

**Drug-Eluting and Bare Metal
Stenting for Diabetes Mellitus:
Results from the Mass-DAC
Registry**

Discussion

**David O. Williams MD
Rhode Island Hospital
Brown University
Providence, Rhode Island**

Disclosures

Research support

- **Boston Scientific**
- **Cordis Corporation**
- **Abbott Vascular**

Consultant

- **Cordis Corporation**

Objectives

- 1. To evaluate whether DES are associated with increased rates of death or MI compared with BMS in patients with DM.**
- 2. To evaluate whether DES are associated with reduction in revascularization compared with BMS in patients with DM.**

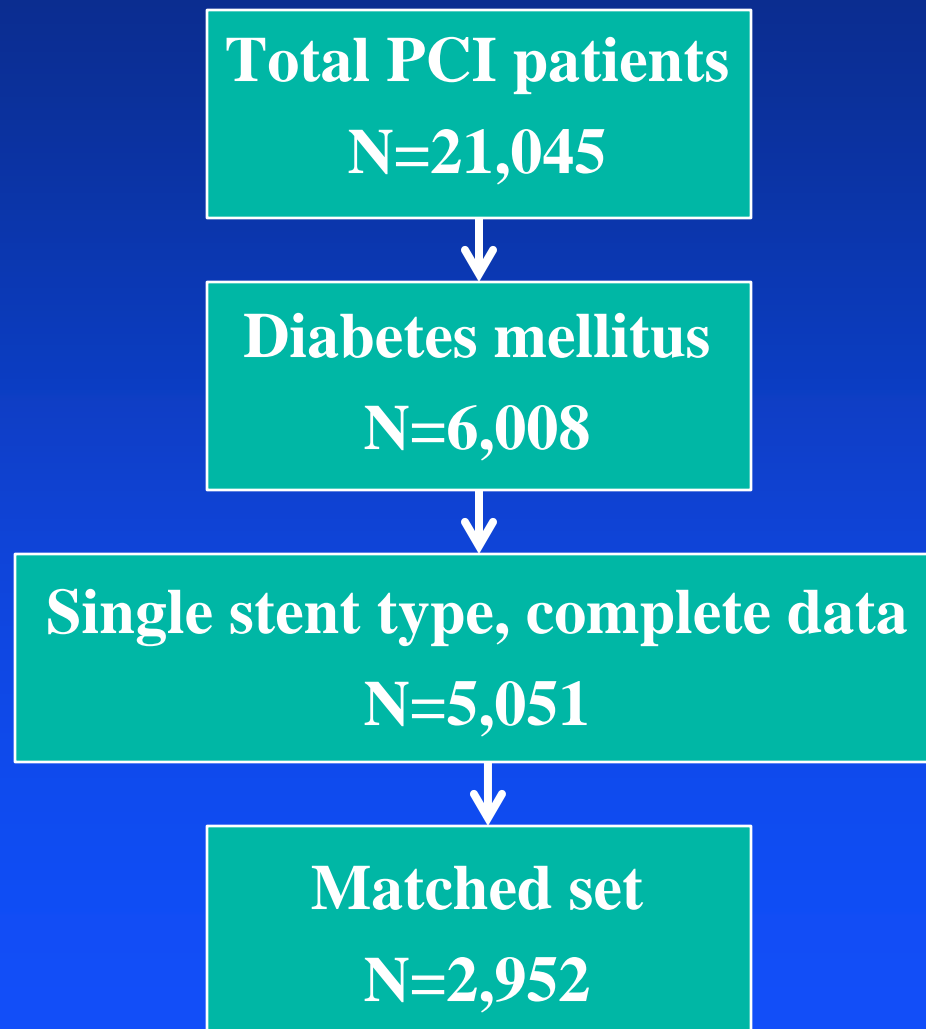
Scientific question

1. Controversy regarding role of PCI for patients with diabetes in comparison to CABG
2. Higher incidence of repeat revascularization following PCI, a major shortcoming
3. DES offer a potentially “better PCI” but has not been thoroughly investigated
4. Uncertain as to the presence and magnitude of PCI treatment effect in the diabetic setting
5. Little information on DES safety relative to BMS in patients with diabetes

Data Sources and Methods

- **Prospective Massachusetts state databases**
- **Predefined definitions and endpoints using NCDR data collection instruments**
- **Propensity score matching**
- **Follow-up at 3-years**

Study Population



Endpoints

- **Death**
- **Myocardial infarction**
- **Repeat revascularization**
 - **Any PCI or CABG following index procedure**
- **Determined by cross-referencing databases, no direct patient contact**

Key Findings

- 1. Marked differences in the types of patients selected for BMS or DES**
- 2. Rates of death, MI and repeat revascularization were high for both BMS and DES groups**
- 3. Absolute reductions observed in rates of death (of 3.2%), MI (3.0%) and repeat revascularization (5.4%) in DES patients, relative reductions ranging between 15.5% and 17.7%**

Unanswered Questions

- Are these findings likely correct and how do they compare to other reports?
- What are the implications of this investigation in regard to our understanding of effectiveness of DES and clinical practice?
- Are there differences among types of DES in patients with diabetes?

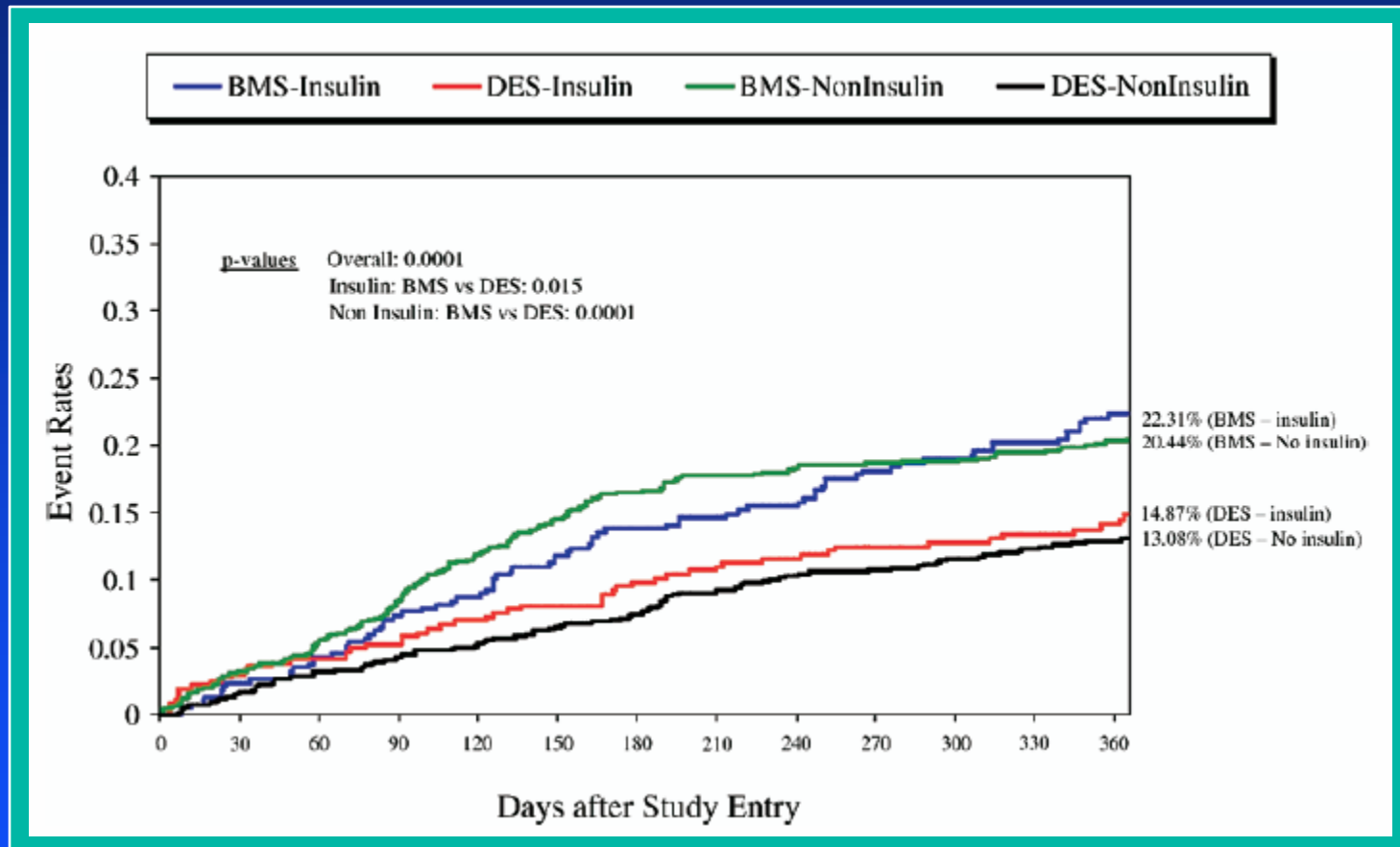
Impact of Drug-Eluting Stents Among Insulin-Treated Diabetic Patients

A Report From the National Heart, Lung, and Blood Institute Dynamic Registry

Suresh R. Mulukutla, MD,* Helen A. Vlachos, MSc,* Oscar C. Marroquin, MD,*
Faith Selzer, PhD,* Elizabeth M. Holper, MD,† J. Dawn Abbott, MD,‡
Warren K. Laskey, MD,§ David O. Williams, MD,‡ Conrad Smith, MD,*
William D. Anderson, MD,* Joon S. Lee, MD,* Vankeepuram Srinivas, MD,||
Sheryl F. Kelsey, PhD,* Kevin E. Kip, PhD¶

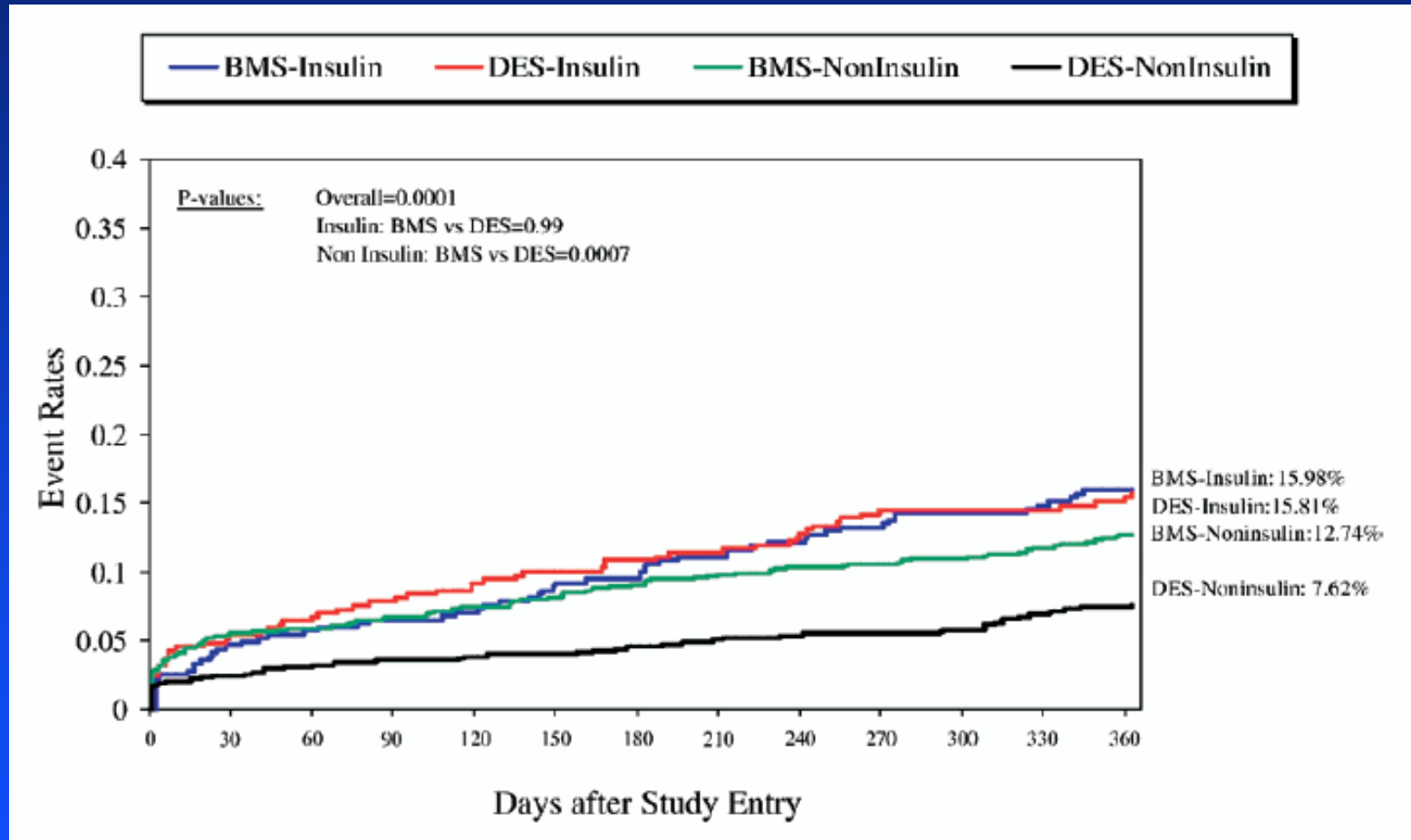
*Pittsburgh, Pennsylvania; Dallas, Texas; Providence, Rhode Island; Albuquerque, New Mexico;
New York, New York; and Tampa, Florida*

DES vs. BMS in Diabetes According to Insulin Therapy: CABG/PCI



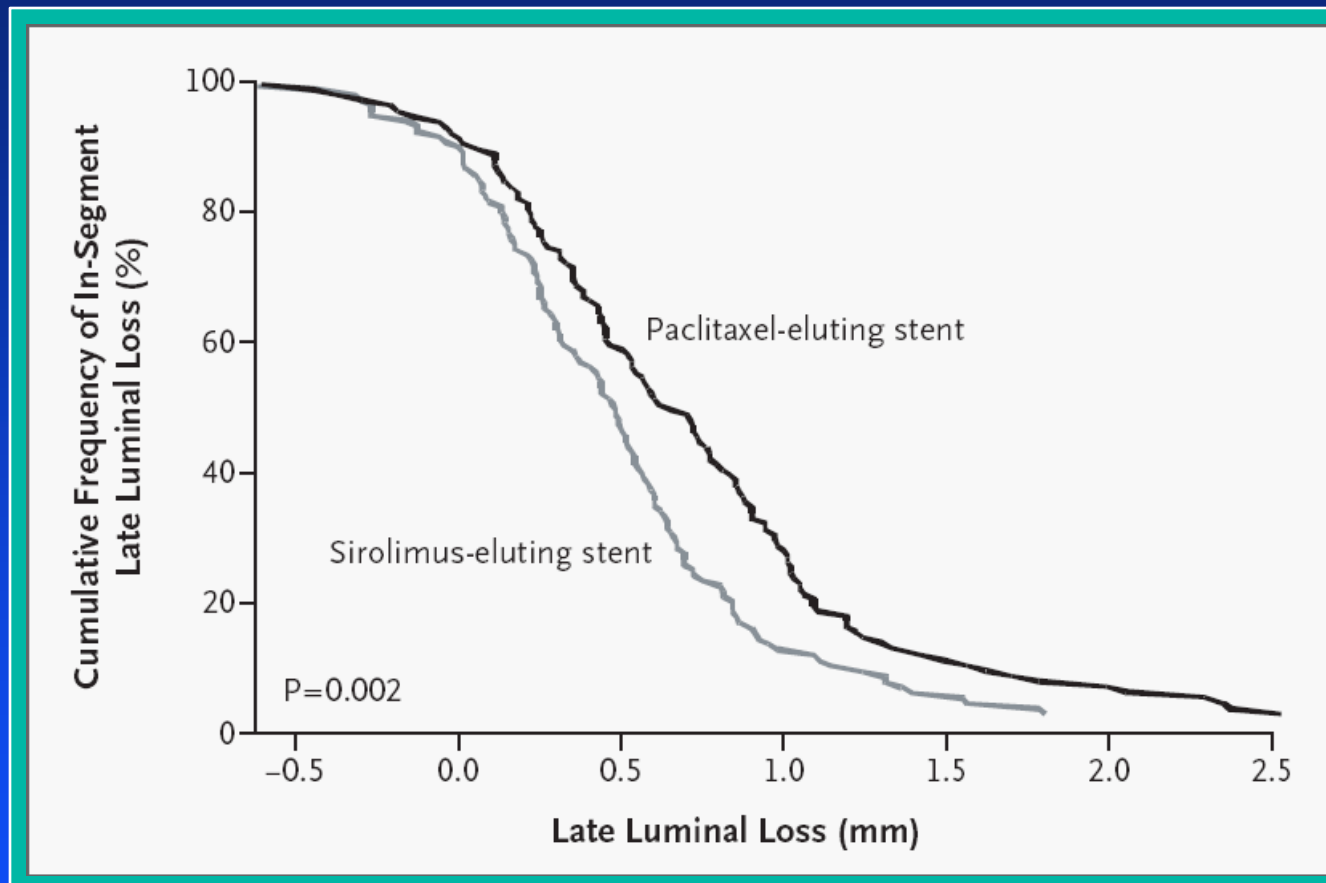
DES beneficial for both insulin and non-insulin patients

DES vs. BMS in Diabetes According to Insulin Therapy: Death/MI



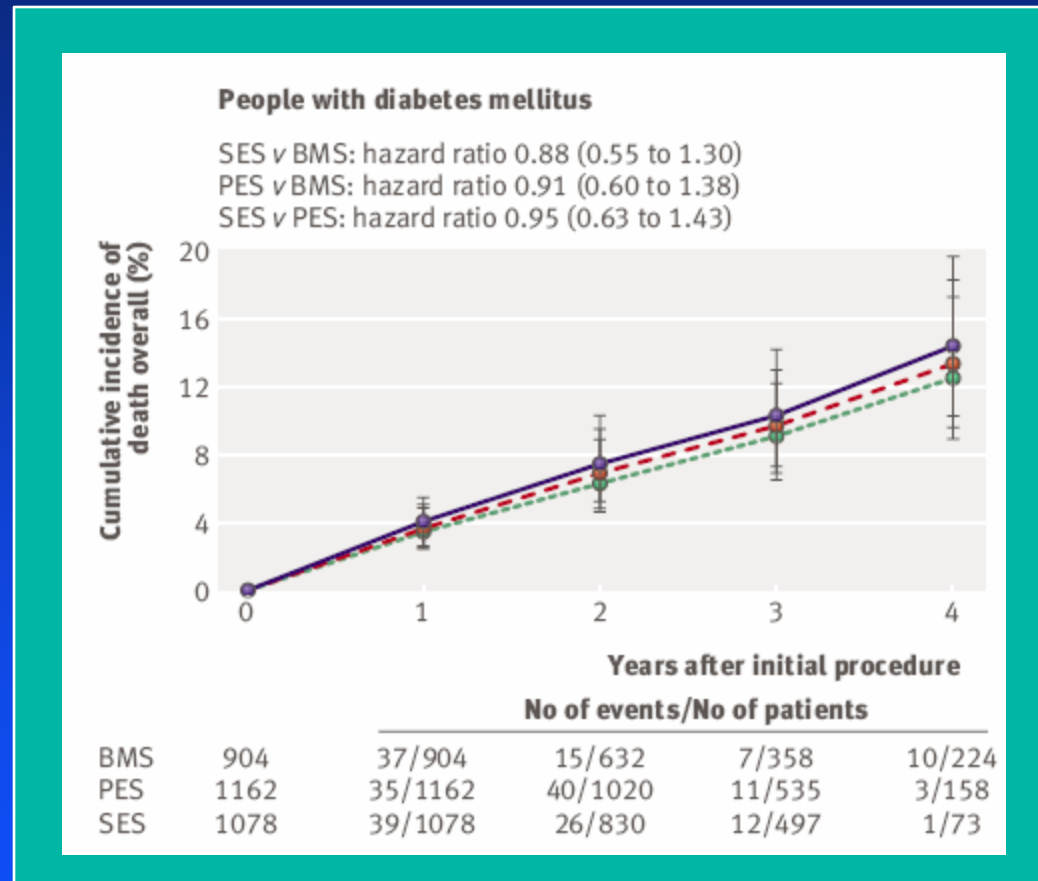
More death/MI among insulin patients. Benefit of DES in non-insulin group.

Paclitaxel vs. Sirolimus DES for Patients with Diabetes



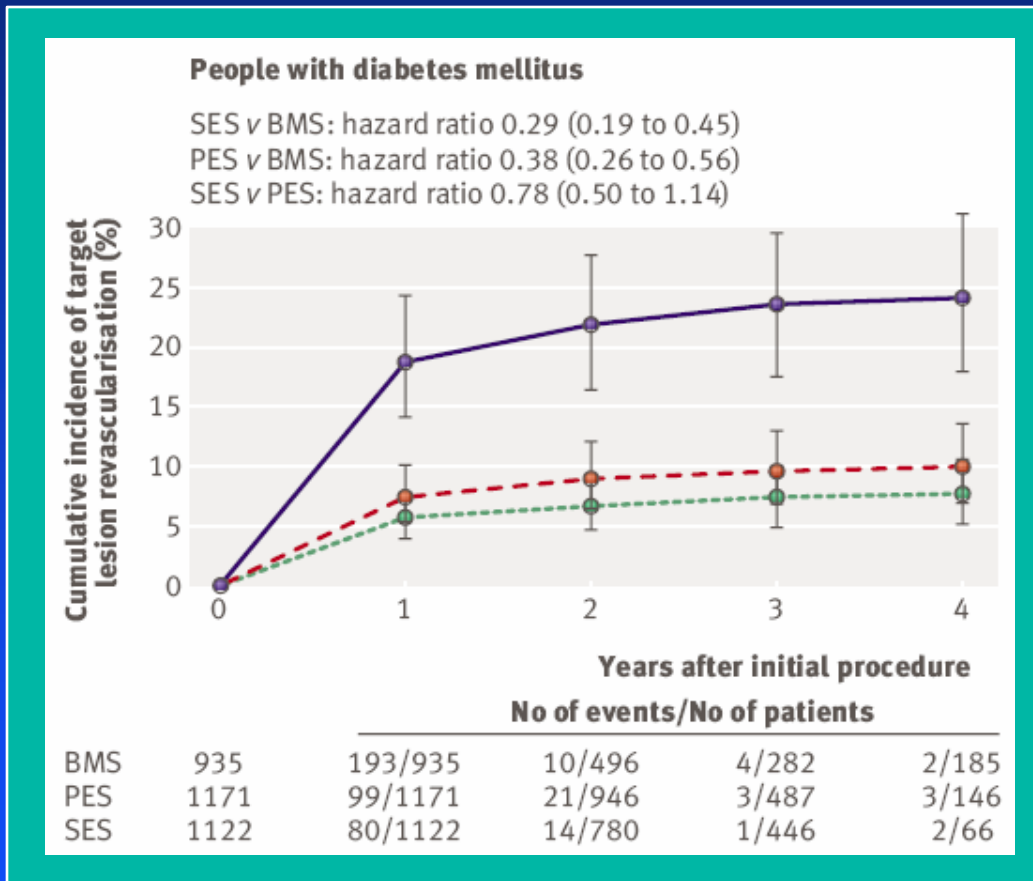
Sirolimus more effective than paclitaxel in limiting late loss

DES vs. BMS in Diabetes: Collaborative Network Meta-analysis



No difference in mortality among BMS, SES and PES patients

DES vs. BMS in Diabetes: Collaborative Network Meta-analysis



Similar superiority of SES and PES over BMS.

Results: Adjusted 2-Year Hazard Ratios

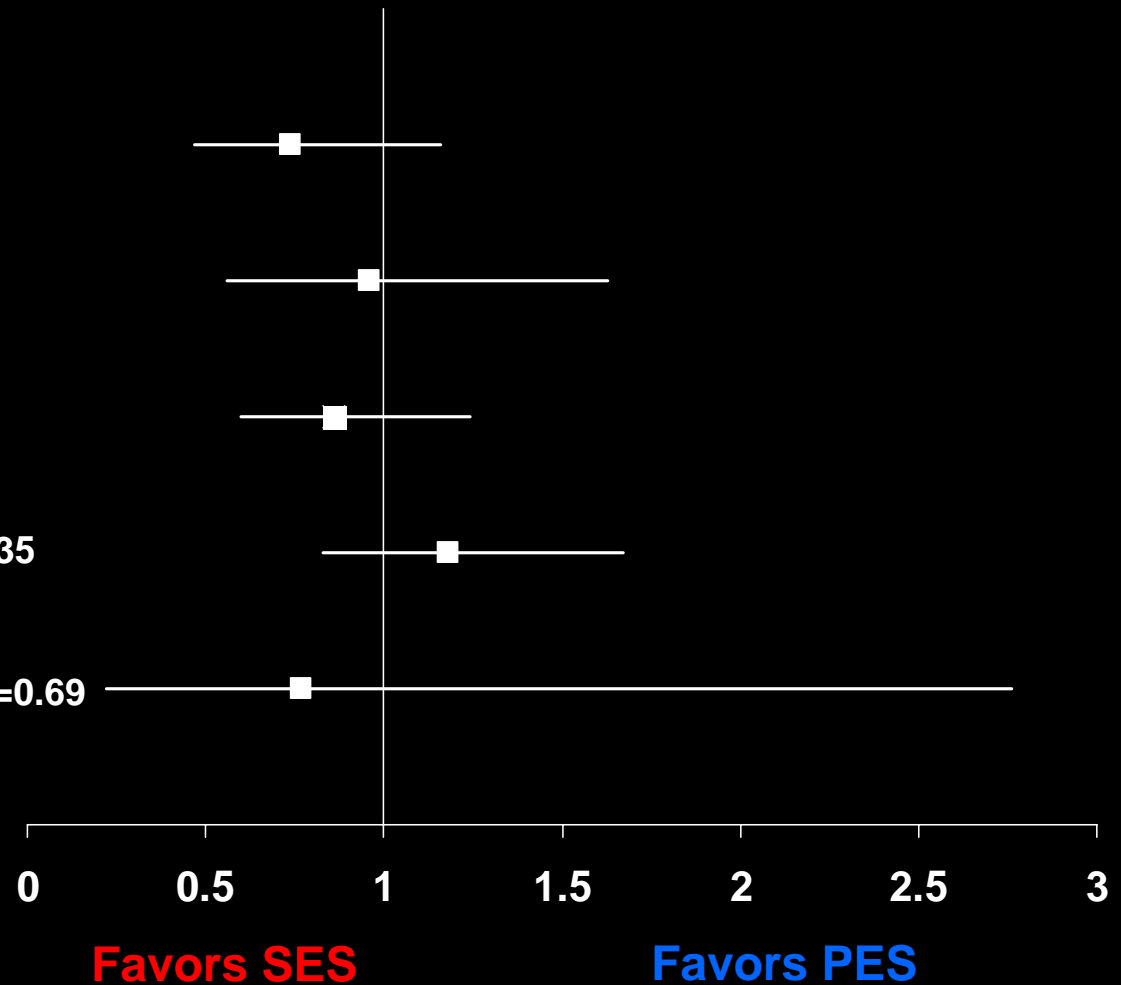
Death: HR=0.74 (0.47, 1.16), p=0.19

MI: HR=0.96 (0.56, 1.63), p=0.88

Death/MI: HR=0.86 (0.60, 1.24), p=0.42

CABG/rep.PCI: HR=1.18 (0.83, 1.67), p=0.35

Stent Thrombosis: HR=0.77 (0.22, 2.76), p=0.69



Conclusions and Implications

- **Current data indicate that for patients with diabetes, DES provide a significant benefit over BMS by increasing the durability of PCI. This favorable effect is accomplished without excess risk for death or MI.**
- **Some investigations suggest that rates of death and/or MI might actually be less with DES. These findings require further validation.**
- **Although specific DES may differ in potency, convincing evidence that one DES is superior to others is lacking.**
- **DES are favored for patients with diabetes. Selection of a BMS rather than DES is influenced by factors that limit the use of prolonged dual-antiplatelet therapy.**