Stent Use in STEMI - Registries and Randomized Trials

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Presenter Disclosure Information

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Stent Use in STEMI

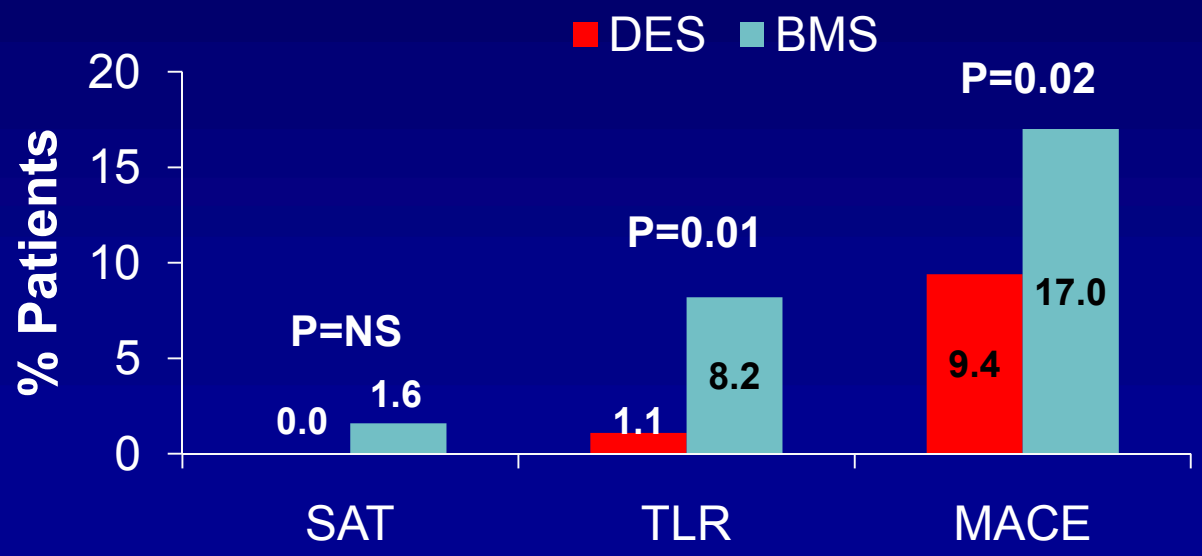
Compared with PTCA, BMS improve acute procedural outcomes and reduce risk for TLR -

- **DES versus BMS**
  - Are there differences in safety?
    - Early and late stent thrombosis
    - Death and MI
  - Are there significant differences in TLR or TVR?
- **RCT versus Registries**
  - Generalizability versus validity
  - Power for assessing infrequent events

Before ESC 2006

Rotterdam Registry

186 consecutive DES patients (2002-2003) versus 183 BMS patients in preceding time interval

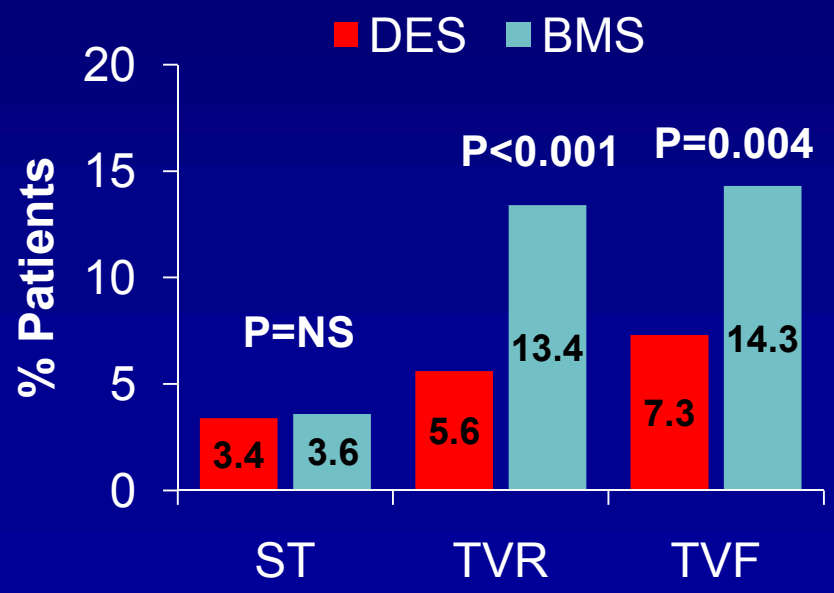


P Lemos et al. JACC 2004;43;704-08

Before ESC 2006 - RCTS

TYPHOON

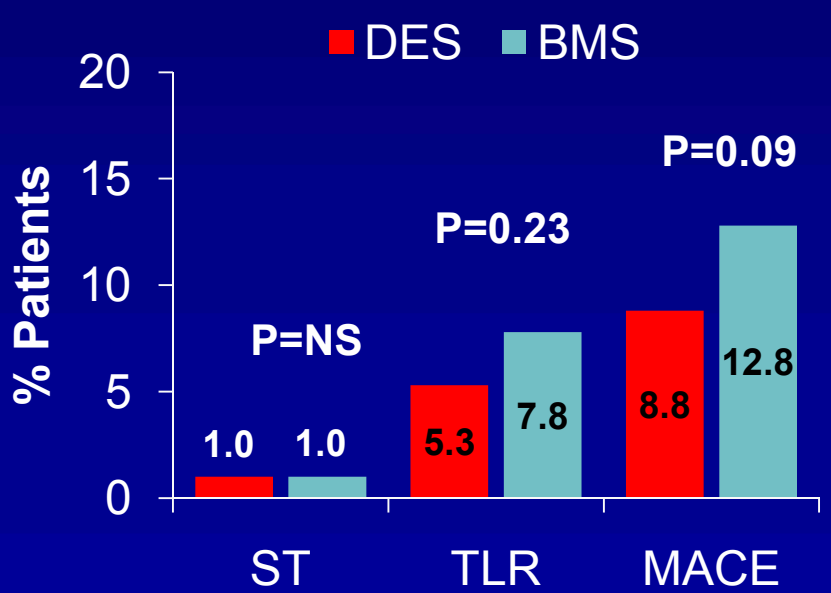
SES vs BMS
N=712
1-Year Outcomes



C Spaulding et al. NEJM 2006;355;1093-1104

PASSION

PES vs BMS
N=619
1-Year Outcomes

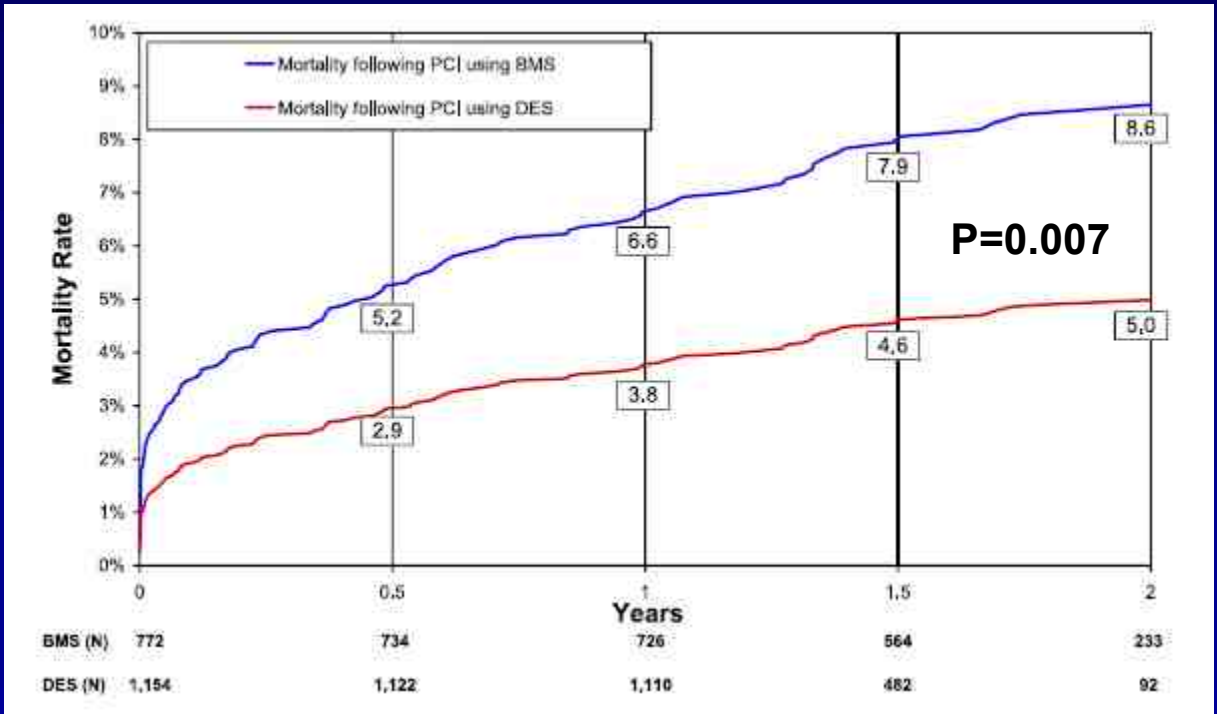


G Laarman et al. NEJM 2006;355;105-13

New York State Registry

N = 1926 : 1154 DES vs 772 BMS
October 2003 – December 2004

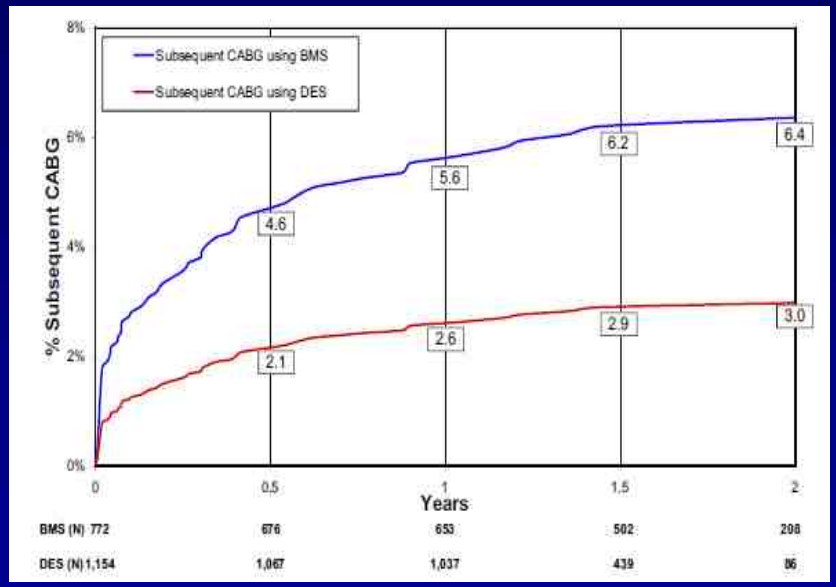
Risk Adjusted Mortality



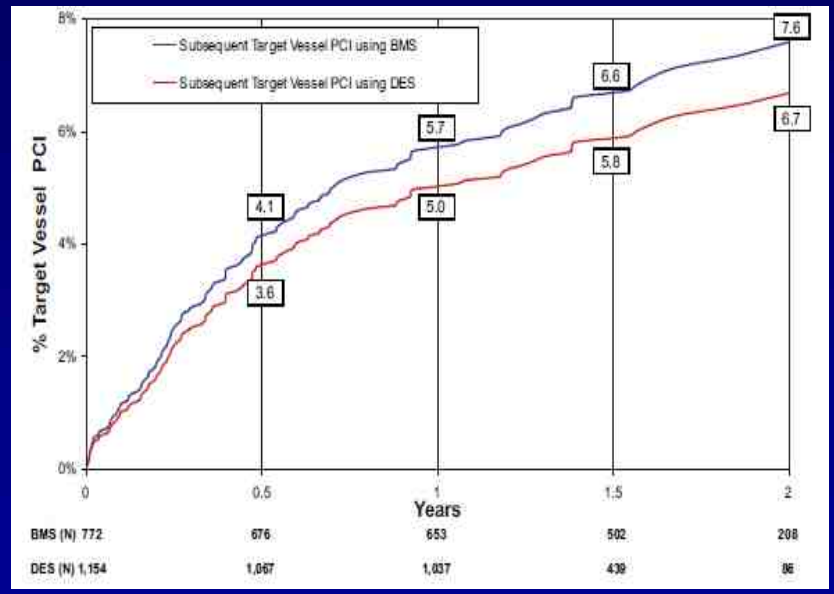
E Hannan et al. JACC Int 2008;1;129-35

New York State Registry

Subsequent CABG



TVR PCI



E Hannan et al. JACC Int 2008;1;129-35

Massachusetts PCI Registry

N = 2596 (propensity matched)
April 2003 – September 2004

P=0.003

3.7% vs 5.8% at 30 days

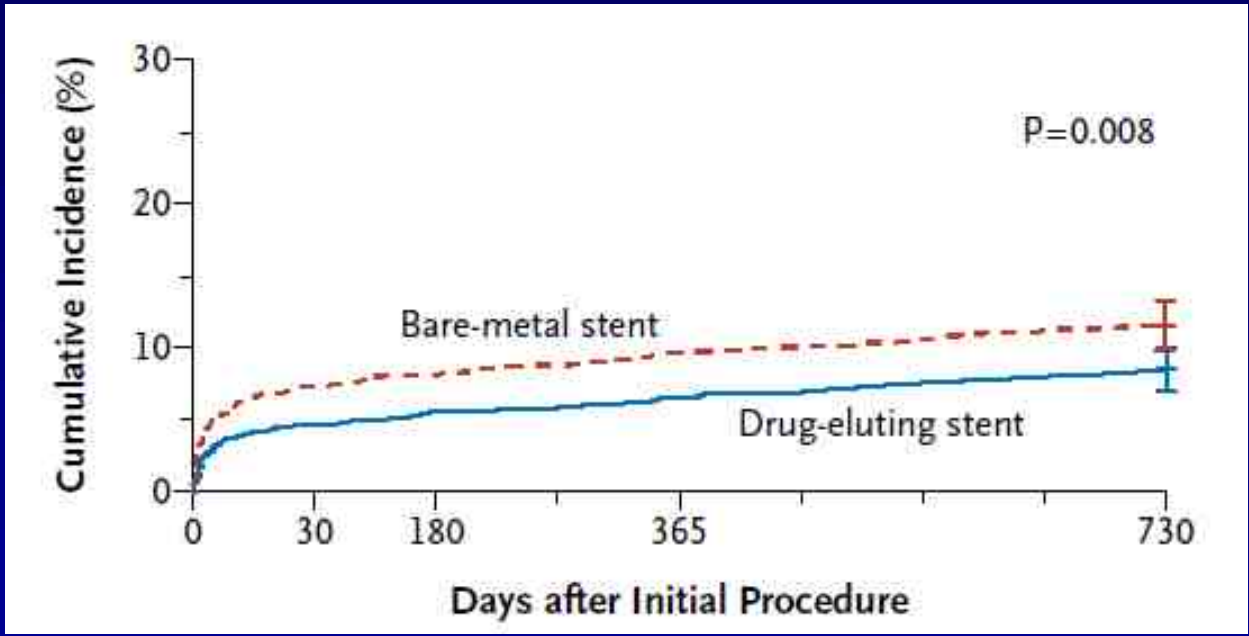
P=0.008

P=NS

L Mauri et al. NEJM 2008;359;1330-42

Massachusetts PCI Registry

Two-Year Mortality
Propensity Matched Pairs



L Mauri et al. NEJM 2008;359;1330-42

Other Registries

Two Year Outcomes

Study/Year	N % DES	Death DES vs BMS	MI DES vs BMS	TLR DES vs BMS
Shishehbor/2008 (propensity match)	480 (50)	9% vs. 9%		9% vs 14% (p=0.04)
Brodie/2008*	1840 (70)	8.0% vs 13.7% (p=0.004) adj. p =0.34	5.0% vs 6.9% p= NS	8.0% vs 11.3% (adj. p = 0.02)
Jensen/2008	3756	7.8% vs 11.4% (p=0.004) (adj. p = 0.09)	5.2% vs 6.3% p=NS	7.2% vs. 8.7% (adj. p = 0.012)

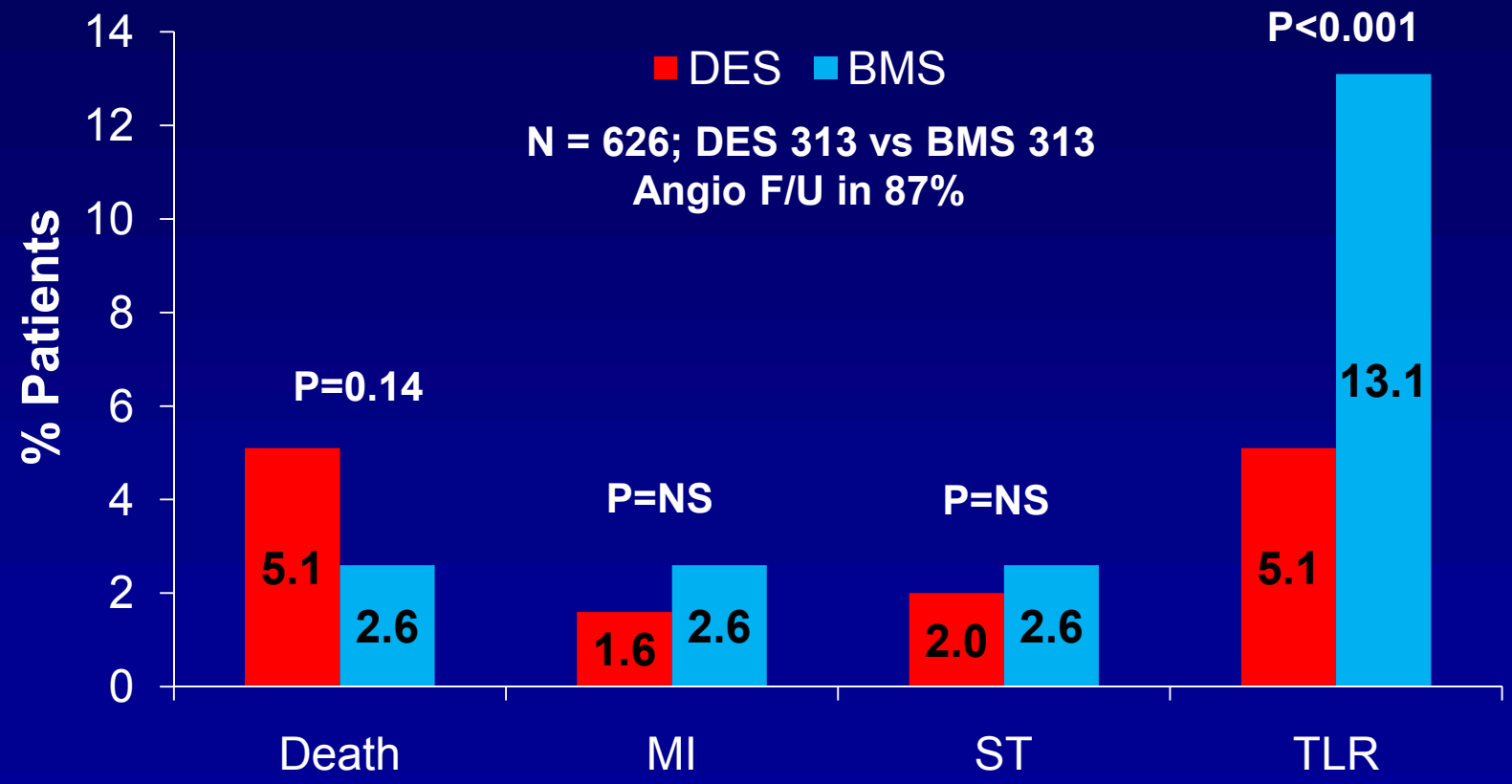
Other Registries

Stent Thrombosis

Study/Year	N % DES	ST (1 year) DES vs BMS	ST (1-2 years) DES vs BMS	ST (2 years) DES vs BMS
Brodie/2008*	1840 (70)	0.8% vs 3.6% (p<0.001)	1.1% vs. 0.3% (adj. p = 0.28)	1.8% vs 3.9% (adj. p = 0.11)
Jensen/2008	3756	1.5% vs 1.0%	0.4% vs. 0.1% (adj. p = 0.03)	1.9% vs 1.1% (adj. p = 0.17)

Randomized Trials
DEDICATION Trial

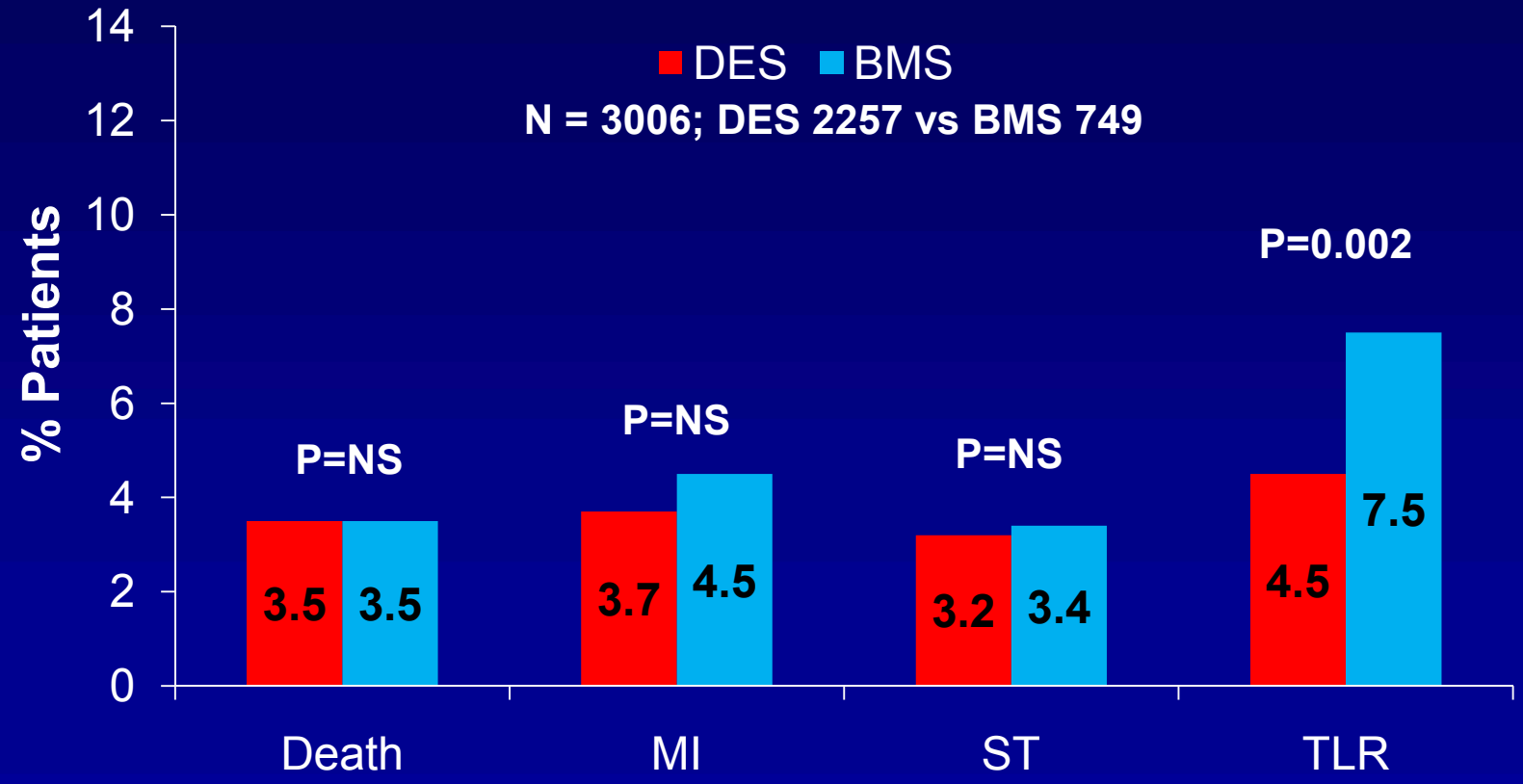
8-Month Outcomes



G Stone et al. NEJM 2009;360;1946-59

Randomized Trials
HORIZONS-AMI Trial

One Year Outcomes



G Stone et al. NEJM 2009;360;1946-59

Conclusions

- Both Registries and RCTs show significant reduction in TLR for DES – the absolute benefit may vary by case selection and routine angiographic follow-up.
- The mortality benefit (especially early) observed for DES vs BMS in some registries is likely related to unmeasured confounding and case selection.
- The absence of a difference in mortality or ST observed in RCTs requires confirmation in larger numbers and longer term follow-up.
- DES vs BMS selection based on restenosis risk and absence of contraindications for DES and DAPT