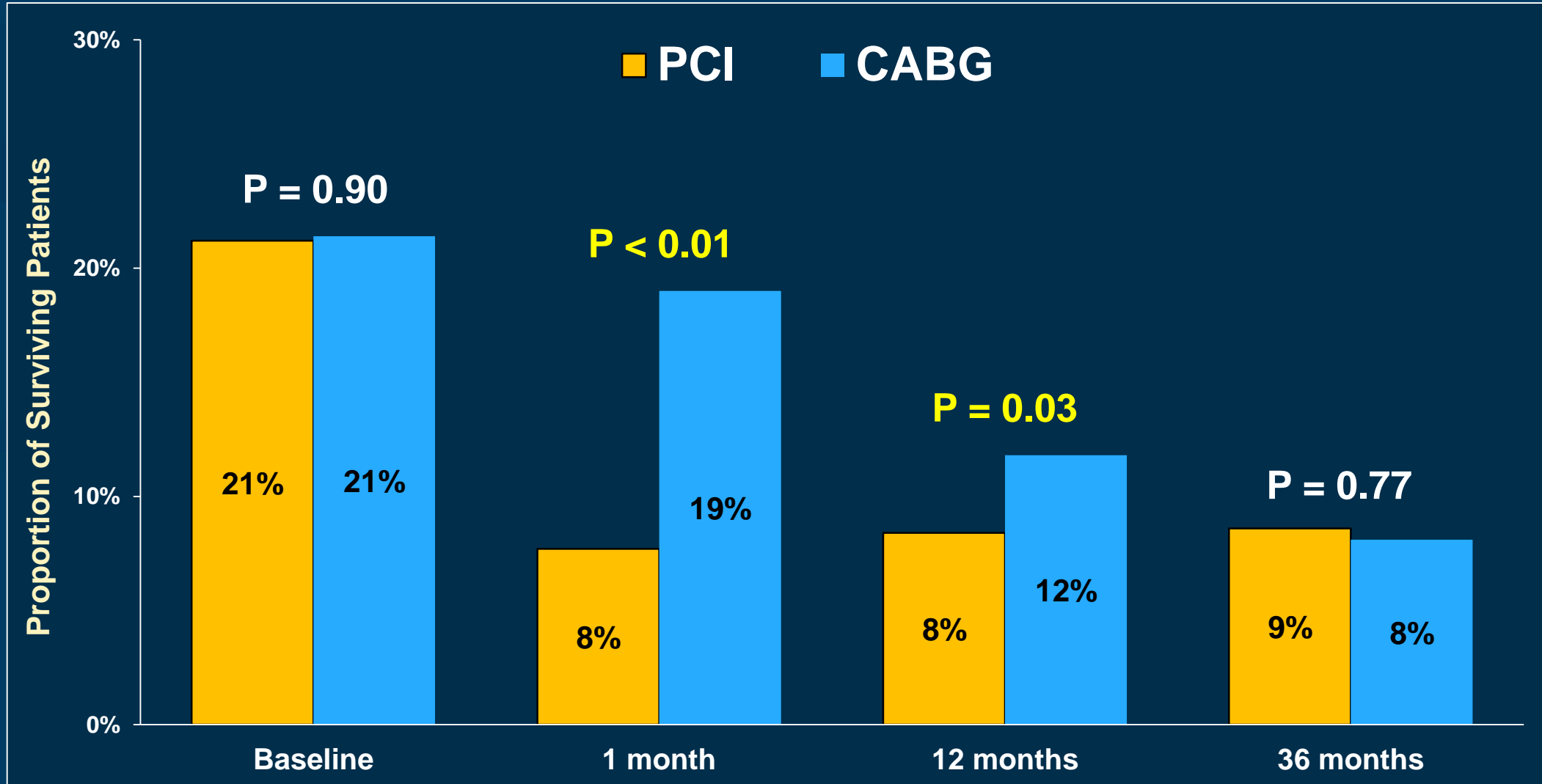


# SF-12 Mental Summary Scale

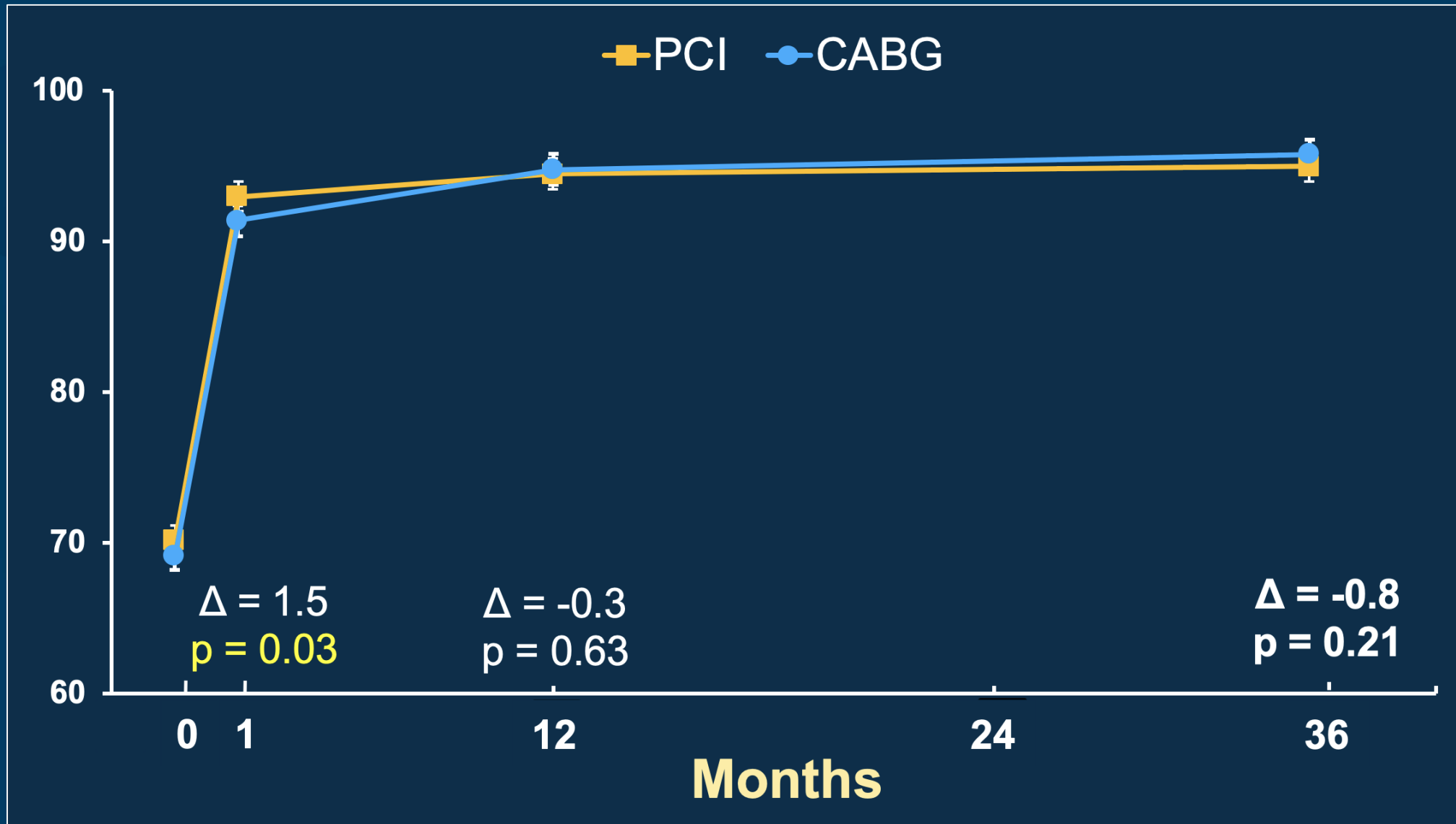


# PHQ-8

## Clinically Significant Depression

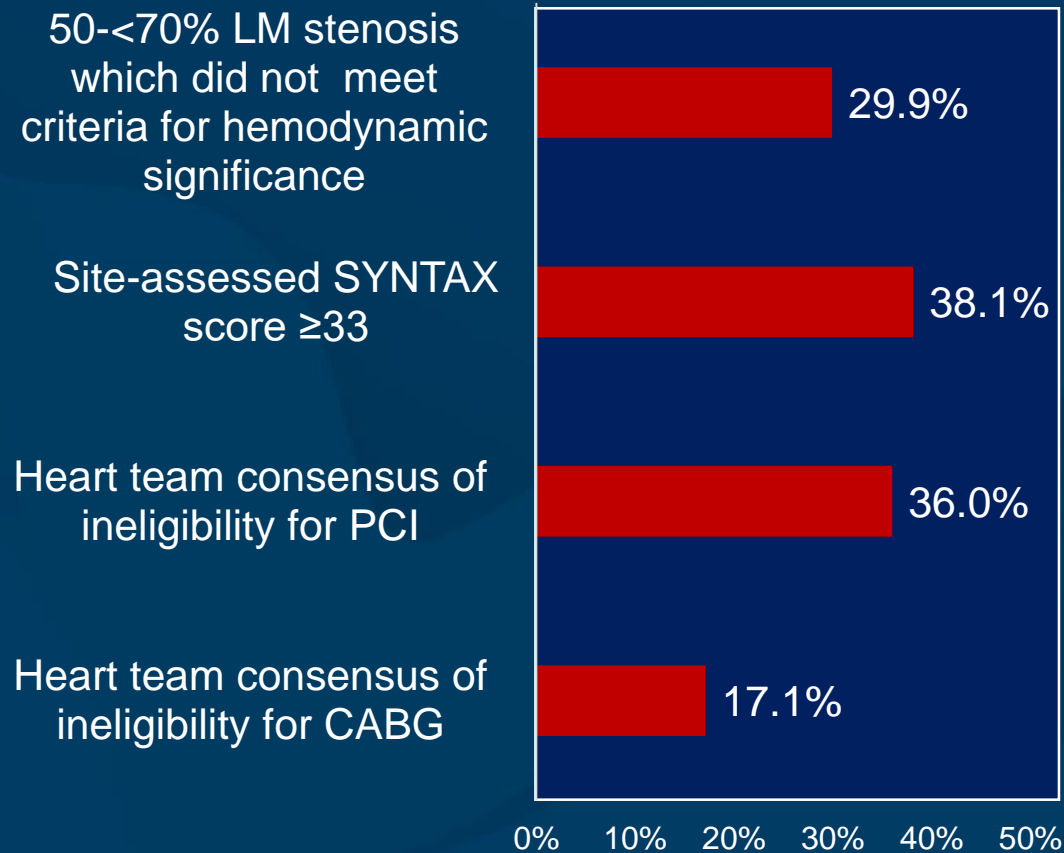


# SAQ-Angina Frequency

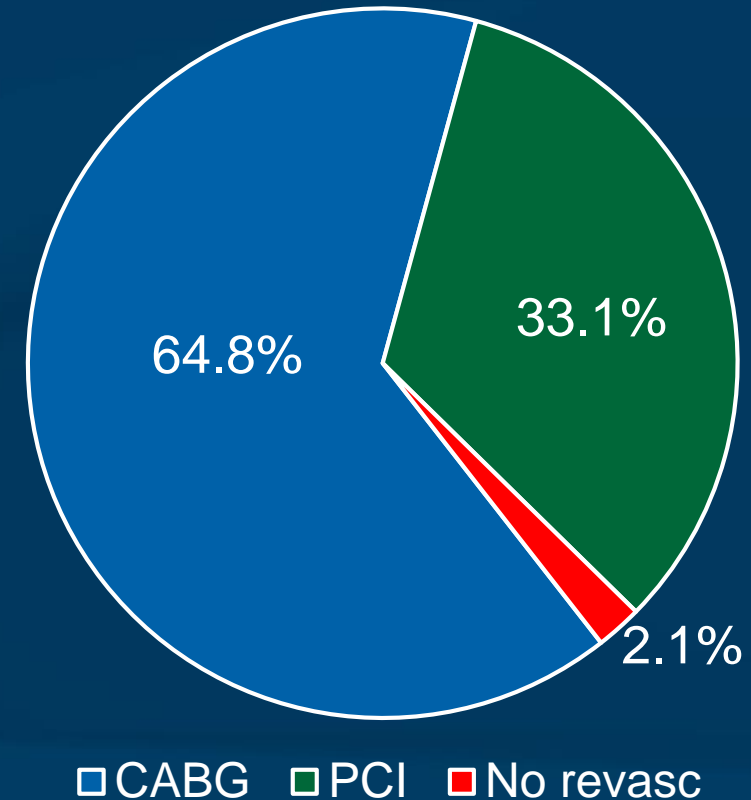




## Major reasons for exclusion from randomization

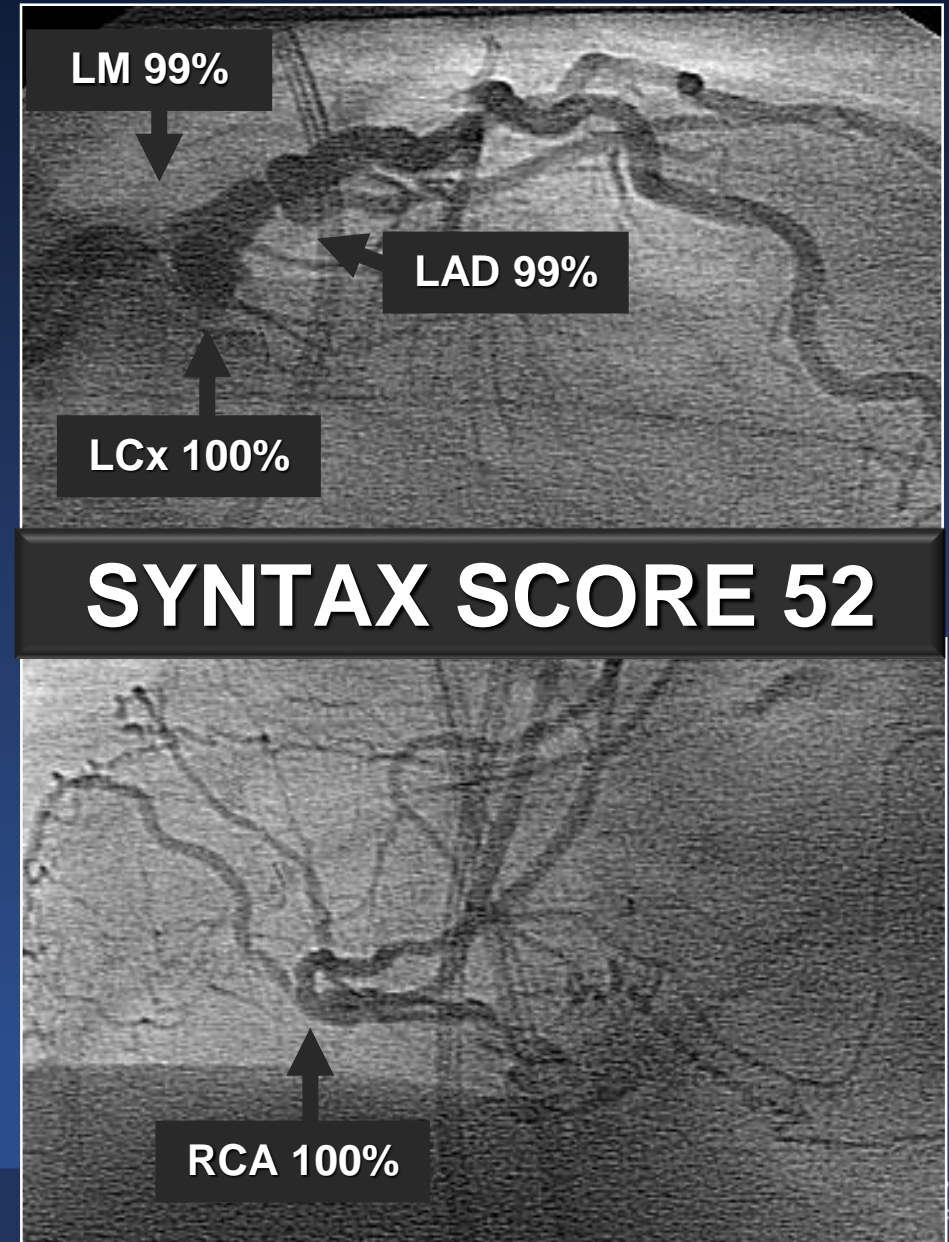
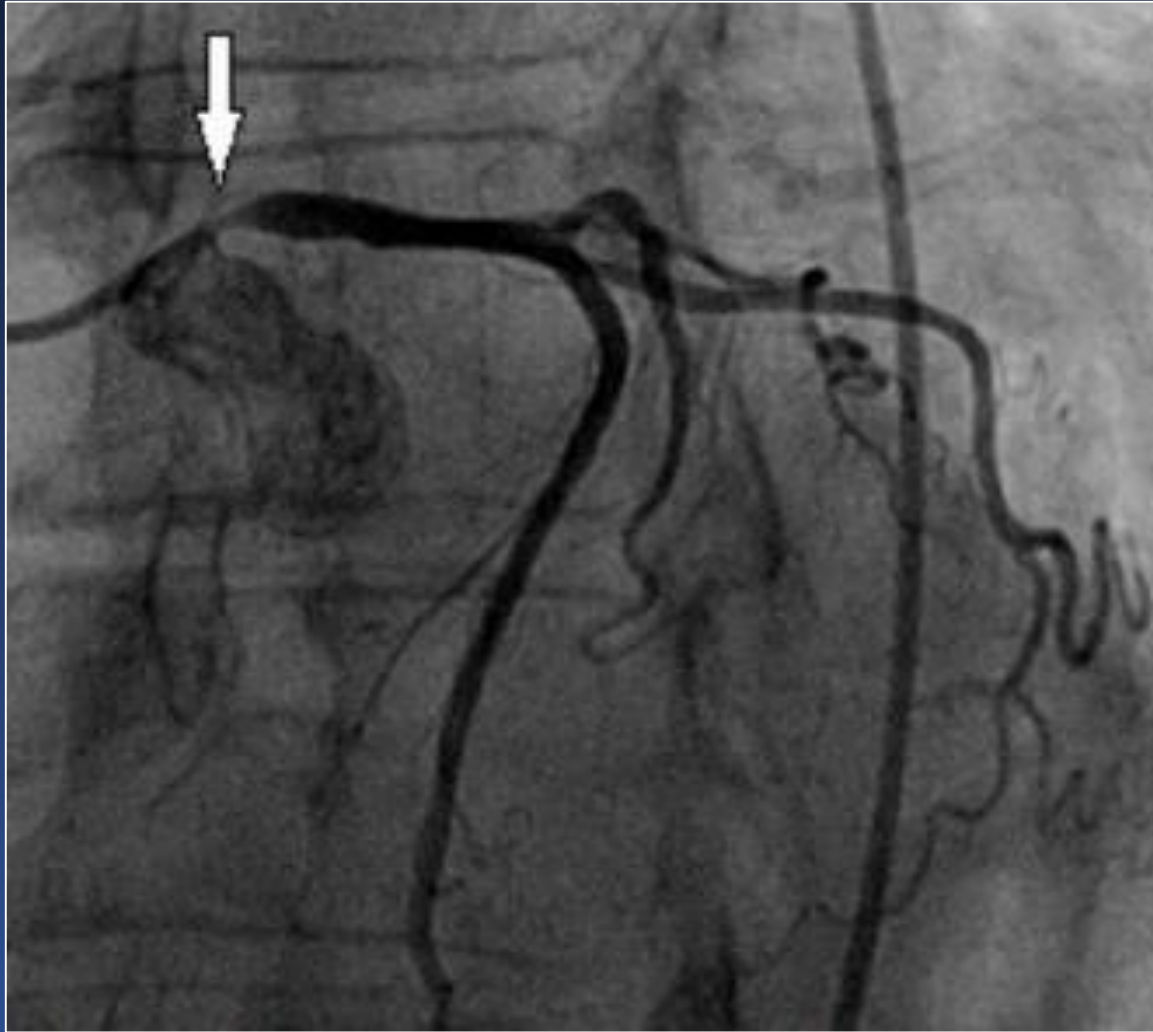


## Treatment of registry patients

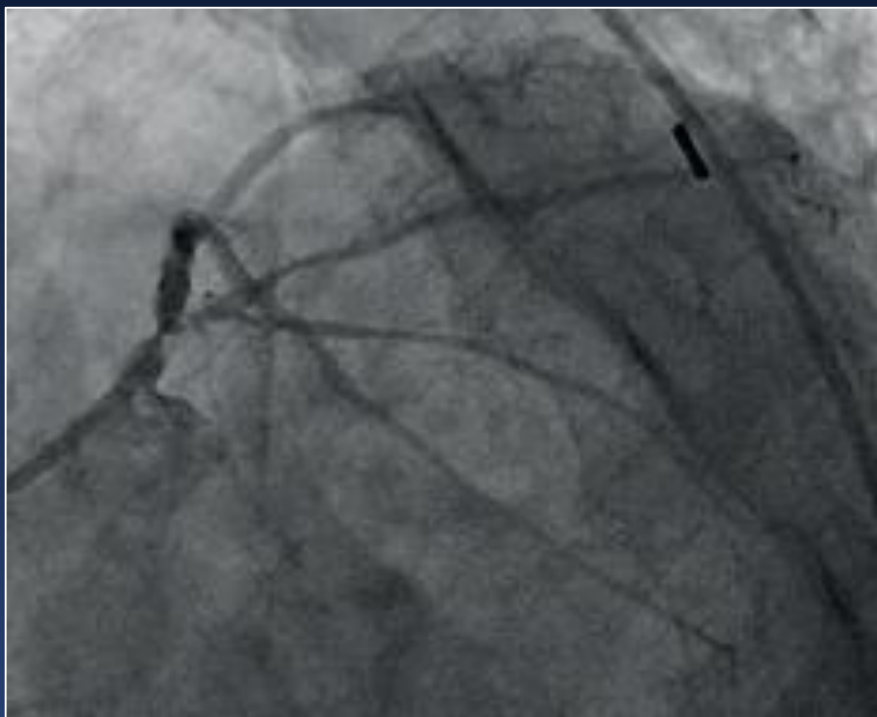


Of 1747 total pts enrolled during the registry period,  
38% were eligible only for CABG and 20% were eligible only for PCI

# Obvious Choices vs. Equipoise



# Obvious Choices vs. **Equipoise**





# If you are Evidence-based and Put Patients First:

For left main  
revascularization



The data  
support PCI  
in most cases  
when  
equipoise is  
present!

# Revascularization for Left Main CAD

## Critical Role of the Heart Team

The nuances of these data emphasize the importance of a Heart Team approach *to assist patients in reaching a treatment decision that is best for them.*

