

Economic Outcomes of BARI 2D

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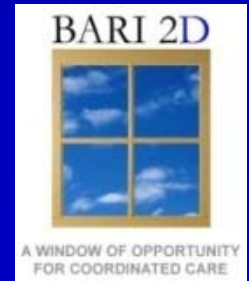
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November 17, 2009



Disclosures

I have no financial disclosure pertinent to this talk

A full list of my relationships with industry is available at:

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Bypass Angioplasty Revascularization Investigation 2 Diabetes (BARI 2D) was sponsored by the National Heart, Lung and Blood Institute (NHLBI) and received substantial funding from the National Institute of Diabetes, Digestive and Kidney Diseases (NIDDK), and Medical Industry support.

Rationale

BARI 2D compares strategies for management

Clinical outcomes are paramount

Economic outcomes are also important

Both are best assessed in RCTs

Costs are determined, in part, by clinical outcomes

Methods (1)

46 of the 49 BARI 2D centers provided data on economic outcomes

Resource consumption tracked every 3 months

- **Hospitalizations**
- **Outpatient visits**
- **Medications**
- **Tests and procedures**

Costs measured using 2007 Medicare cost weights

Methods (2)

Cumulative costs to four years by actuarial method

Cost-effectiveness assessed

- $CE = (C_1 - C_2) / (LY_1 - LY_2)$
- Within trial analysis (4 years)
- Lifetime projection
- Sensitivity analyses

Results

2,246 patients at participating sites

2,005 patients (89%) provided data

Economic follow-up to four years

Costs higher with revascularization

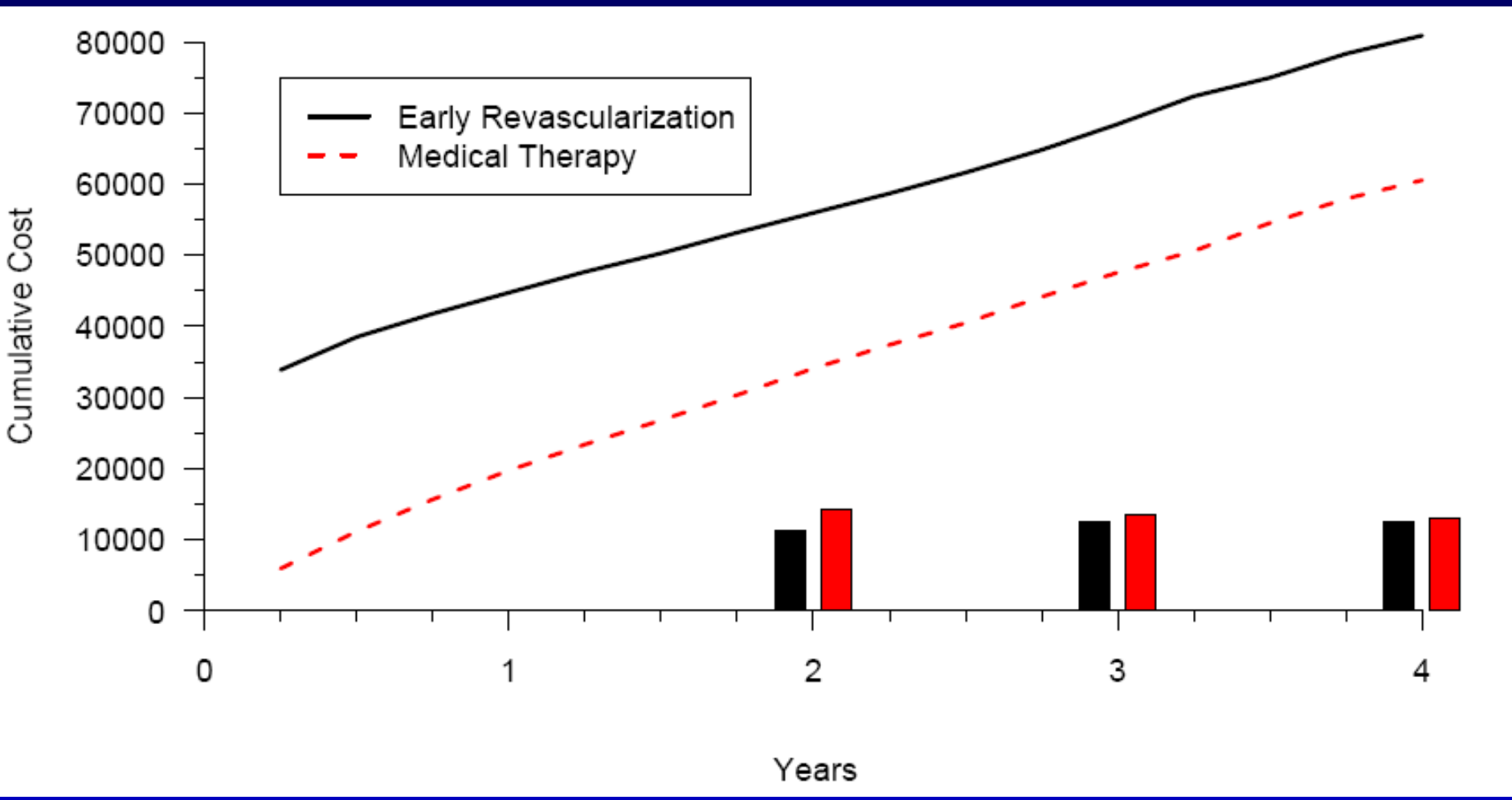
Interaction with stratum

	<u>Revasc</u>	<u>Medical</u>	<u>P</u>
All	\$75,900	\$65,600	<0.001
CABG Stratum	\$80,900	\$60,600	<0.001
PCI Stratum	\$73,400	\$67,800	0.02

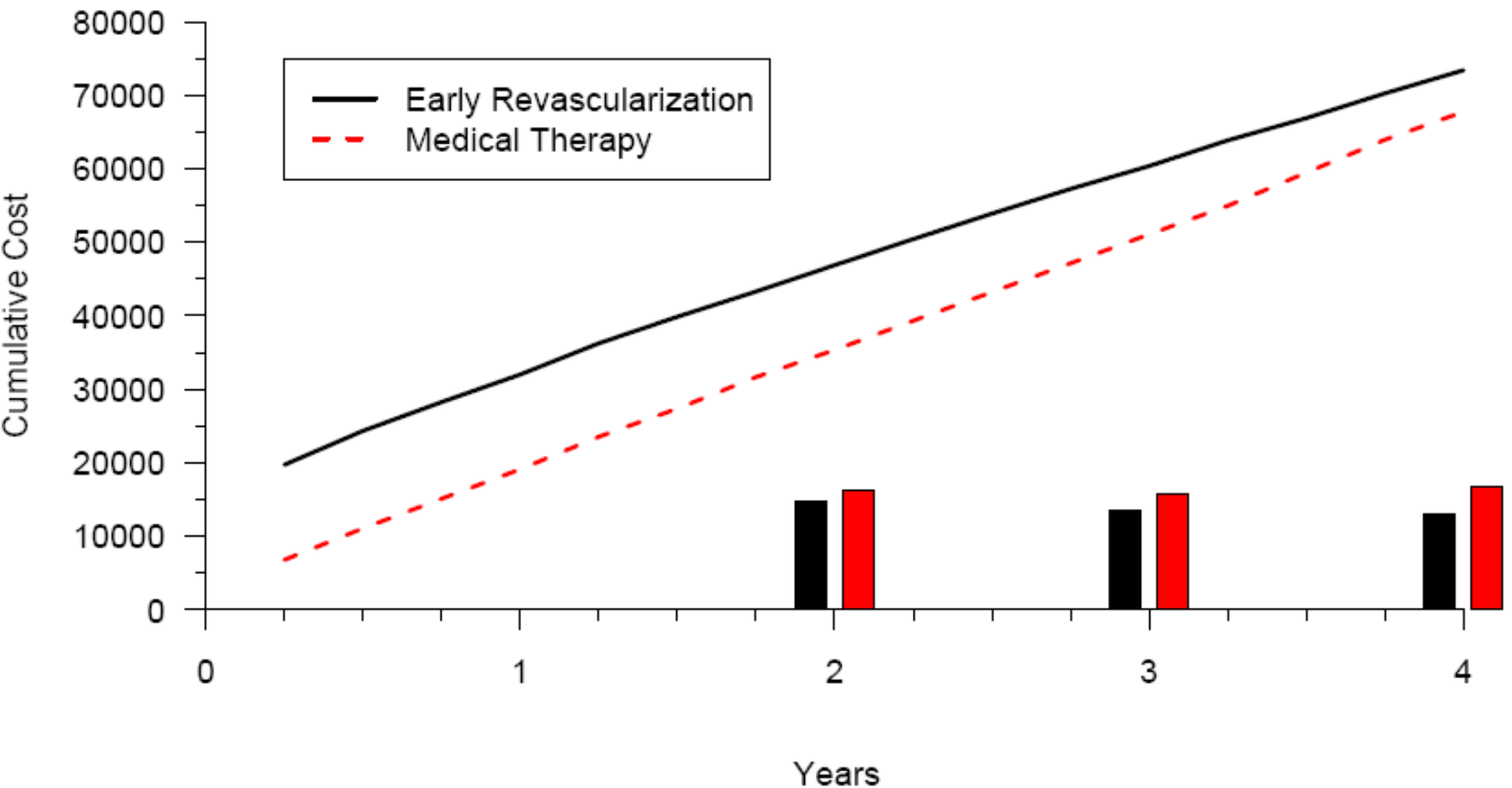
Cost differences driven by procedure costs

Medication costs lower by \$1300 to \$2800

Cumulative Costs, CABG Stratum



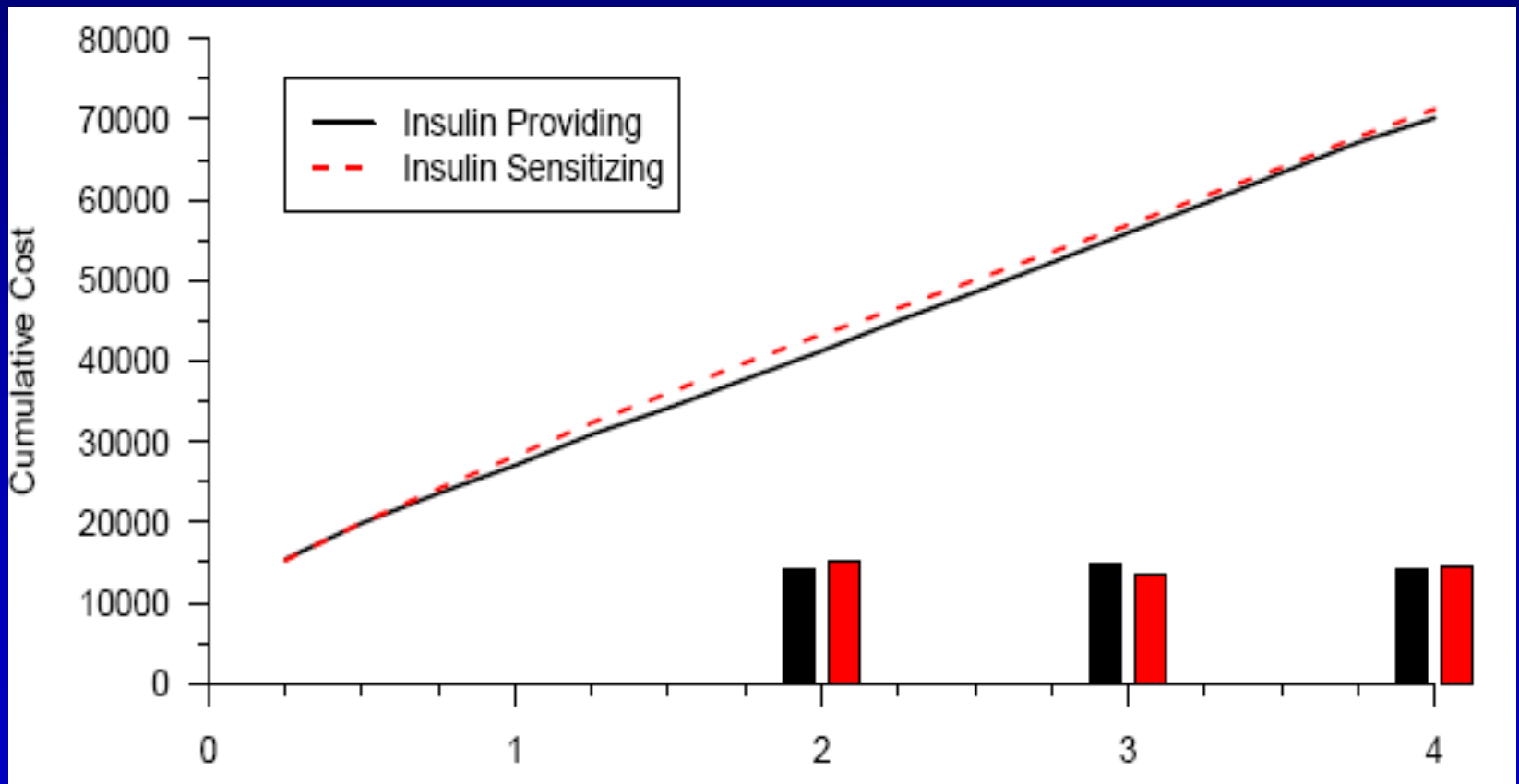
Cumulative Costs, PCI Stratum



Insulin Sensitization vs. Insulin Provision

Four-year costs slightly higher for IS (\$71,300) than for IP (\$70,200, $p=0.81$)

IS med costs \$3800 higher ($p<0.001$)



Cost-Effectiveness: Four Years

<u>Group</u>	<u>ΔCost</u>	<u>ΔLY</u>	<u>ΔQALY</u>	<u>CE</u>
PCI Stratum	\$ 5,600	-0.07	-0.03	Med Better
CABG Stratum	\$20,300	-0.03	-0.01	Med Better
Sensitization	\$ 1,100	-0.02	0.00	IP Better

Cost Effectiveness: Lifetime

<u>Group</u>	<u>ΔCost</u>	<u>ΔLY</u>	<u>CE</u>	<u>Preferred at \$50,000/LYA</u>
PCI Stratum	\$ -200	-0.33	\$ 600	Med in 95%
CABG Stratum	\$25,000	0.52	\$47,000	CABG in 56%
Sensitization	\$ 2,400	0.05	\$52,000	IS 51%, IP 49%

Limitations

Time horizon of economic analysis only four years

- **Clinical follow-up to 5.3 years**
- **Full effects of treatment may not emerge until longer follow-up**

Lifetime projections of cost-effectiveness are subject to

- **Model assumptions**
- **Sampling variations**

Conclusions

The strategies of prompt revascularization and of insulin sensitization are more costly over four years

Cost-effectiveness depends on time horizon

Lifetime cost-effectiveness projections

- **Strongly favor medical therapy in PCI stratum**
- **Favor revascularization in CABG stratum**
- **Show no clear advantage for either insulin sensitization or insulin provision**

Longer follow-up of the BARI 2D patients needed