Economic Outcomes of TAVR vs. SAVR for Low-Risk Patients: Results from the PARTNER 3 Trial

David J. Cohen, MD, MSc
on behalf of the PARTNER 3 Trial Investigators

Cardiovascular Research Foundation, New York, NY USA
St. Francis Hospital and Heart Center, Roslyn, NY USA

THE PARTNER 3 TRIAL

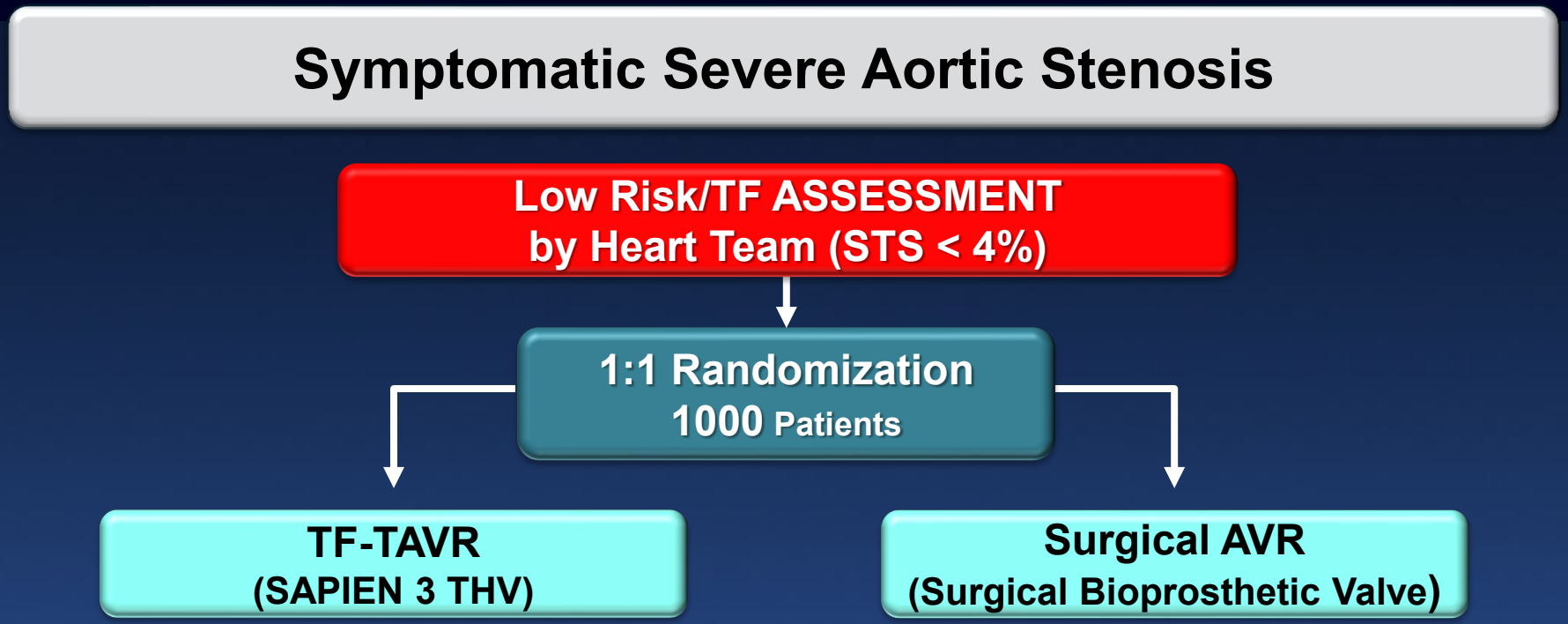
Disclosures

The PARTNER 3 trial (including the economic analysis) was funded by research grants from Edwards Lifesciences, Inc.

Background

- Previous studies have demonstrated that TAVR is cost-effective compared with medical therapy for patients with severe AS and extreme surgical risk and compared with surgical AVR for patients at both intermediate and high surgical risk
- Recently, based on the results of the PARTNER 3 and EVOLUT-Low Risk trials, TAVR has been approved for low-risk patients as well
- However, at present, there is little evidence as to whether TAVR is cost-effective compared with SAVR for low-risk patients

PARTNER 3 Economic Study



Economic Analysis

- Analytic Perspective: US health care system
- Population: All US patients who underwent attempted TAVR or SAVR (n=929)
- Outcomes: Costs (based on linked Medicare claims), life-years, and quality-adjusted life years (QALYs) through 2 years

Cost-Effectiveness Methods

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Primary cost-effectiveness analysis

- Based on observed costs and quality-adjusted life years from the 2-year in-trial analysis, assuming no further differences in cost or survival beyond 2 yrs
- Joint uncertainty assessed using bootstrap resampling (2000 replicates)

Sensitivity analyses

- Reduced LOS and ICU LOS for TAVR patients without complications (i.e., minimalist approach)
- Alternative assumptions regarding THV cost and outcomes beyond 2 years

Index Hospitalization: Resource Use

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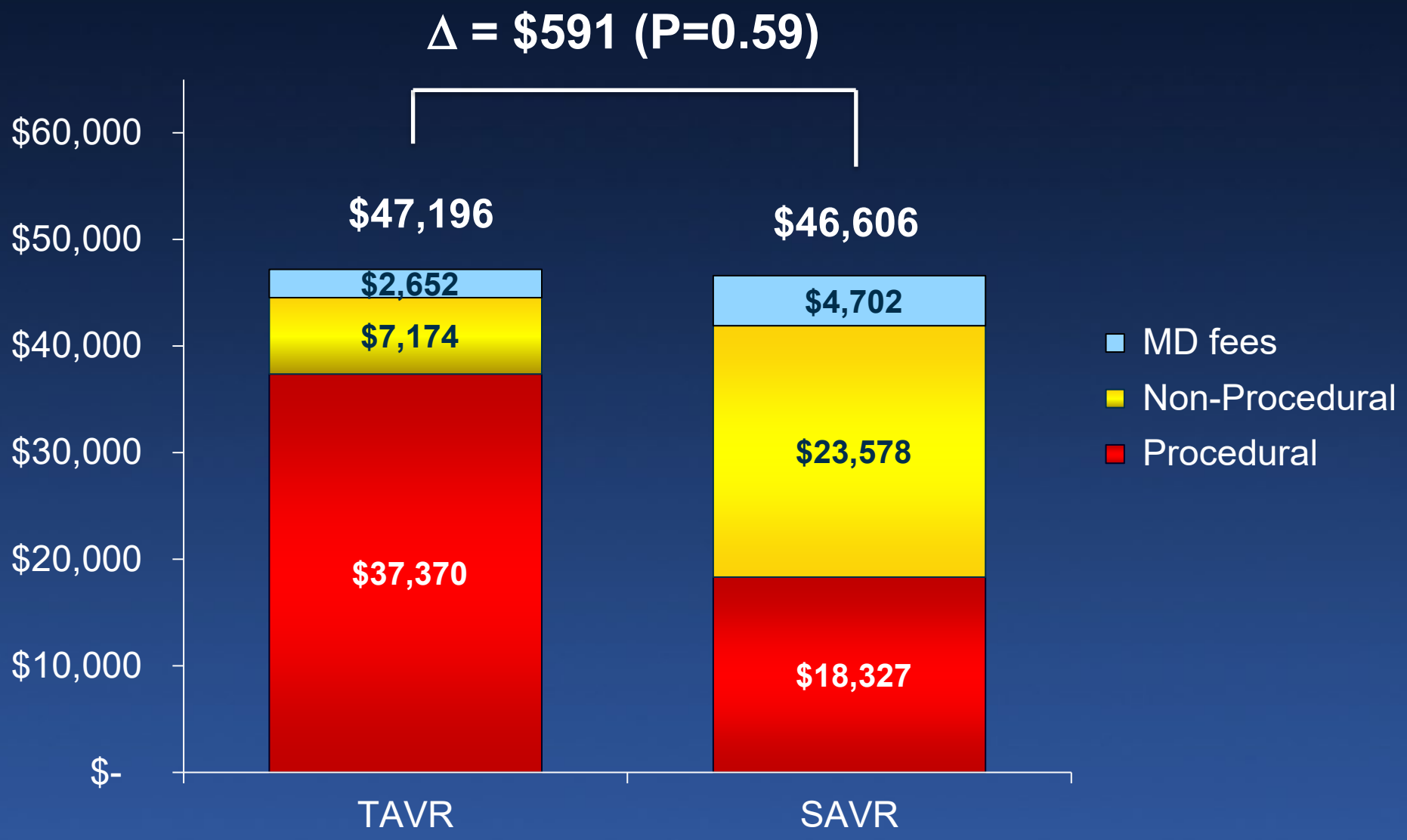
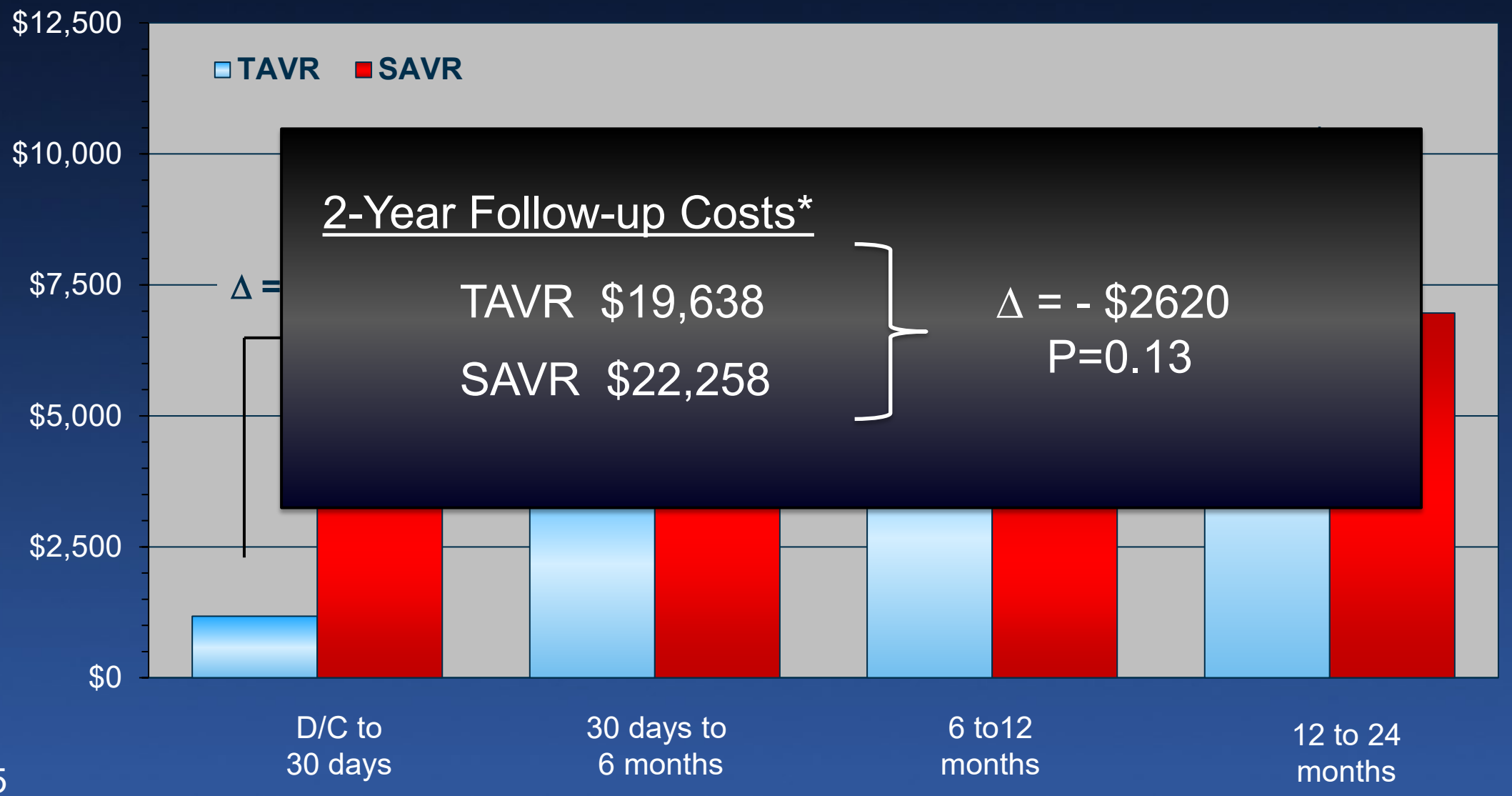
	TAVR	*SAVR*	*P-Value*
Procedure duration (minutes)	59 ± 37	208 ± 62	<0.001
Length of stay (days)	1.9 ± 1.6	6.5 ± 3.7	<0.001
ICU	0.8 ± 0.8	2.7 ± 2.8	<0.001
Non-ICU	1.2 ± 1.6	3.8 ± 2.6	<0.001
Discharge Disposition			<0.001
Home/Self-Care	95.9%	73.1%	
Home w/ Home Health	2.9%	11.5%	
Rehab/SNF	0.8%	14.5%	

Index Hospitalization Costs

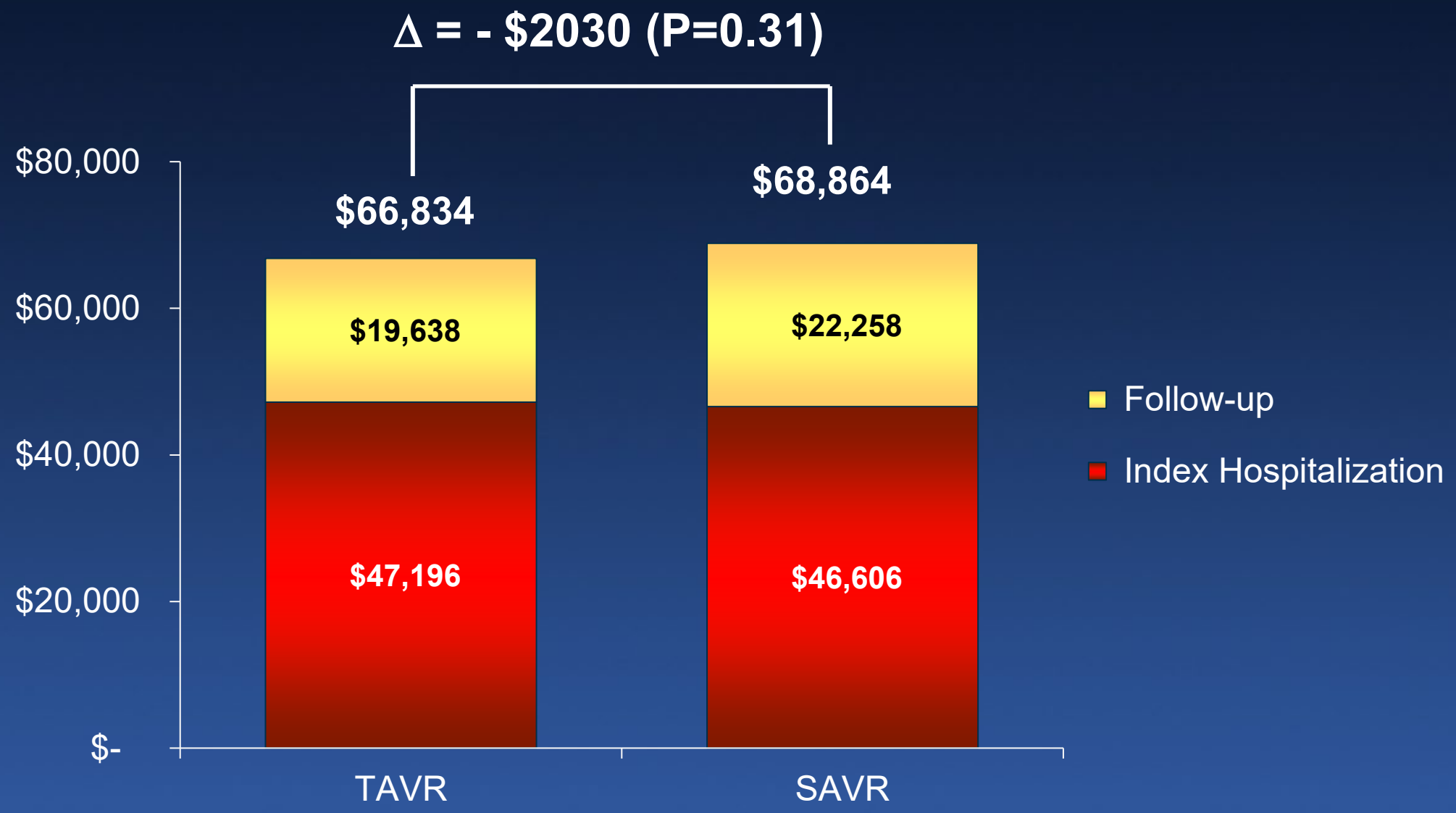


Follow-Up Costs by Time Interval

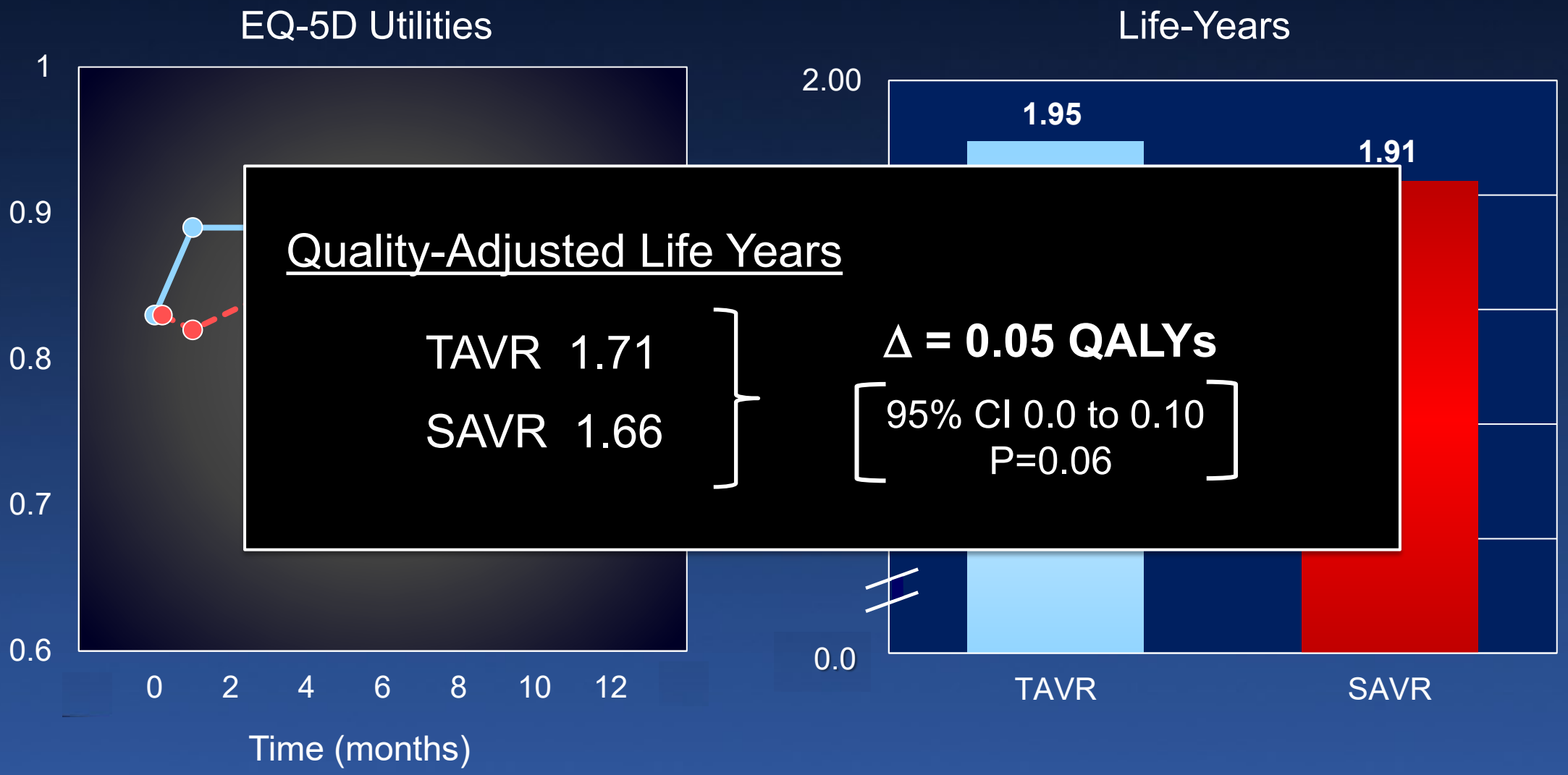


* P<0.05

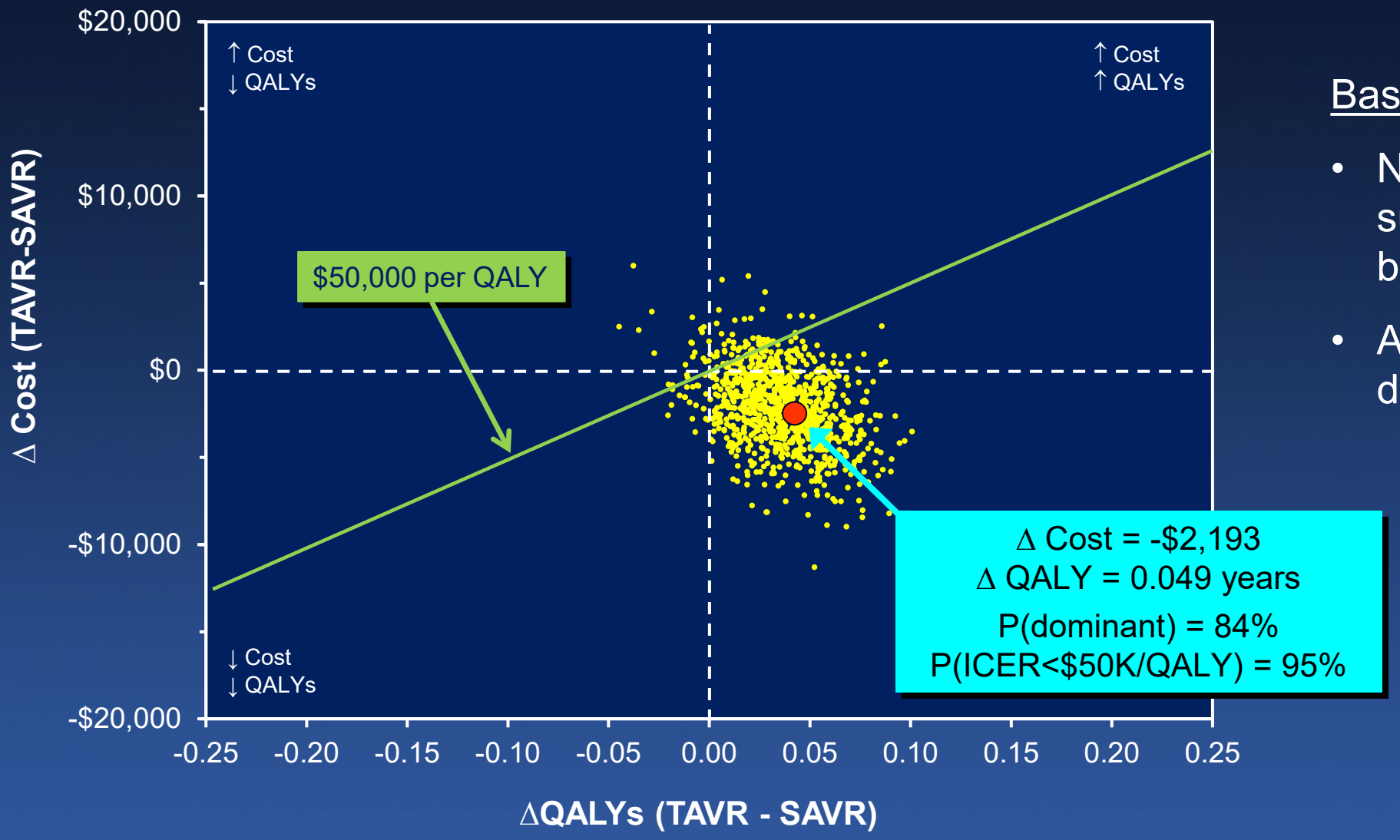
Total 2-Year Costs



Health Benefits



Cost-Effectiveness– Base Case



Base Case Assumptions

- No difference in survival or costs beyond 2 years
- All costs and effects discounted at 3%/yr

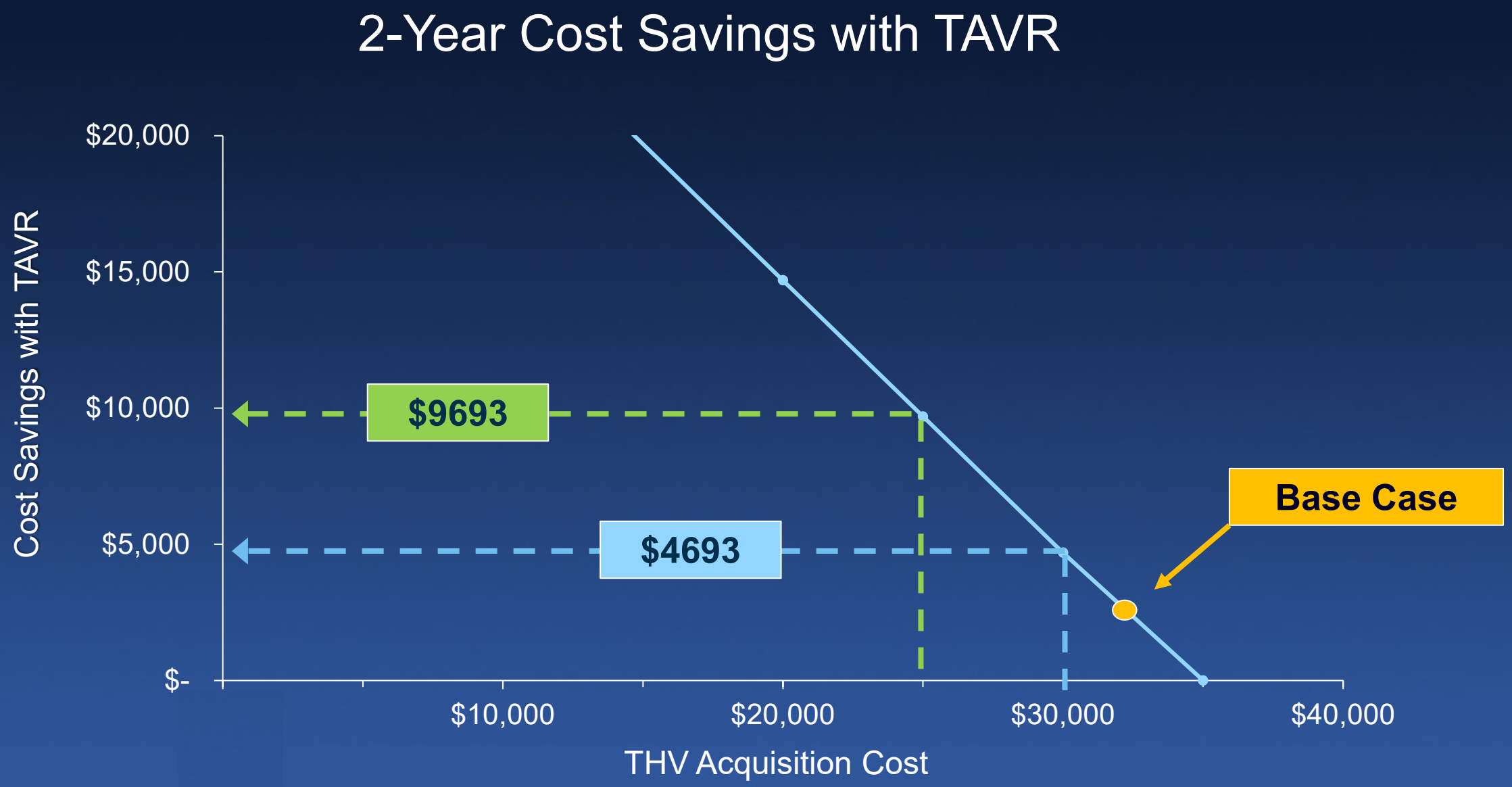
Subgroup Analyses

Subgroup	Δ QALYs*	Δ Cost*	ICER ($/QALY)**	Prob. ICER <$50K/QALY)
Male (n=645)	0.064	-$2711	TAVR dominant	98%
Female (n=284)	0.025	-$605	TAVR dominant	68%
Age < 75 (n=484)	0.046	-$2068	TAVR dominant	88%
Age ≥ 75 (n=445)	0.050	-$2307	TAVR dominant	91%
NYHA I or II (n=670)	0.033	-$1369	TAVR dominant	88%
NYHA III or IV (n=259)	0.124	-$7364	TAVR dominant	99%
KCCQ-OS >70 (n=521)	0.033	+$189	$5700/QALY gained	68%
KCCQ-OS ≤70 (n=401)	0.099	-$6012	TAVR dominant	96%

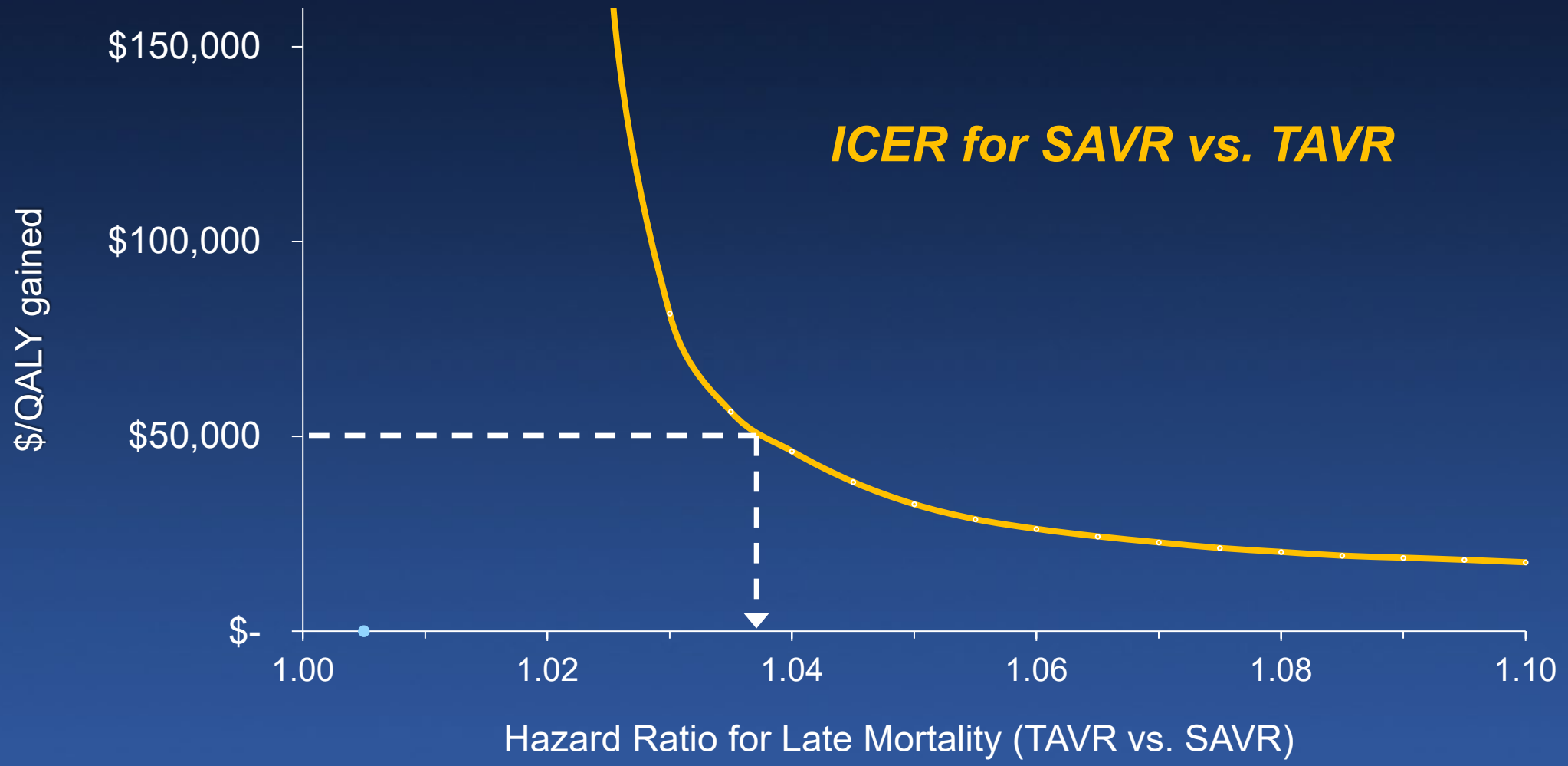
* Differences are (TAVR – SAVR)

** ICERs based on 2-year (in-trial) analysis

Sensitivity Analyses: THV Acquisition Cost



Sensitivity Analysis:
Impact of Long-Term Mortality Differences



Conclusions

- For patients with severe AS and low surgical risk, TF-TAVR with the SAPIEN 3 valve is cost-saving compared with SAVR at 2-year follow-up and is projected to be highly cost-effective over a lifetime horizon-- as long as there are no differences in late mortality between the 2 strategies
- Given the importance of long-term outcomes in these projections, 10-year follow-up is ongoing and will ultimately determine the optimal treatment strategy for such patients from both a clinical and economic perspective