

Optimal Management for Diabetic Patients with Ischemic Heart Disease: Medical Percutaneous or Surgical Treatment

Spencer King MD MACC

St Joseph's Heart and Vascular Institute

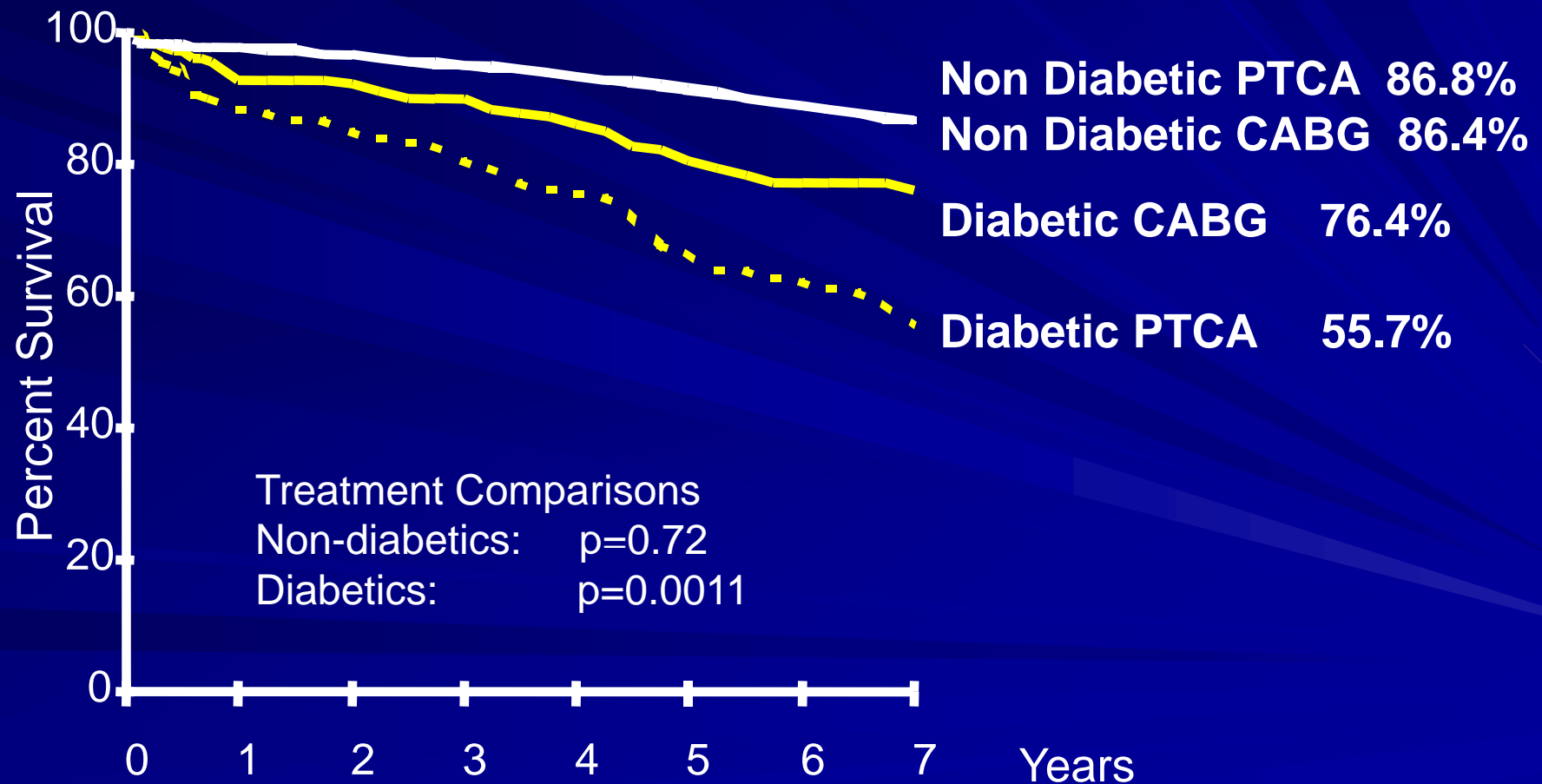
Professor of Medicine Emeritus

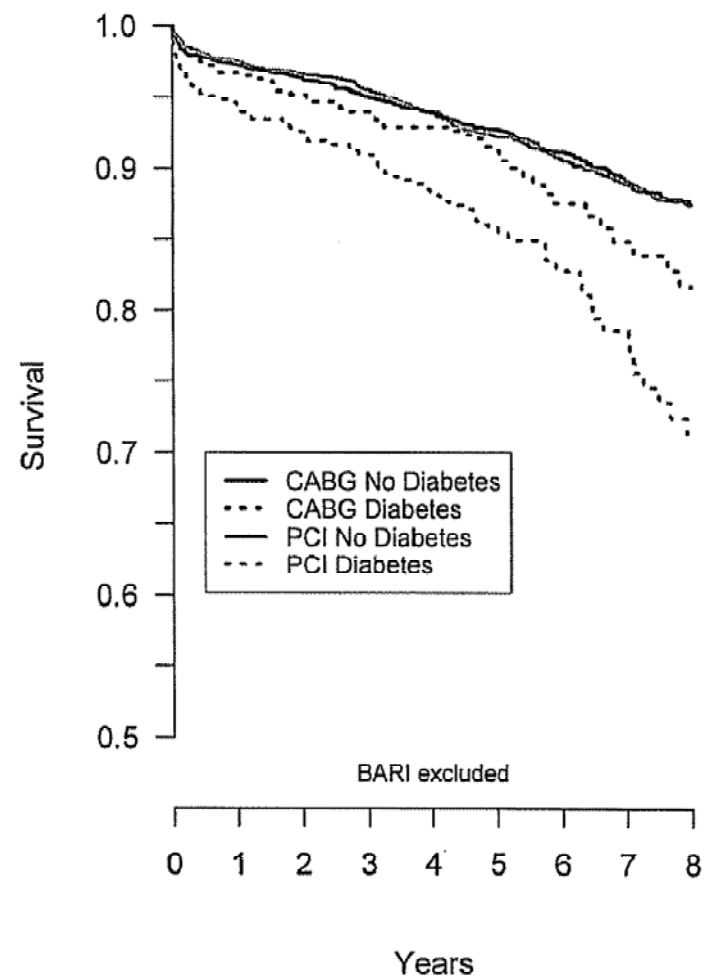
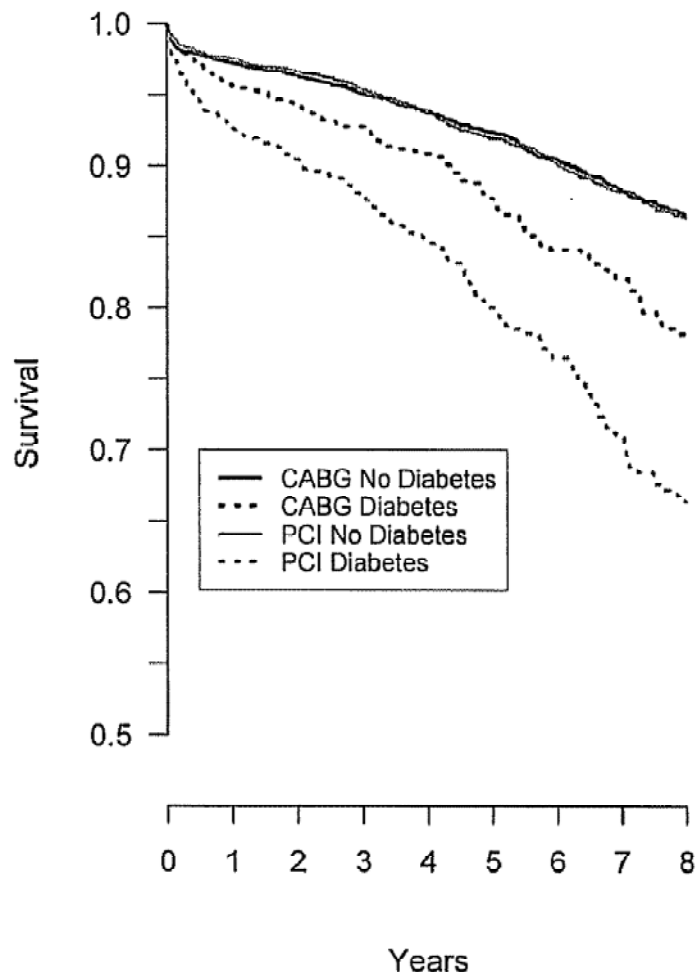
Emory University

Atlanta, USA

If patients require
revascularization-Which therapy?

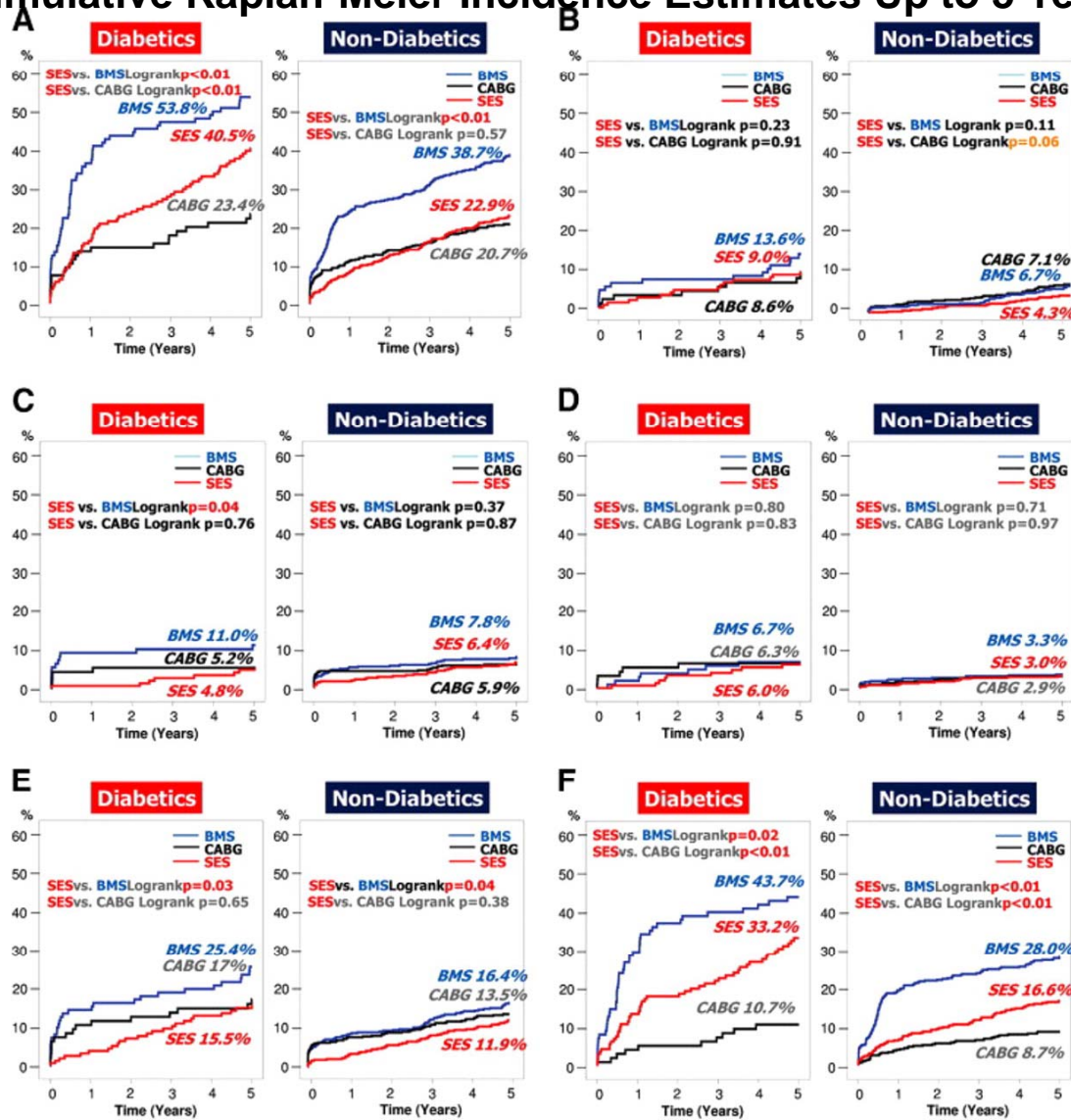
BARI I: *Poorer Outcome with Revascularization in Diabetics*





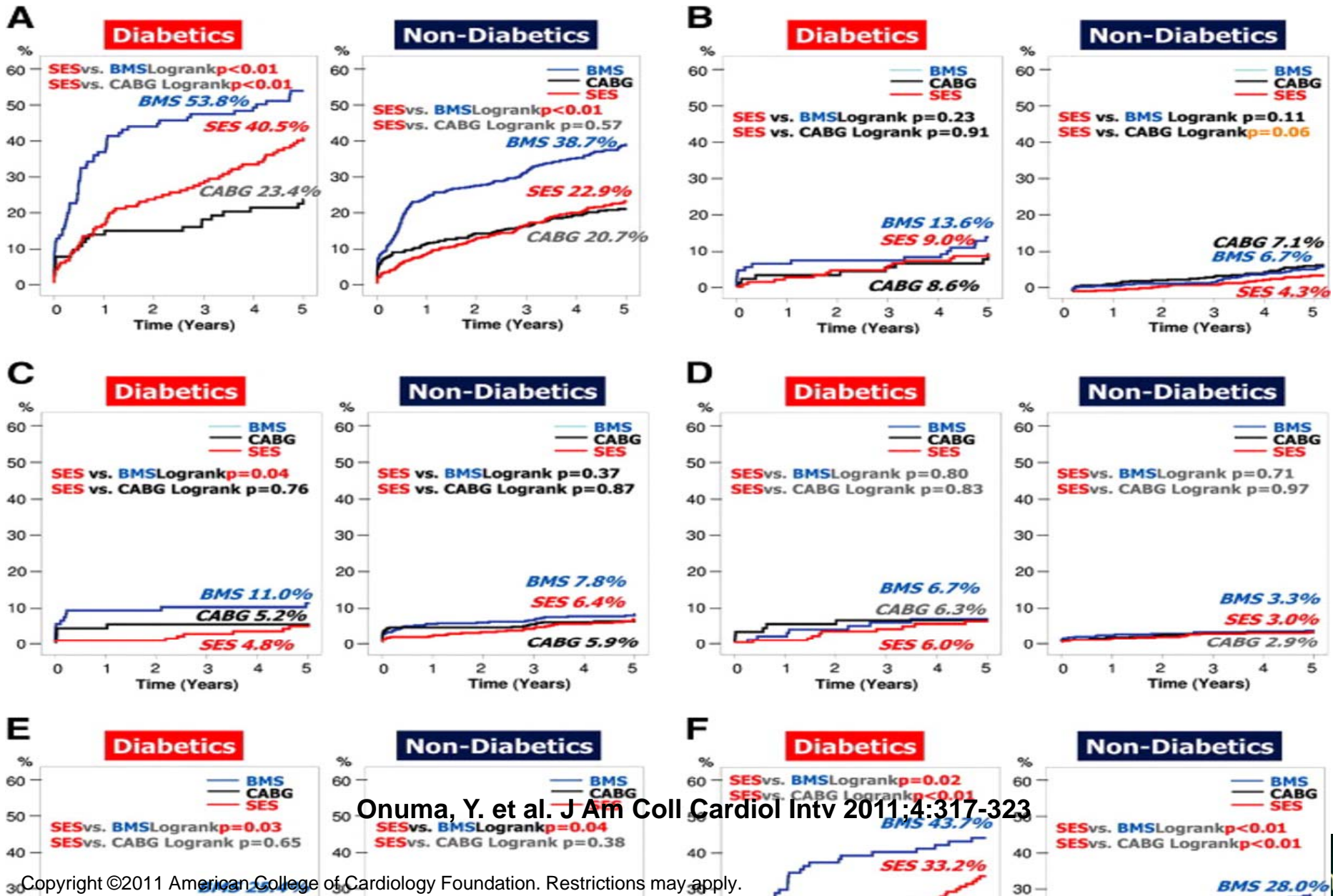
The DES Era

Cumulative Kaplan-Meier Incidence Estimates Up to 5 Years



Onuma, Y. et al. J Am Coll Cardiol Intv 2011;4:317-323

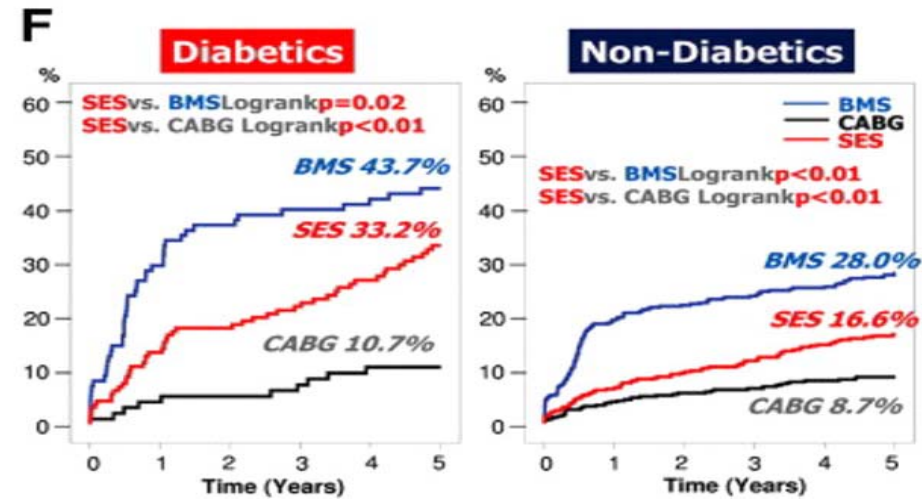
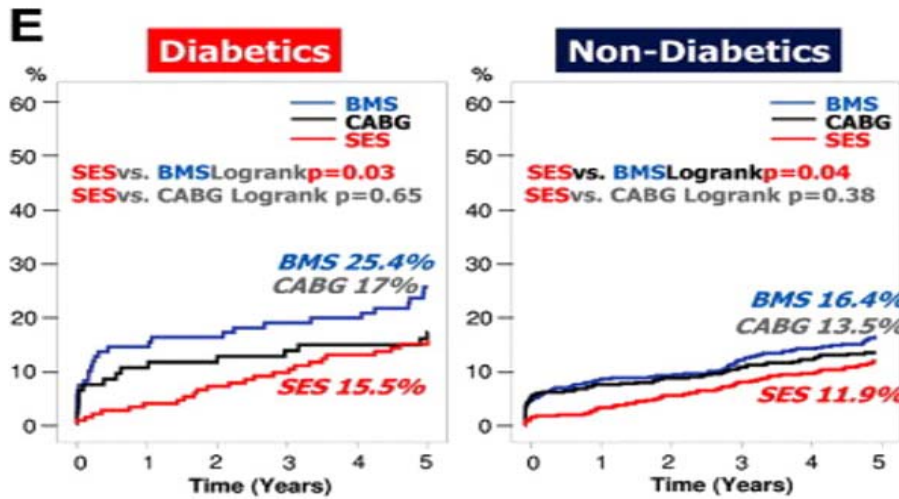
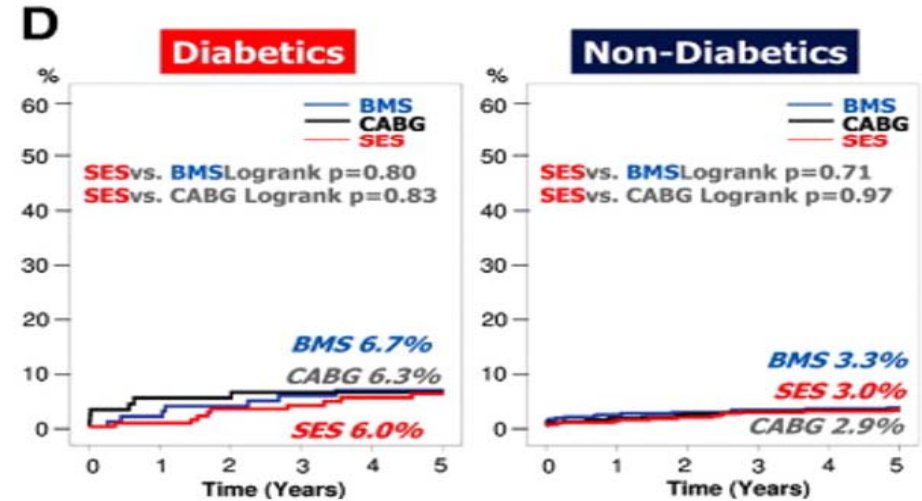
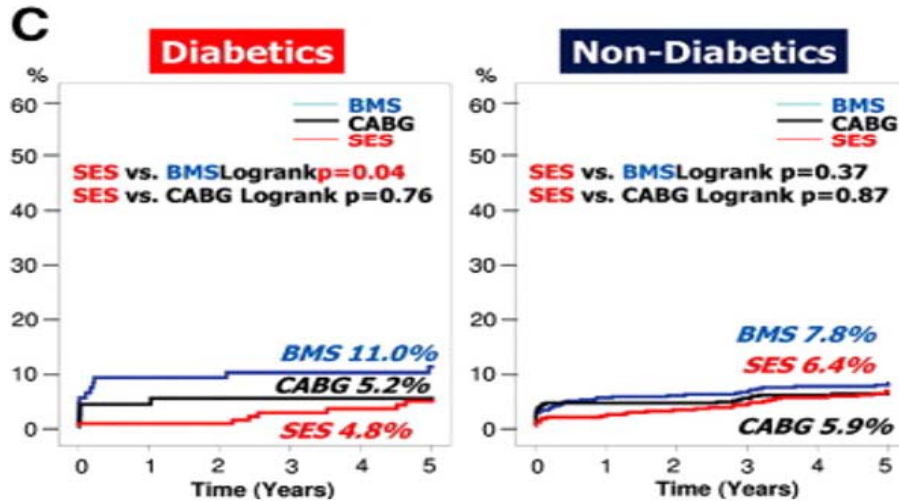
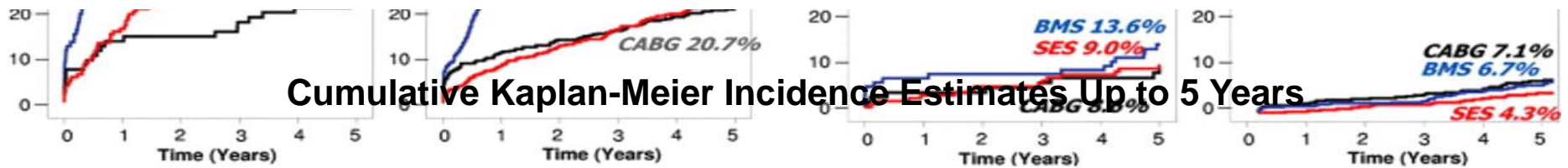
Cumulative Kaplan-Meier Incidence Estimates Up to 5 Years



Onuma, Y. et al. J Am Coll Cardiol Intv 2011;4:317-323



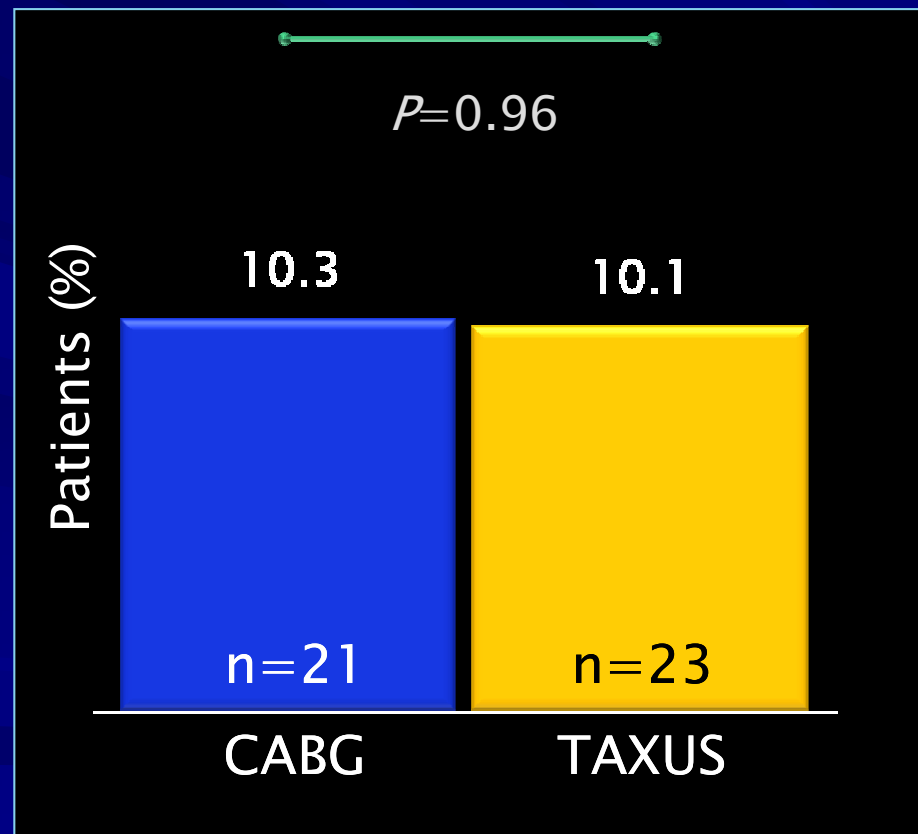
Cumulative Kaplan-Meier Incidence Estimates Up to 5 Years



Onuma, Y. et al. J Am Coll Cardiol Intv 2011;4:317-323

Medically Treated Diabetes All-Cause Death/CVA/MI at 12 Months

■ CABG (N=204) ■ TAXUS (N=227)

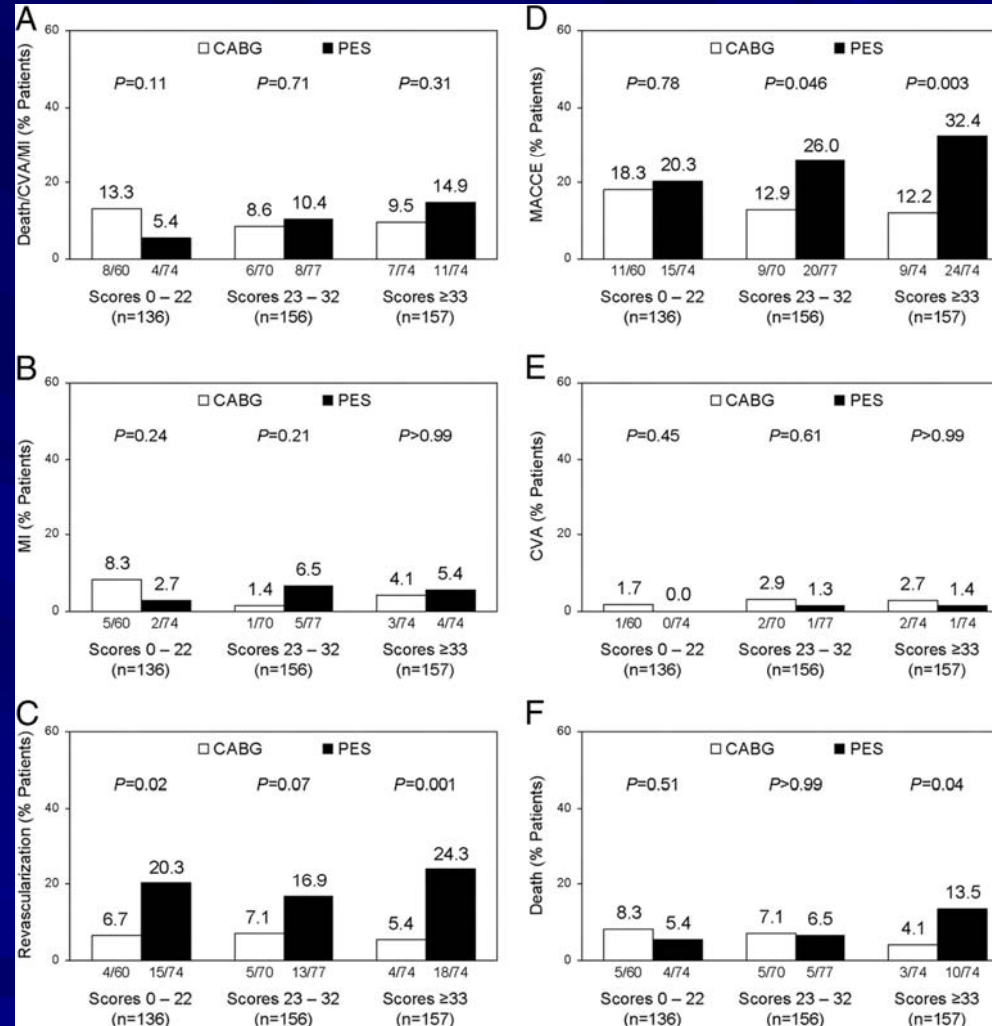


ITT population

SYNTAX Diabetes n=452

	TAXUS	CABG
MACCE	26.0	14.2
Death	8.4	6.4
MI	4.8	4.4
CVA	0.5	2.5
Revasc	11.1	6.4

Diabetic Patient Outcomes According to SYNTAX Score Tercile



Banning, A. P. et al. J Am Coll Cardiol 2010;55:1067-1075

CARDIA: Results, intention-to-treat analysis

12-mo events	CABG	PCI	Odds ratio (95% CI)	p
Death/MI/stroke	10.5	13.0	1.25 (0.75–2.09)	0.39
Stroke	2.5	0.4	0.16 (0.02–1.33)	0.09
Revascularization	2.0	9.9	5.31 (2.0–14.11)	0.001

FREEDOM Design

Patients with DM and multivesel CAD eligible for PCI or CABG

Randomized 1:1

**Contemporary PCI
with DES
N=1200**

**Contemporary CABG
with or without CPB
N=1200**

*Contemporary background therapy
for CAD and diabetes*

But is revascularization needed
in all diabetic patients with CAD?

Lessons from BARI 2D

Revascularization Decision

Cardiologist *a priori* selected revascularization method based on clinical and angiographic factors

Percutaneous Coronary Intervention (PCI)

Or

Coronary Artery Bypass Graft Surgery (CABG)

Bypass Angioplasty Revascularization Investigation 2 Diabetes (BARI 2D)

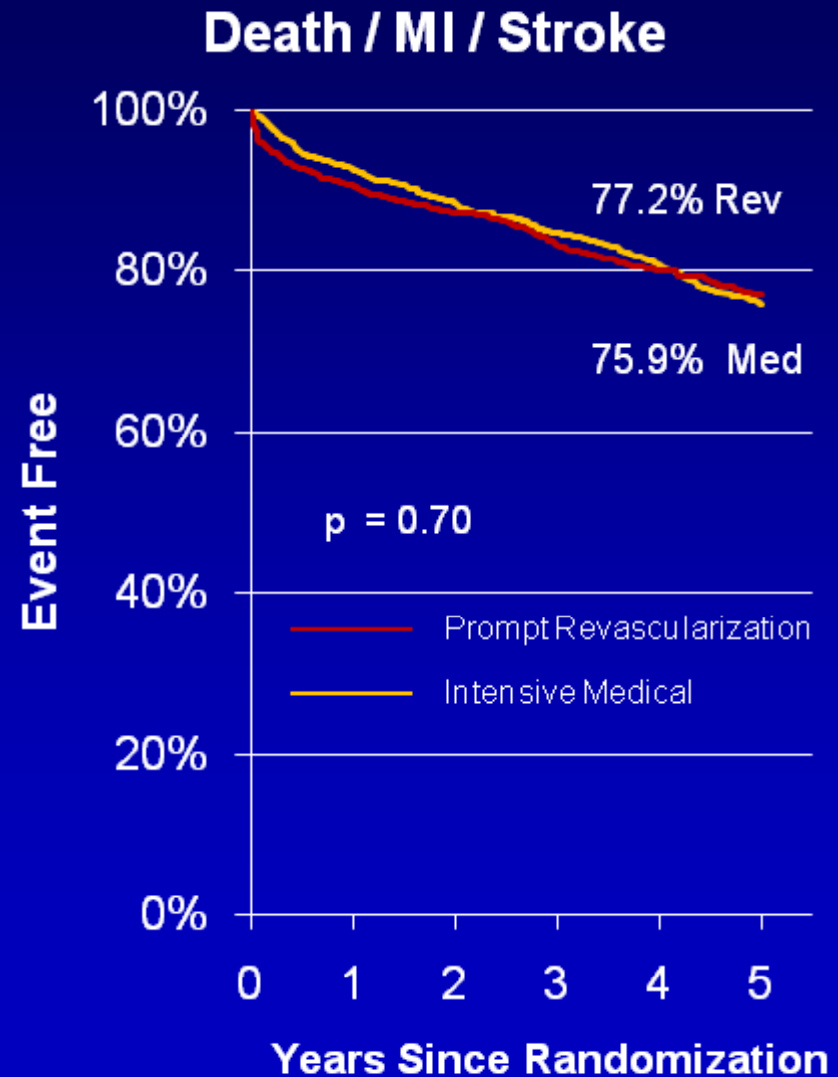
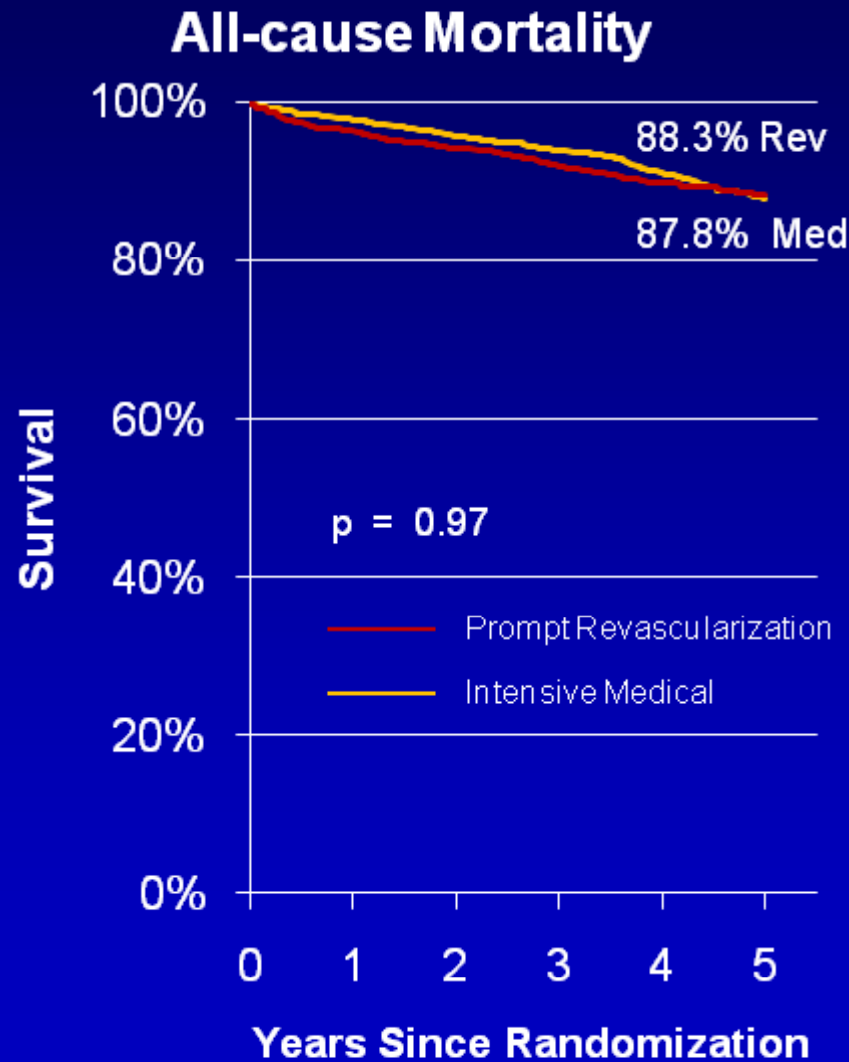
Five-Year Results

**American Diabetes Association
Conference**

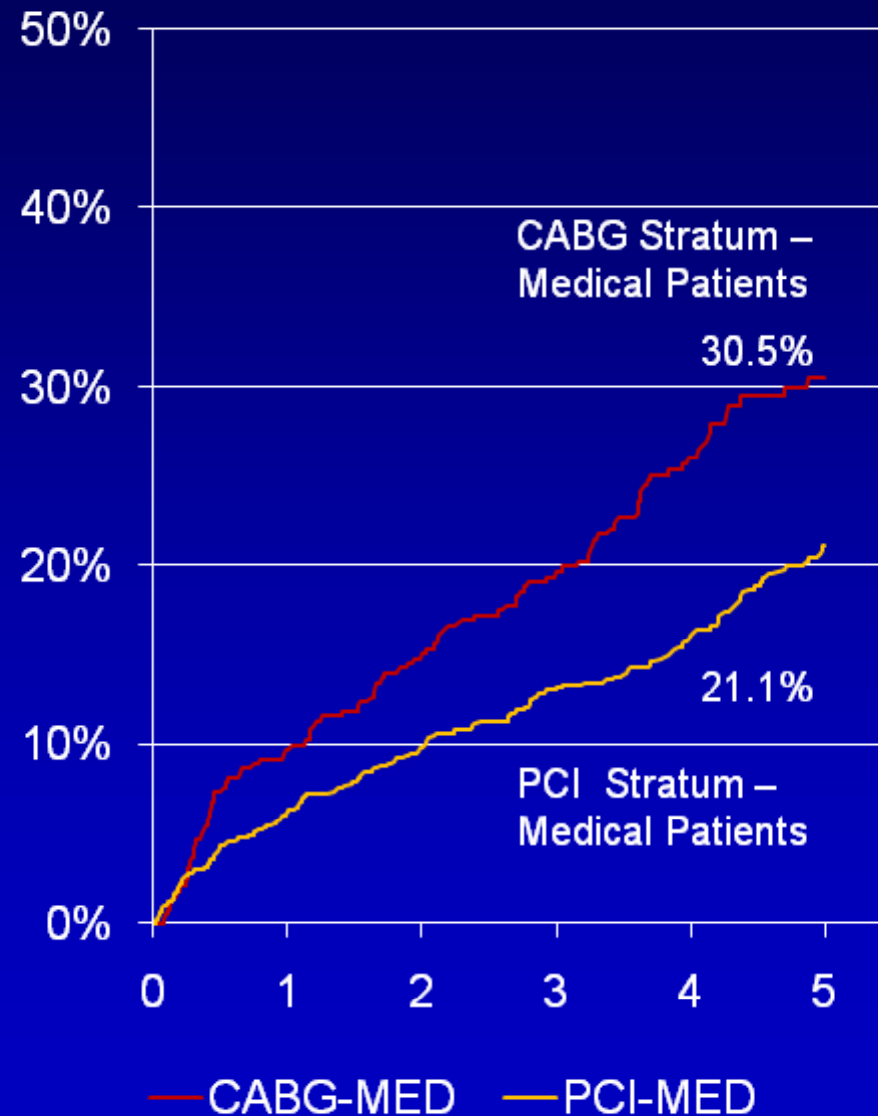
June 7, 2009

**Robert Frye, MD
Mayo Clinic - Rochester**

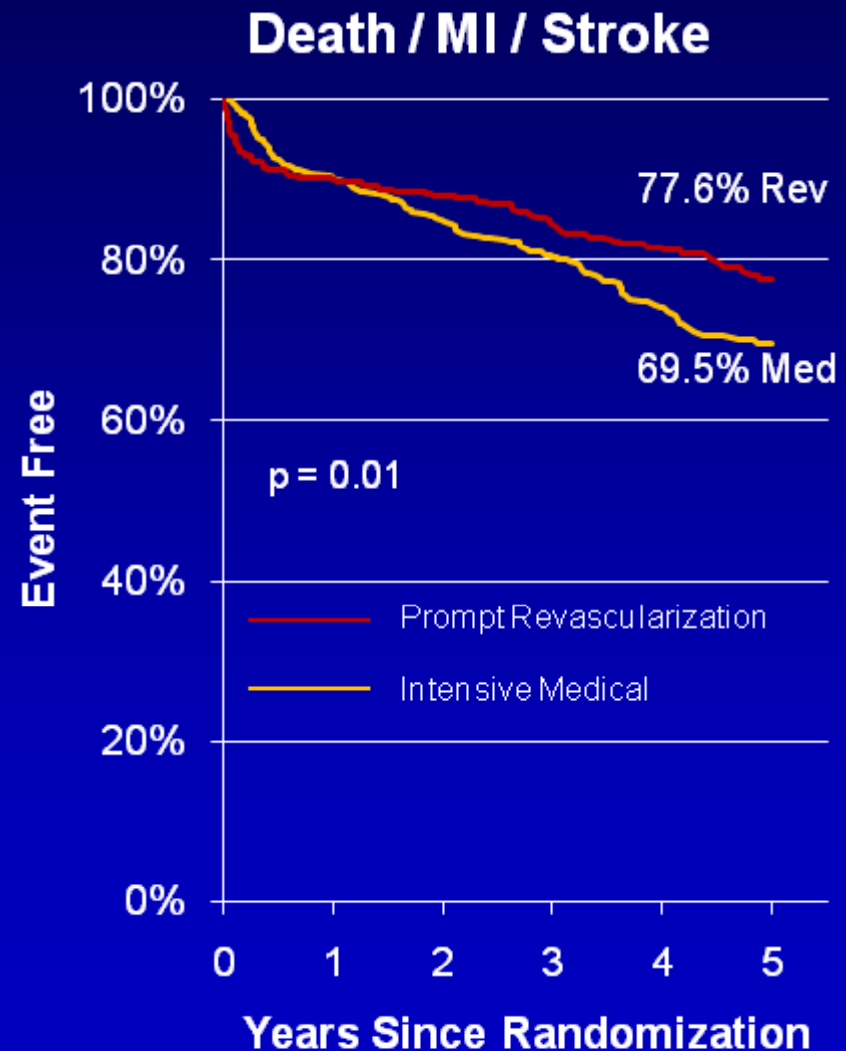
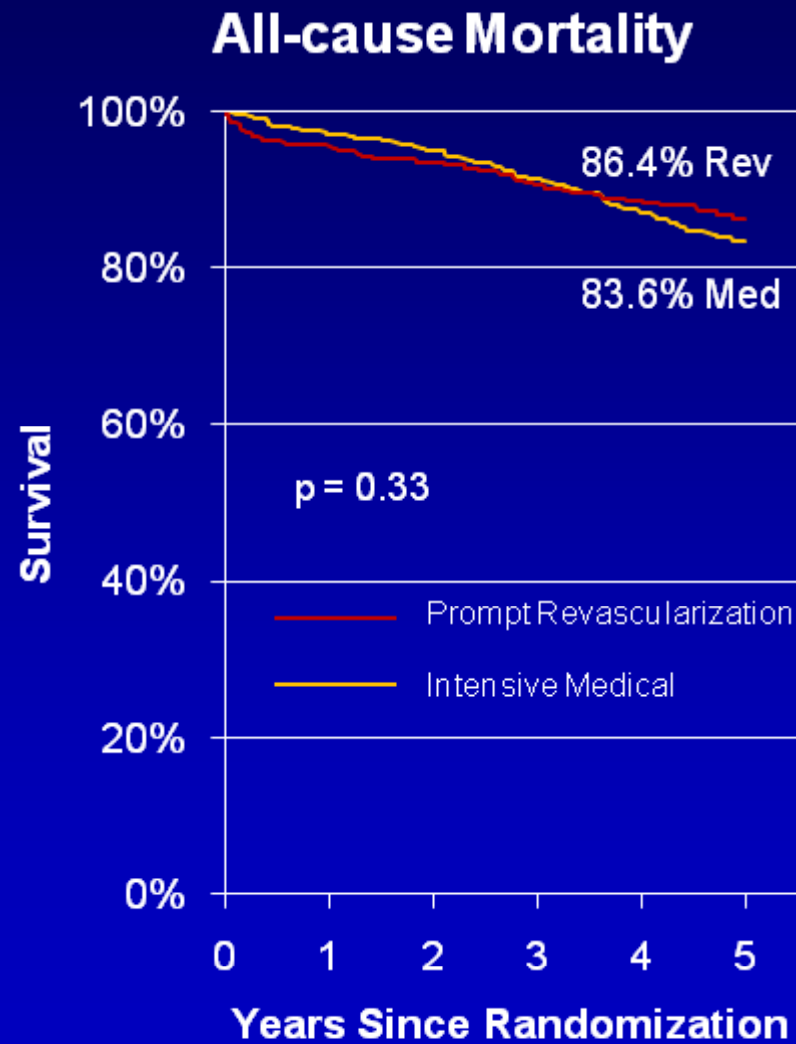
Prompt Revascularization vs Medical Therapy



Death / MI/ Stroke Among Medical Assigned Patients

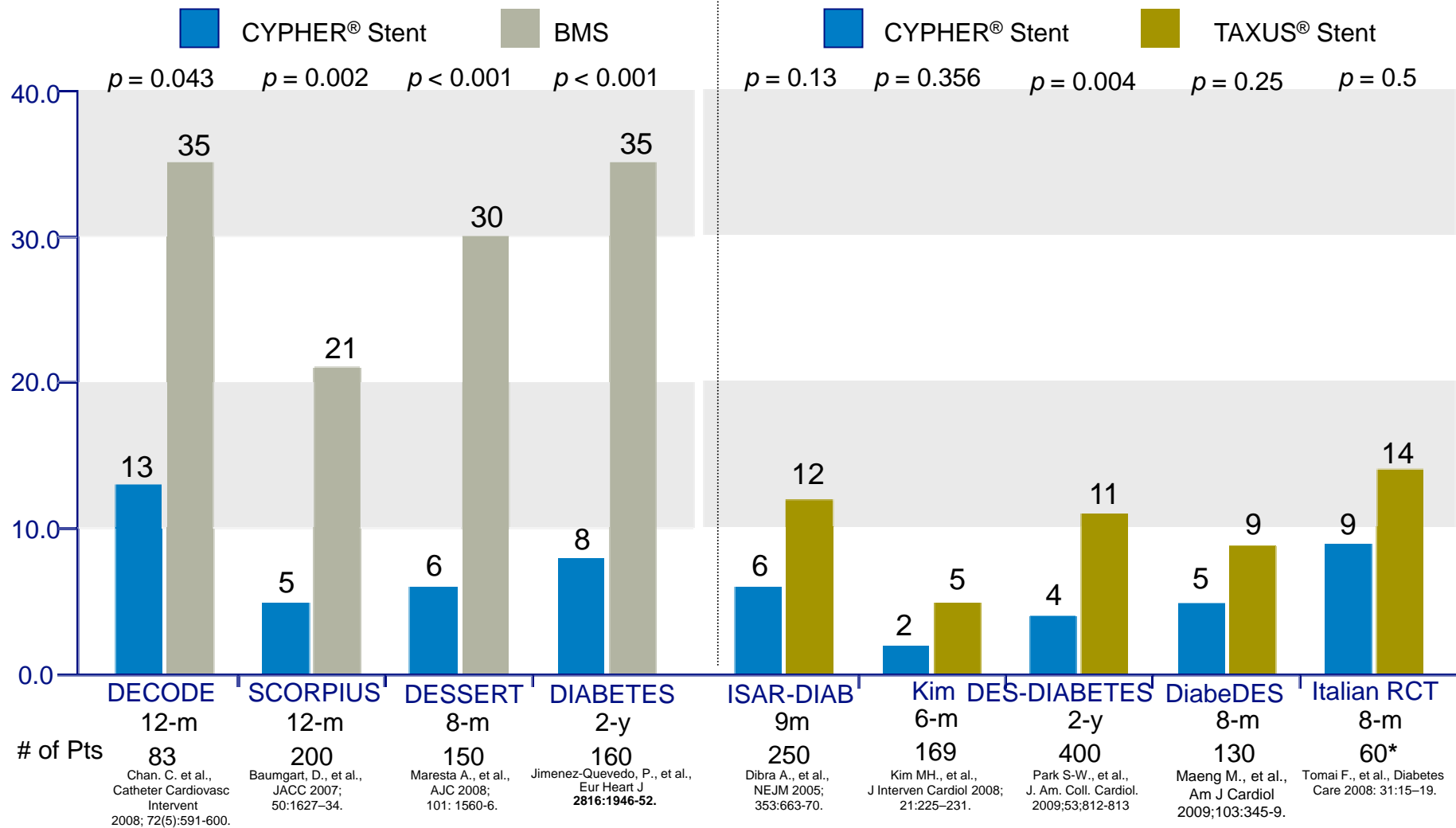


CABG Intended Revascularization Stratum (Higher Risk Patients)



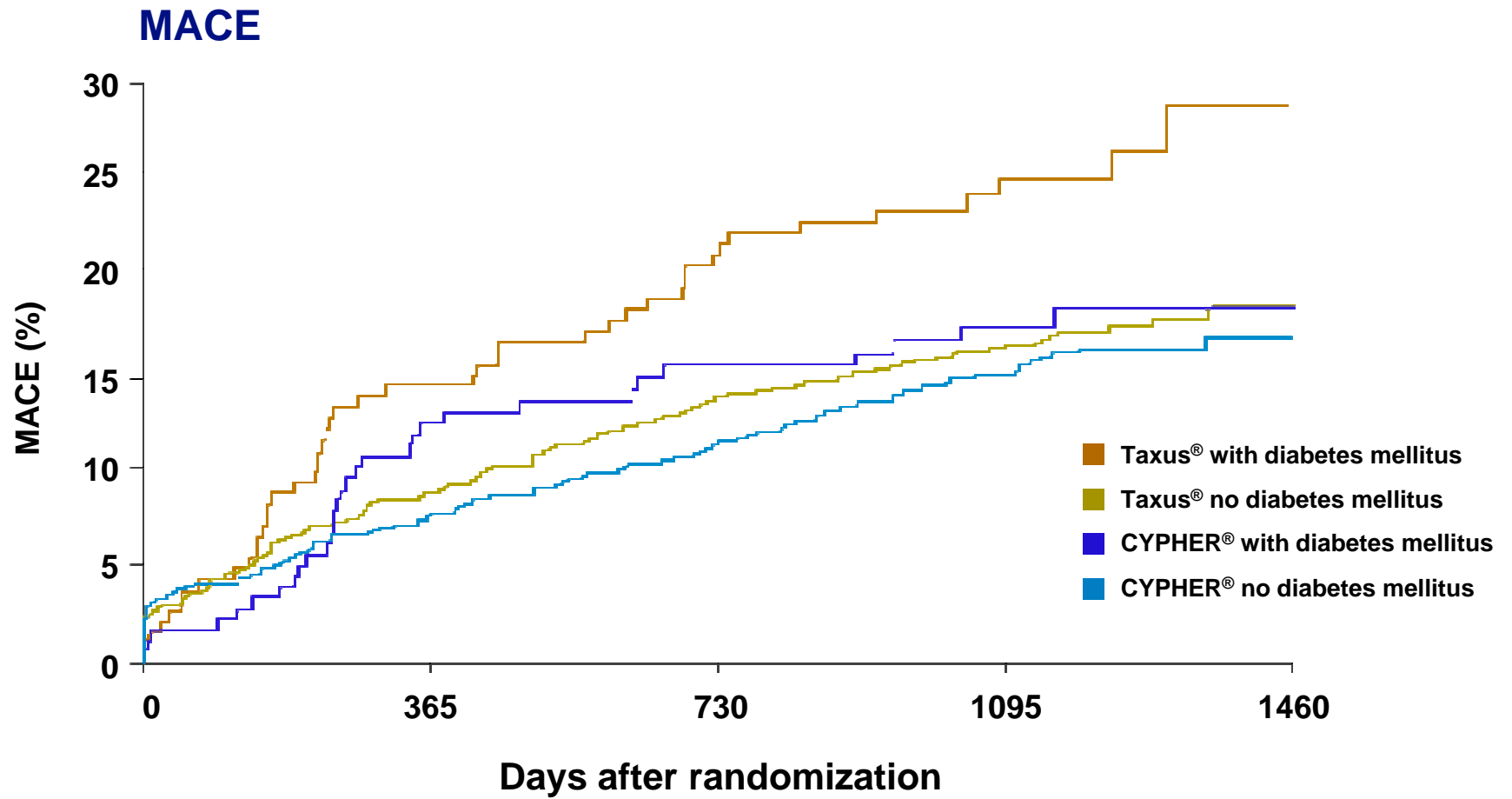
Does it matter which stent is
used?

Summary of TLR Findings From Dedicated Randomized Trials Specifically Evaluating Diabetic Patients



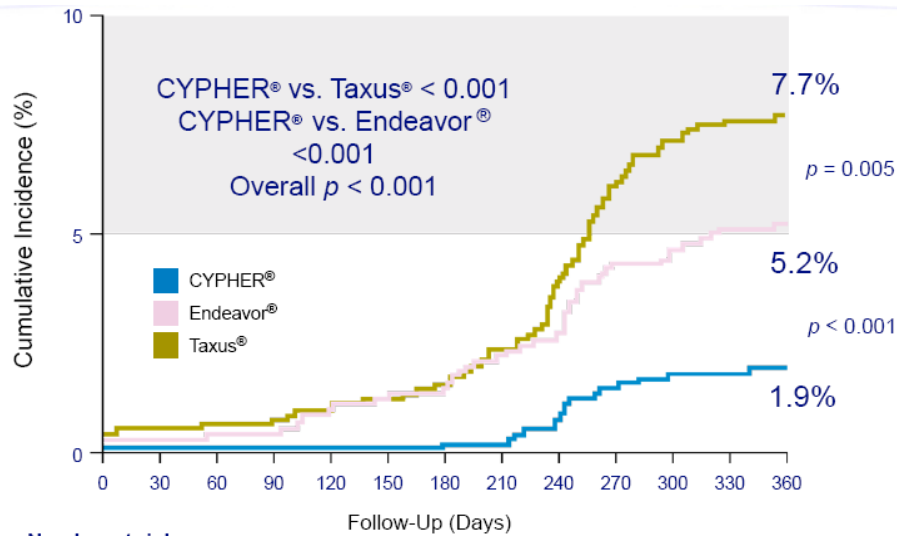
TLR (% of Patients; * Italian RCT evaluated CYPHER® vs. Taxus® in different lesions within the same patient)
 None of these trials were powered to detect differences in clinical outcomes

SORT-OUT II: CYPHER versus Taxus in Diabetic and Non-Diabetic Sub-Groups



Ischaemic-driven TVR

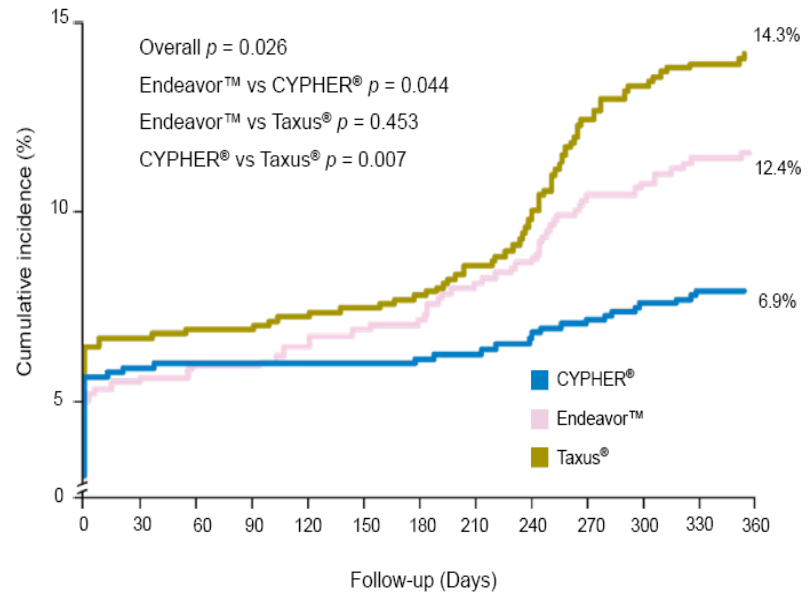
All population



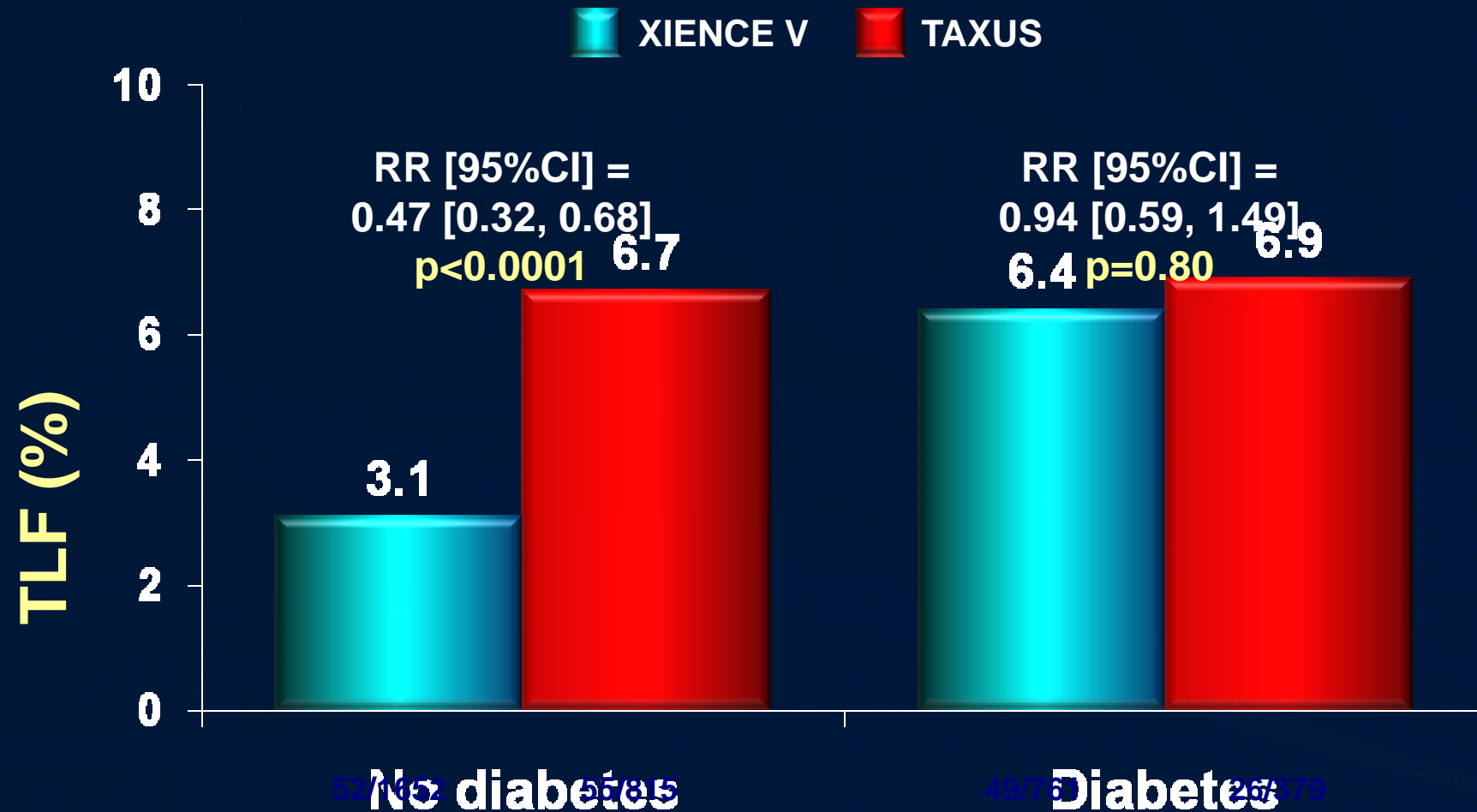
Number at risk

	0	30	60	90	120	150	180	210	240	270	300	330	360
Endeavor®	883	868	857	827	819								
CYPHER®	878	869	866	851	841								
Taxus®	884	875	861	812	793								

Diabetics n=861 (32,6%)



Impact of Diabetes on TLF



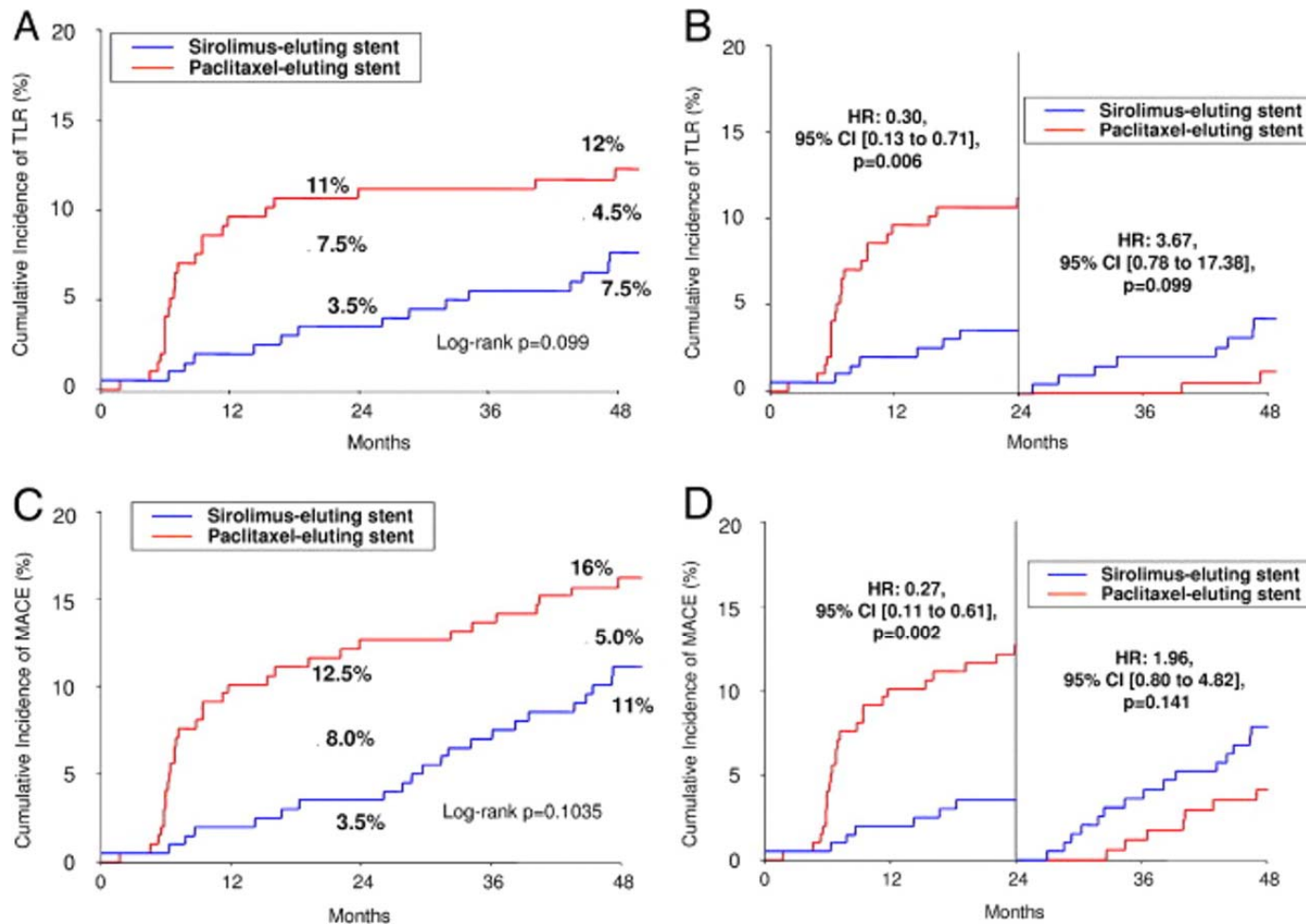
TLF = cardiac death, target vessel MI, or ischemia-driven TLR

$P_{\text{interaction}} = 0.02$

Spirit IV

Kaplan-Meier Curves for Outcome According to Stent Type During 4-Year Follow-Up

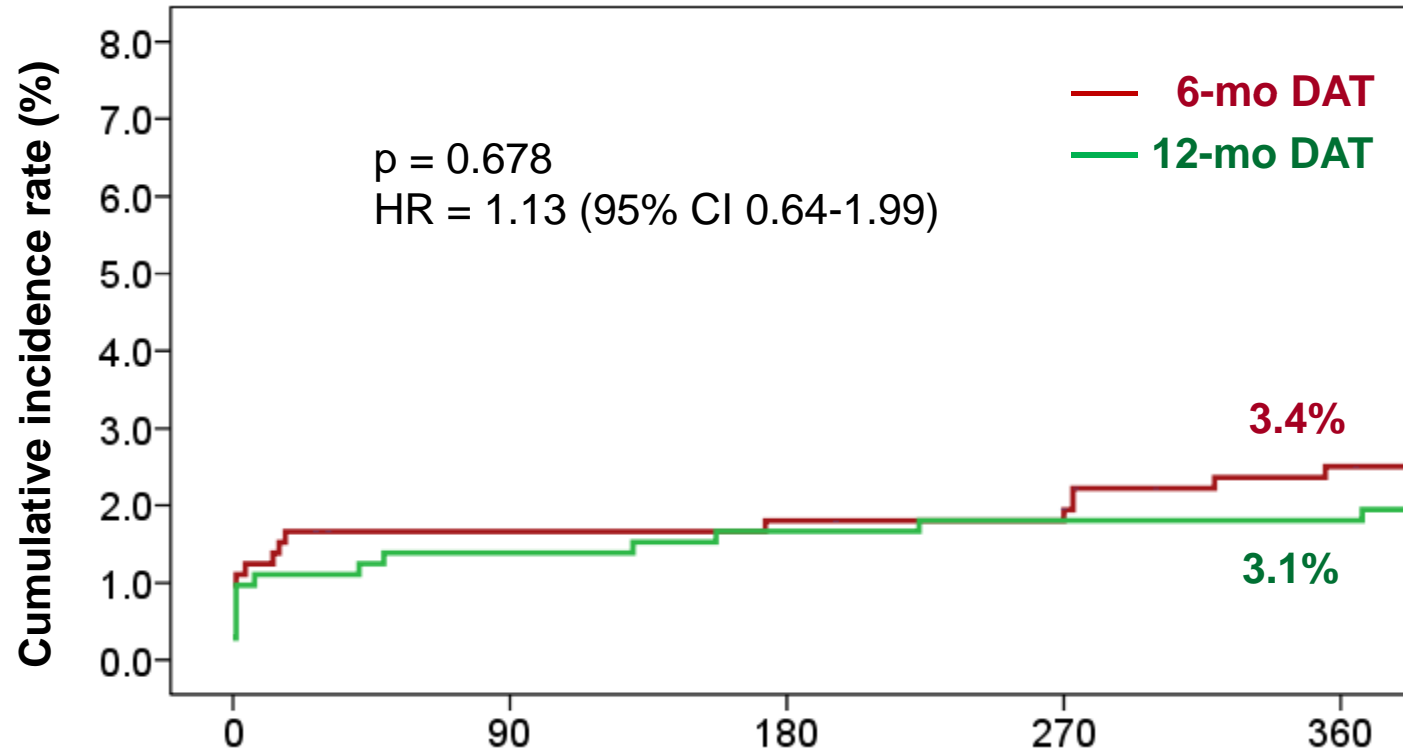
The DES-DIABETES Trial



Lee, S.-W. et al. J Am Coll Cardiol Intv 2011;4:310-316

EXCELLENT: Safety Endpoint

(Death, MI, stent thrombosis, CVA, or TIMI major bleeding)



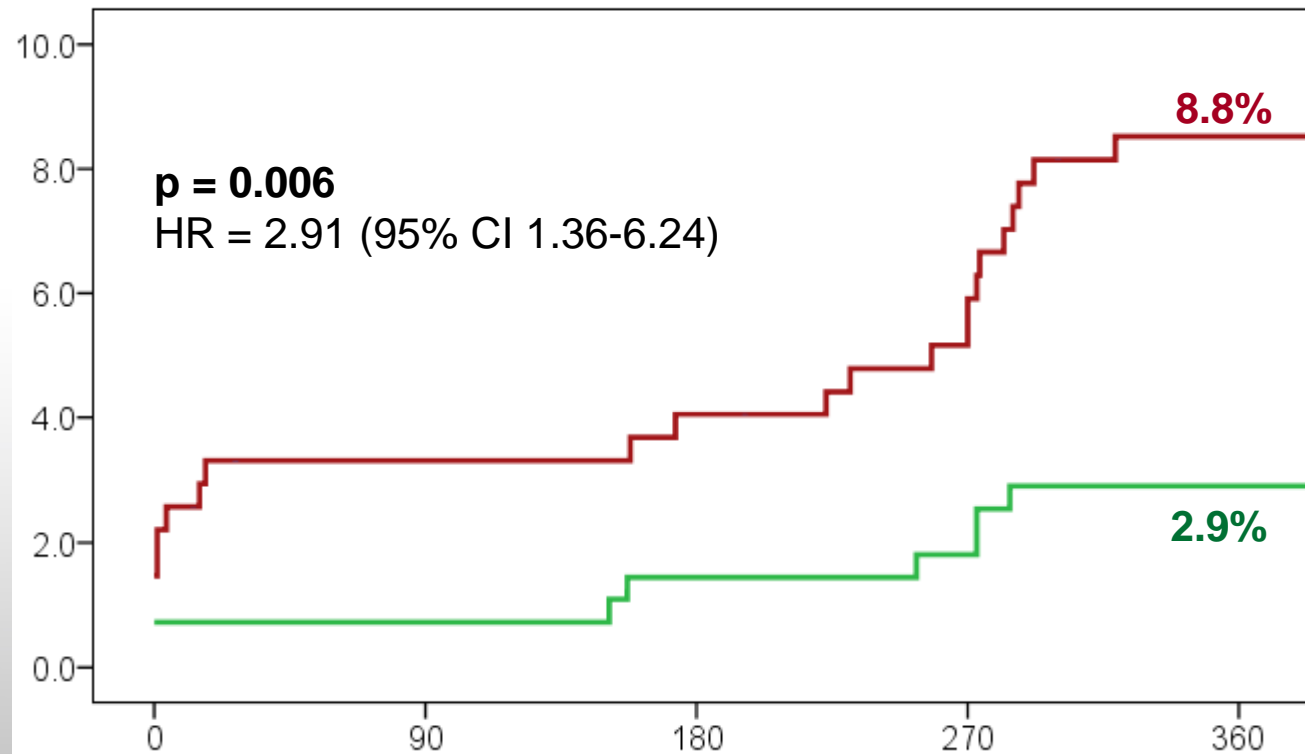
Patient Number at Risks

	0	90	180	270	360
6-month	722	708	707	706	698
12-month	721	710	706	704	699

EXCELLENT: TVF in Diabetic Subgroup

Diabetics

— 6-mo DAT
— 12-mo DAT

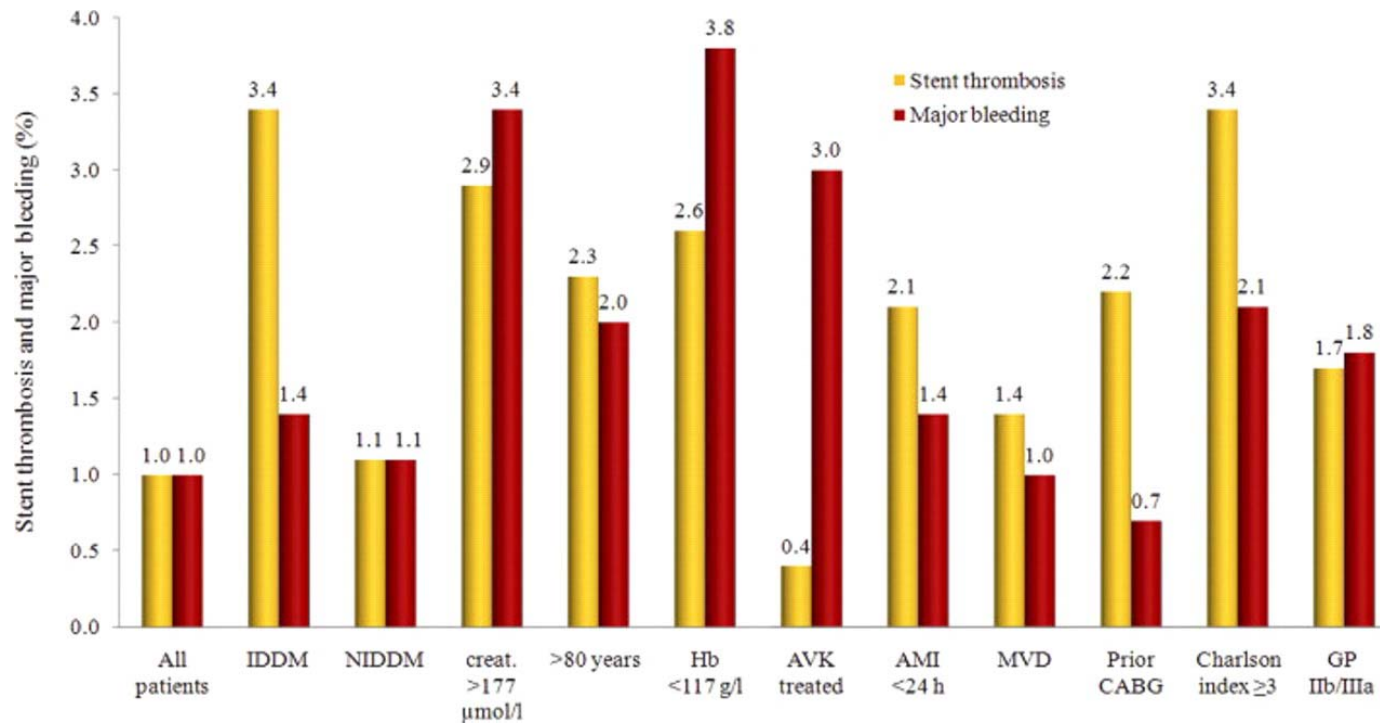


Patient Number at Risks

Months after initial procedure

6-mo DAT	272	261	259	255	245
12-mo DAT	278	275	271	270	265

Stent Thrombosis and Major Bleeding in Selected Patient Subgroups



Urban, P. et al. J Am Coll Cardiol 2011;57:1445-1454

What really matters-

Medical Intervention

Conclusions

- Interventional revascularization is gaining parity with surgery but longer follow up is needed
- The extent of disease seems more important than the diabetic status. (SYNTAX)
- In stable patients without extensive coronary artery disease and ischemia stenting can be deferred
- Medical interventions are life saving