



# **Drug-Eluting and Bare Metal Stenting for Acute Myocardial Infarction in Massachusetts**

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## Disclosure Information

### **Drug-Eluting and Bare Metal Stenting for Acute Myocardial Infarction in Massachusetts**

**The following relationships exist related to this presentation:**

*L Mauri                      Honoraria: Abbott, Boston Scientific, Cordis, Medtronic  
Modest Level*

*T Silbaugh, R Wolf, K Zelevinsky, A Lovett, and SL Normand: Salary and  
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*M Varma                      No disclosures*

# **Drug-Eluting and Bare Metal Stenting for Acute Myocardial Infarction**

## ***Background***

- **Patients with acute myocardial infarction (AMI) have not been included in the major randomized trials evaluating drug eluting stents (DES) relative to bare metal stents (BMS)**
- **Specific studies of AMI have been limited in size and study duration to detect adverse clinical events.**

# **Drug-Eluting and Bare Metal Stenting for Acute Myocardial Infarction**

## ***Objectives***

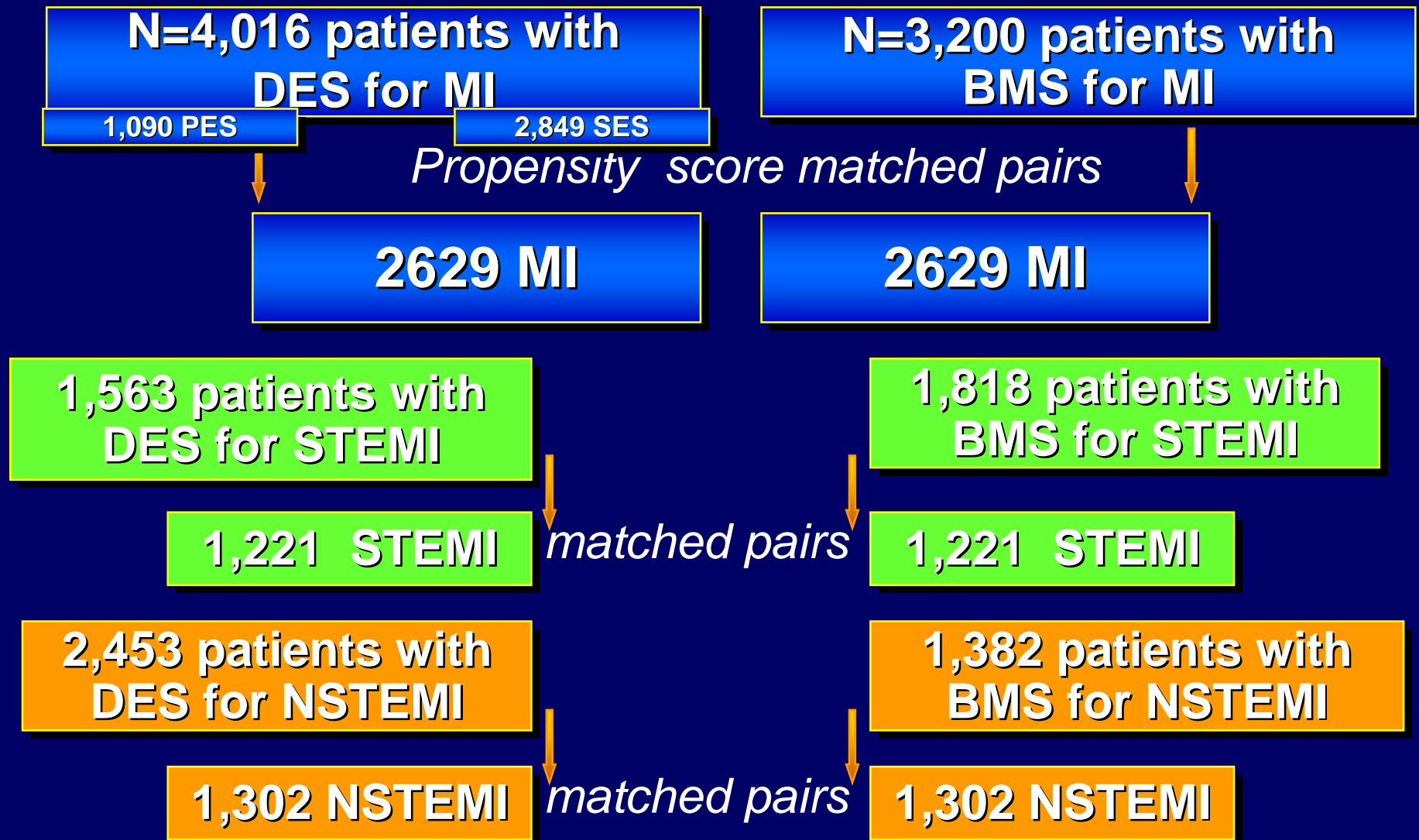
- To evaluate whether the use of DES is associated with increased rates of death or MI compared with BMS in patients with acute myocardial infarction**
- To evaluate whether the use of DES is associated with reduction in revascularization compared with BMS in patients with acute myocardial infarction**

# **Drug-Eluting and Bare Metal Stenting for Acute Myocardial Infarction**

## ***Methods:***

- **All PCI for NSTEMI or STEMI in Massachusetts non-federal hospitals April 2003 – Sept. 30, 2004**
- **Propensity score matching**
  - **Logistic regression to predict DES treatment by 63 patient, procedural, hospital variables**
  - **Caliper matching of DES to BMS patients**
- **Primary outcomes: Matched risk differences for mortality, myocardial infarction and revascularization rates at 2 years**

# Drug-Eluting and Bare Metal Stenting for Acute Myocardial Infarction



# Drug-Eluting and Bare Metal Stenting for Acute Myocardial Infarction

## *Selected Patient Characteristics after Match*

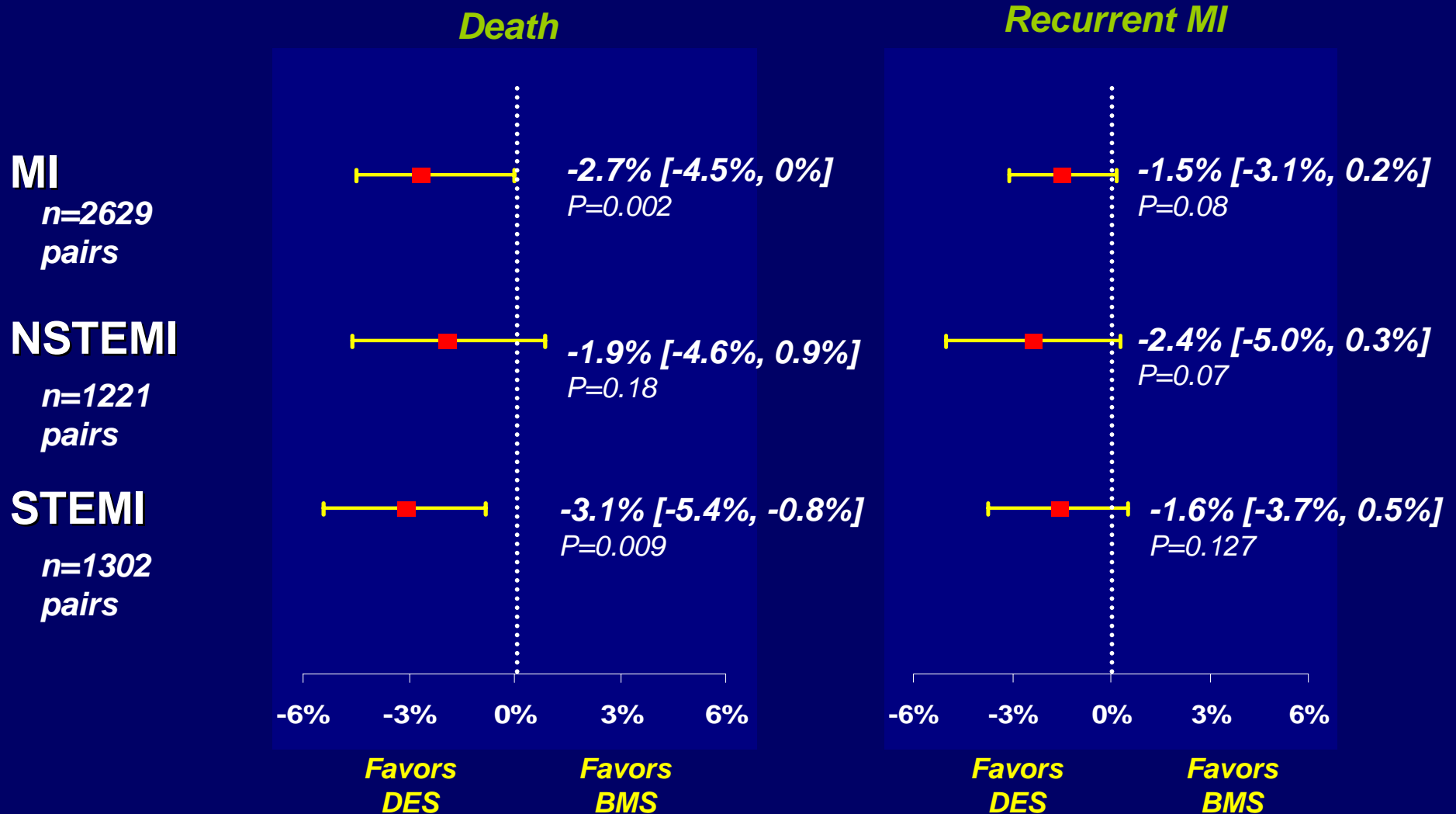
	<b>DES (n = 2629)</b>	<b>BMS (n =2629)</b>	<b>% SD</b>
Age – yrs	64.7	64.2	0.04
Female (%)	33.7	33.4	0.81
Diabetes Mellitus (%)	22.4	22.9	-1.27
History of Neoplasm (%)	2.9	2.7	1.39
History of GI Bleeding (%)	3.2	3.2	0.22
Clopidogrel Preadministered (%)	29.6	31.2	-3.5
<b>Procedure status</b>			
Urgent (%)	37.6	40.2	-5.31
Emergency/Salvage (%)	51.8	47.8	7.92

*\*%SD = Percent Standardized Difference  
Values <10% reflect well-matched characteristics*

# Drug-Eluting & Bare Metal Stenting in Massachusetts

## Risk Differences in Matched MI Patient Groups at 2 years

Risk Difference (95% CI), DES v. BMS



# Drug-Eluting & Bare Metal Stenting in Massachusetts

## Risk Differences in Matched MI Patient Groups at 2 years

Risk Difference (95% CI), DES v. BMS

### Revascularization

### TVR

**MI**

*n=2629 pairs*



**-5.3% [-7.4%, -3.2%]**

*P*<0.001



**-3.6% [-5.2%, -2.0%]**

*P*<0.001

**NSTEMI**

*n=1221 pairs*



**-5.3% [-8.4%, -2.3%]**

*P*<0.001



**-2.9% [-5.4%, -0.5%]**

*P*=0.02

**STEMI**

*n=1302 pairs*



**-6.0% [-9.0%, -3.0%]**

*P*<0.001



**-3.5% [-5.8%, -1.3%]**

*P*=0.002

-10% -5% 0% 5% 10%

**Favors  
DES**

**Favors  
BMS**

-10% -5% 0% 5% 10%

**Favors  
DES**

**Favors  
BMS**

# **Drug-Eluting and Bare Metal Stenting in Massachusetts**

## ***Conclusions***

***Complete 2 year data are available for 7216 unique DES or BMS procedures for MI in Massachusetts from April 2003- September 2004.***

**Propensity matched analysis of 5258 patients with MI demonstrated:**

- No increase in rates of death, or myocardial infarction associated with DES as compared to BMS use at 2 years.**
- A lower rate of revascularization in patients treated with DES compared with BMS.**
- Findings were consistent for subsets of STEMI and NSTEMI.**