

# When is TAVR Not Cost-Effective?

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# Disclosures

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## Grant Support/Drugs

- Daiichi-Sankyo
- Astra-Zeneca
- Eli Lilly

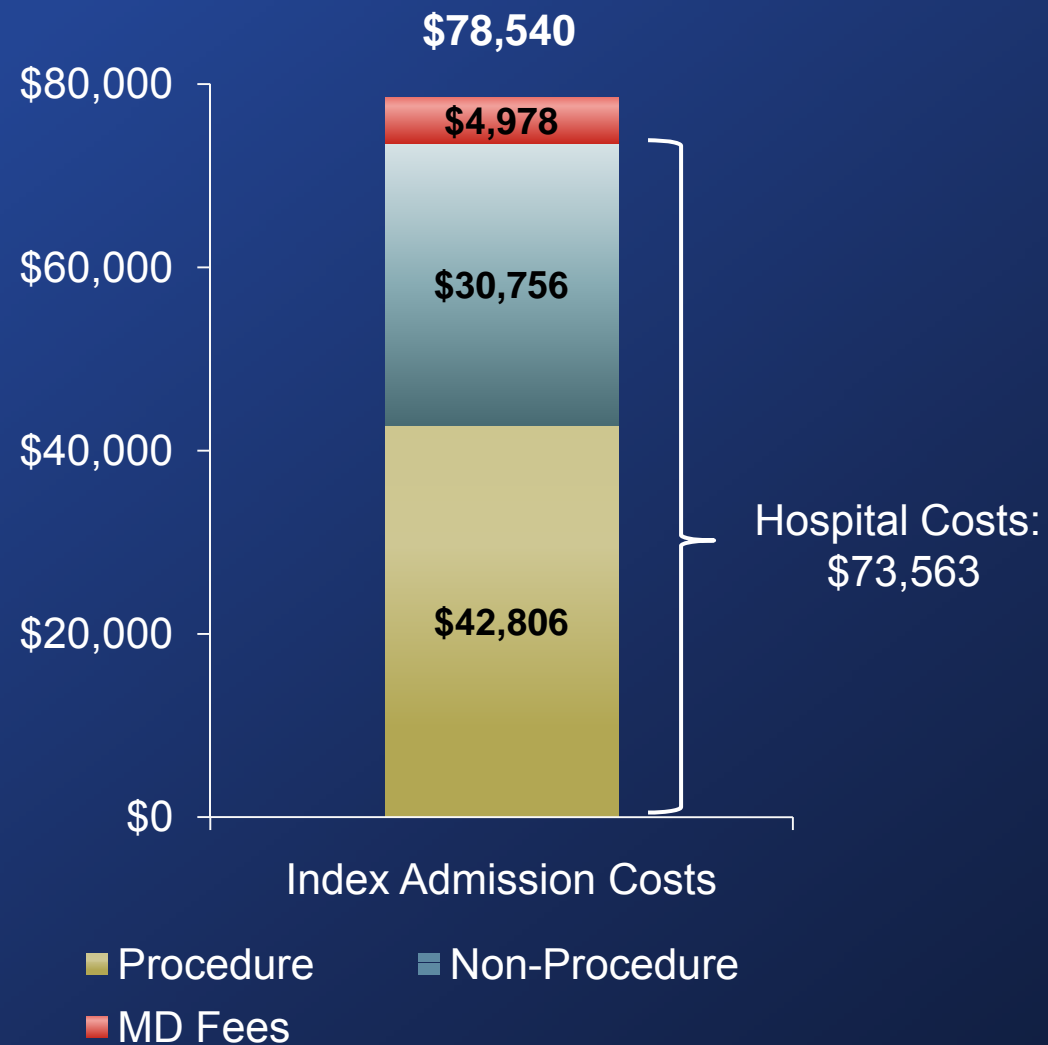
## Grant Support/Devices

- Edwards Lifesciences
- Medtronic
- St. Jude Medical
- Abbott Vascular
- Boston Scientific

## Consulting/Advisory Boards

- Medtronic
- Abbott Vascular
- Boehringer-Ingelheim

# TAVR Admission Costs

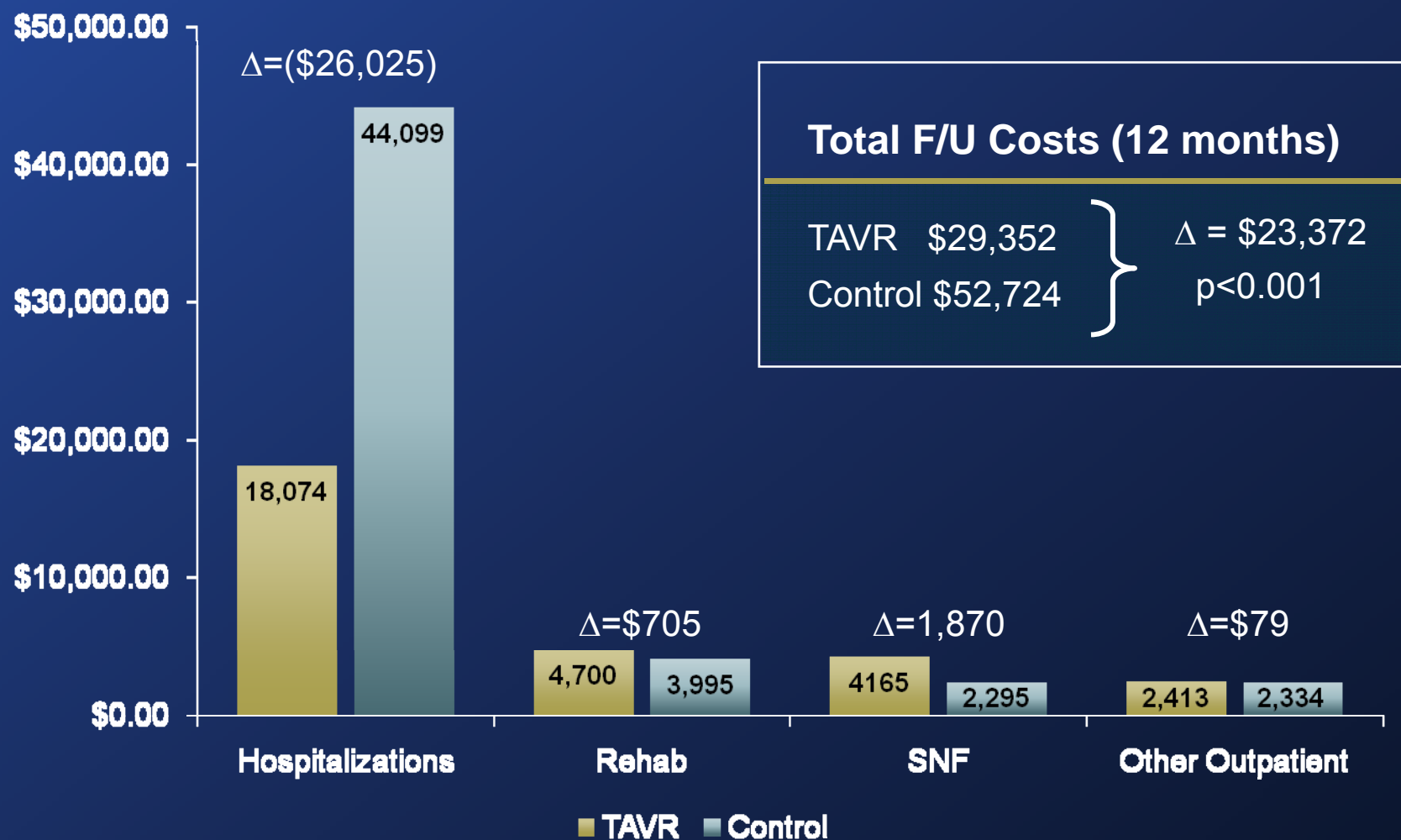


## Mean (median) LOS (days)

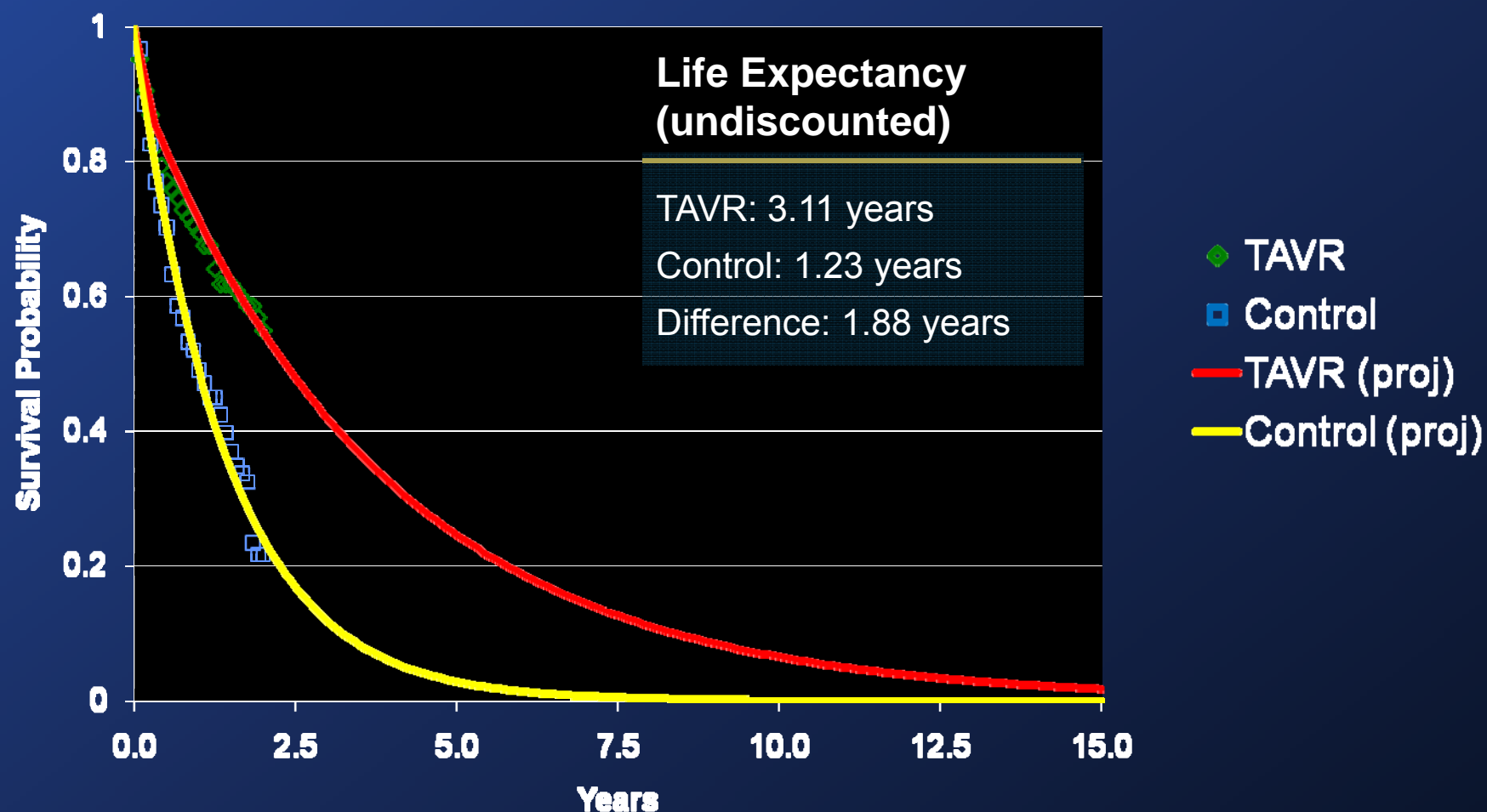
ICU	4.0 (2.0)
Non-ICU	6.1 (5.0)
Total	10.1 (7.0)
Post-Procedure	8.6 (6.0)

(N=175)

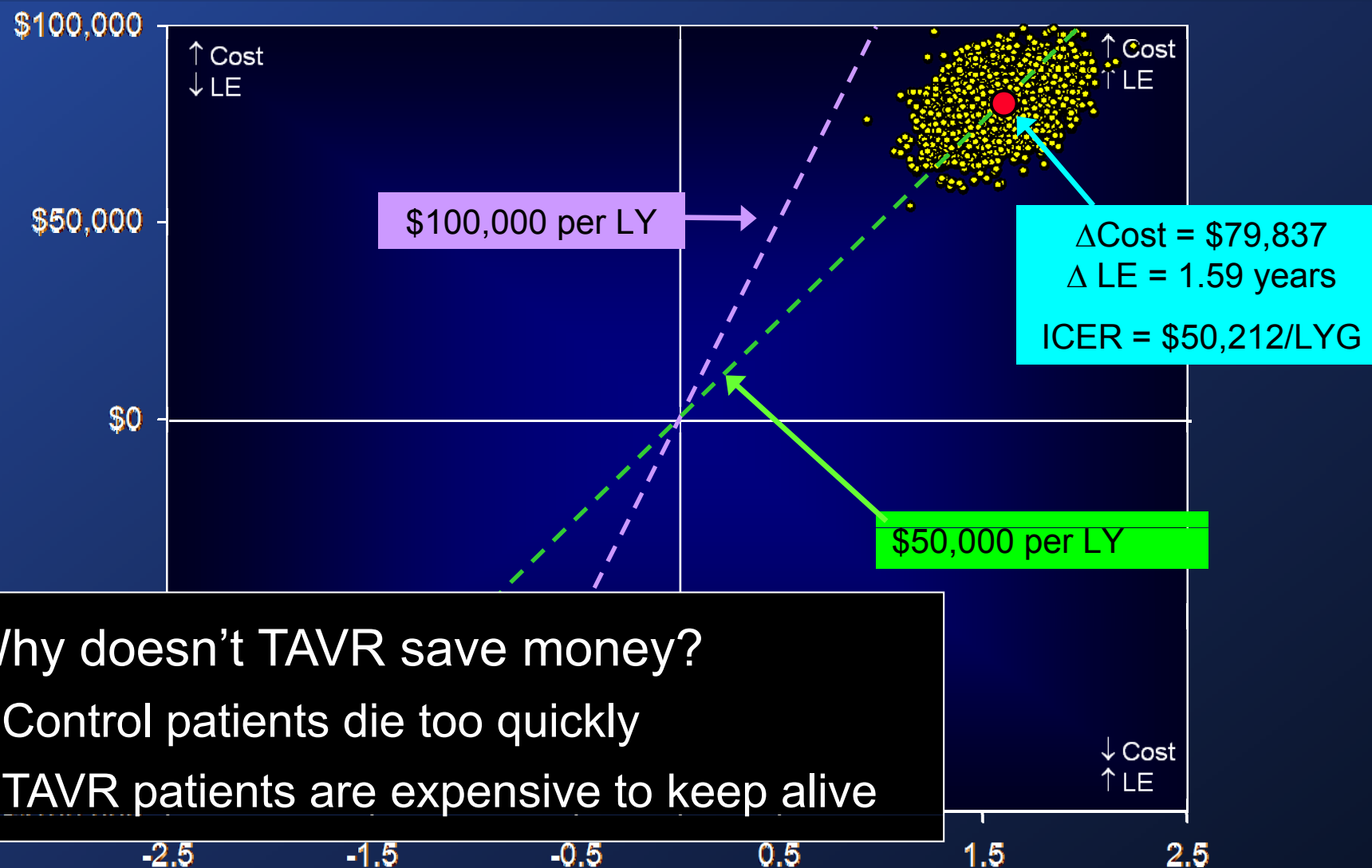
# Results: 12-Month Follow-up Costs



# Results: Projected Survival



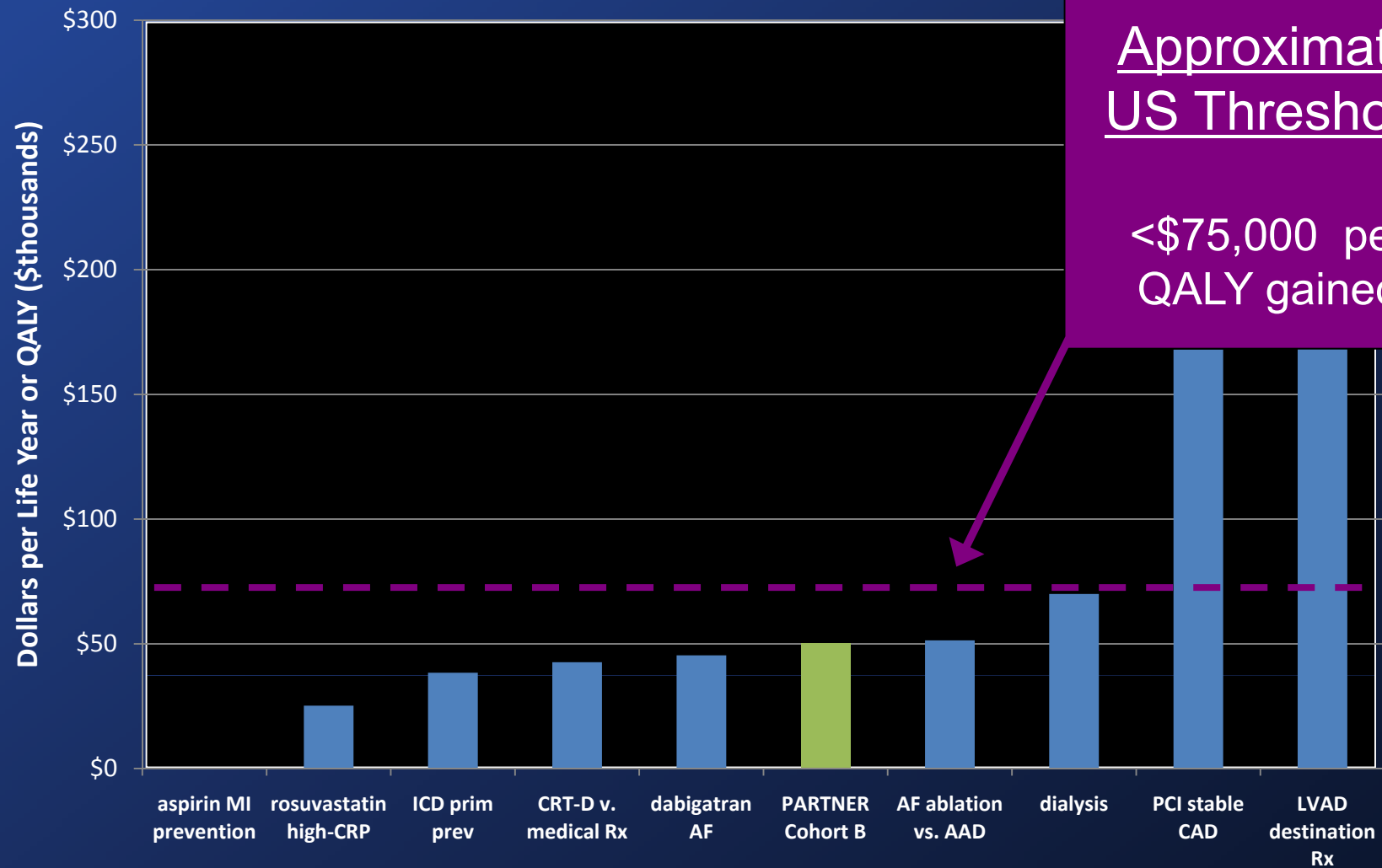
# Cost-Effectiveness of TAVR vs. Control Lifetime Results



Why doesn't TAVR save money?

- Control patients die too quickly
- TAVR patients are expensive to keep alive

# Published Cost Effectiveness Estimates



# When is TAVI Not Cost-Effective?

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*When the societal cost-effectiveness  
threshold is  $< \$50,000/LYG$*



# GDP vs. Cost-Effectiveness

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Country	Per Capita GDP*	~ ICER Threshold (\$/QALY)†
Switzerland	\$67,000	\$100,000
Australia	\$55,000	\$82,000
France	\$41,000	\$61,000
UK	\$36,000	\$54,000
Poland	\$12,000	\$18,000
Brazil	\$11,000	\$17,000
Russia	\$10,000	\$15,000
China	\$4,000	\$6,000
India	\$1,500	\$2,200

\* GDP based on IMF data (2010)

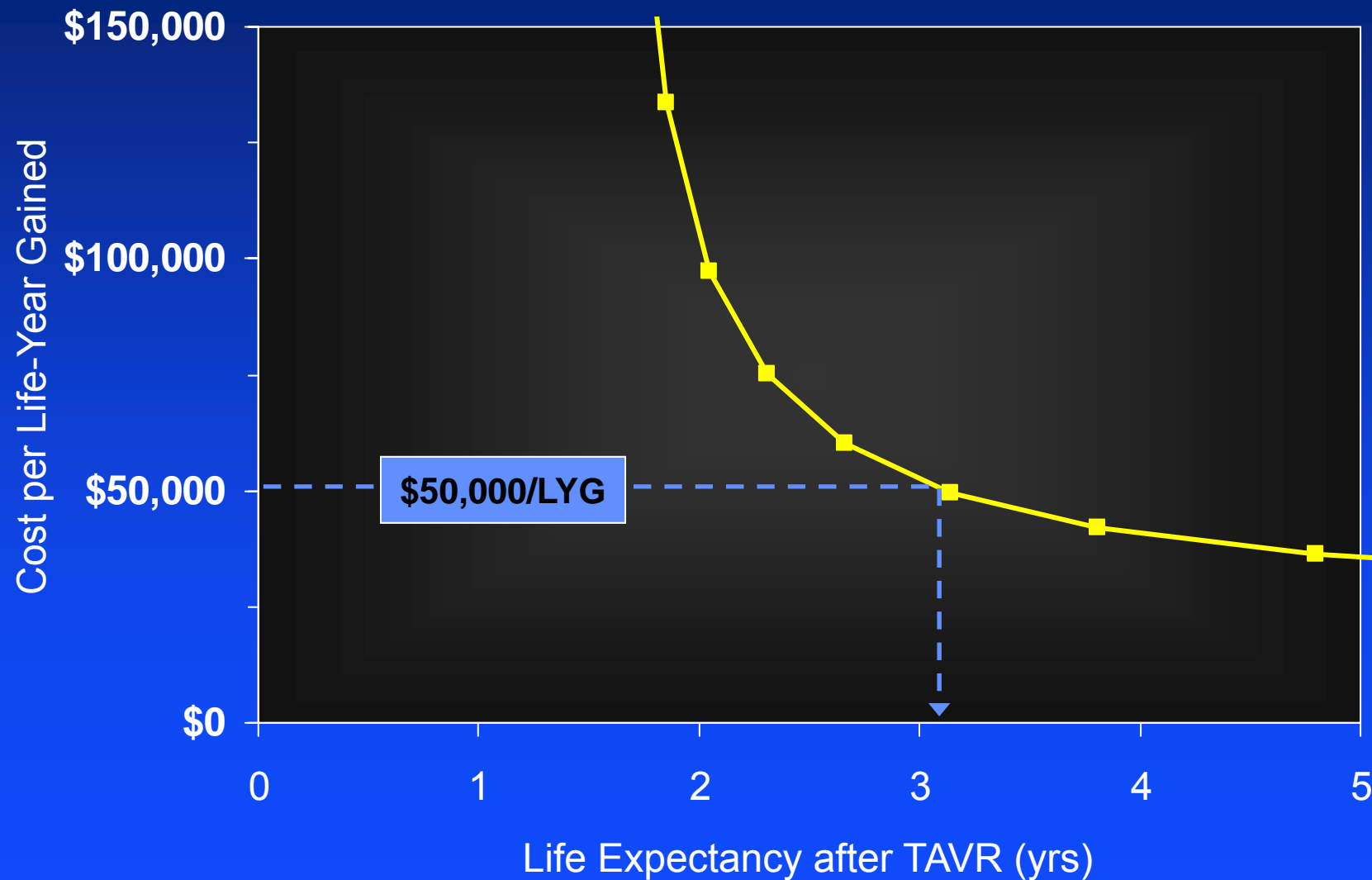
† ICER threshold = 1.5x per capita GDP (range 1-2x)

# When is TAVI Not Cost-Effective?

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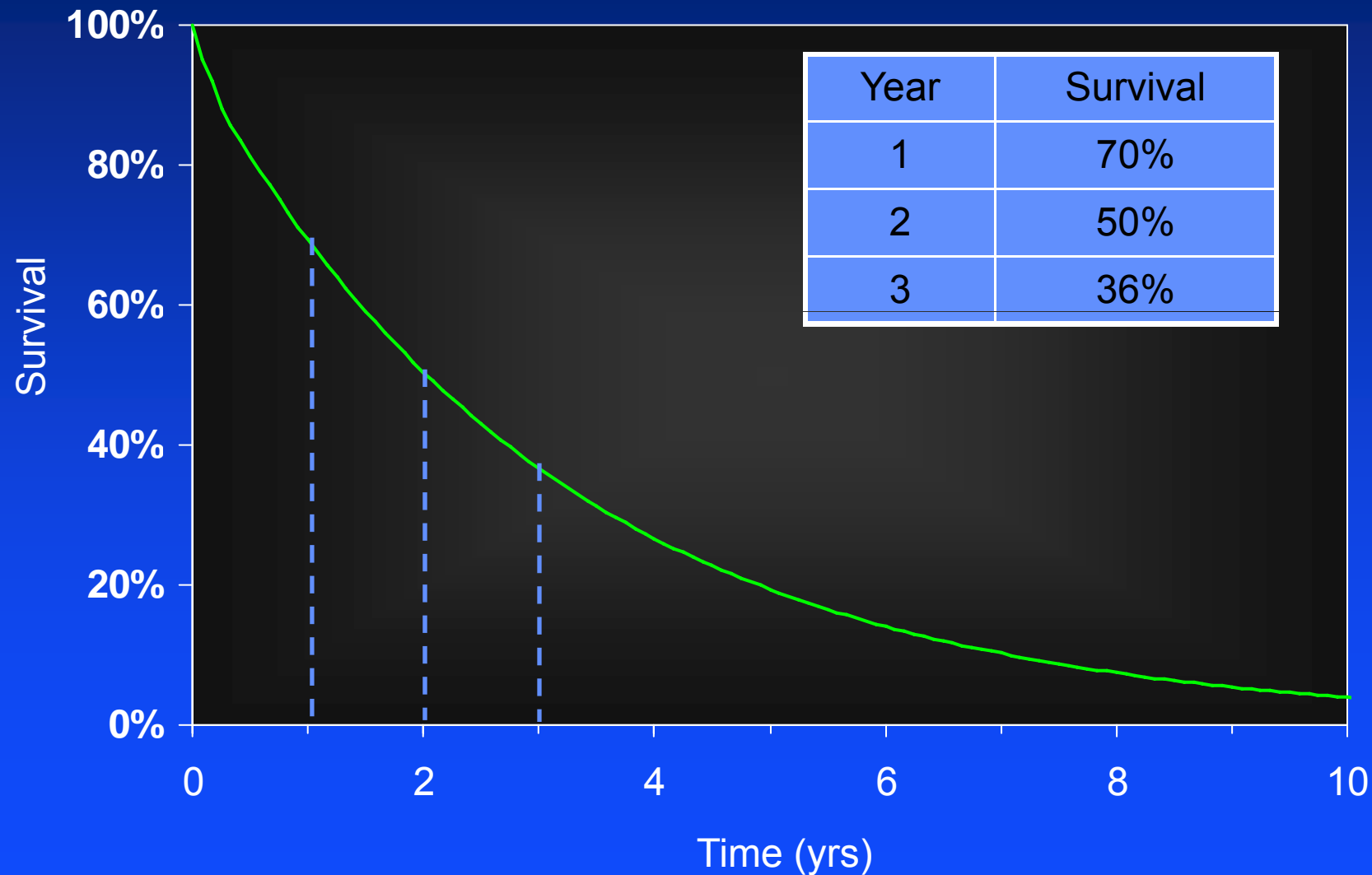
*When life expectancy after TAVI is  
less than ~3 years*

# Relationship between Cost-Effectiveness and Post-TAVR Life Expectancy

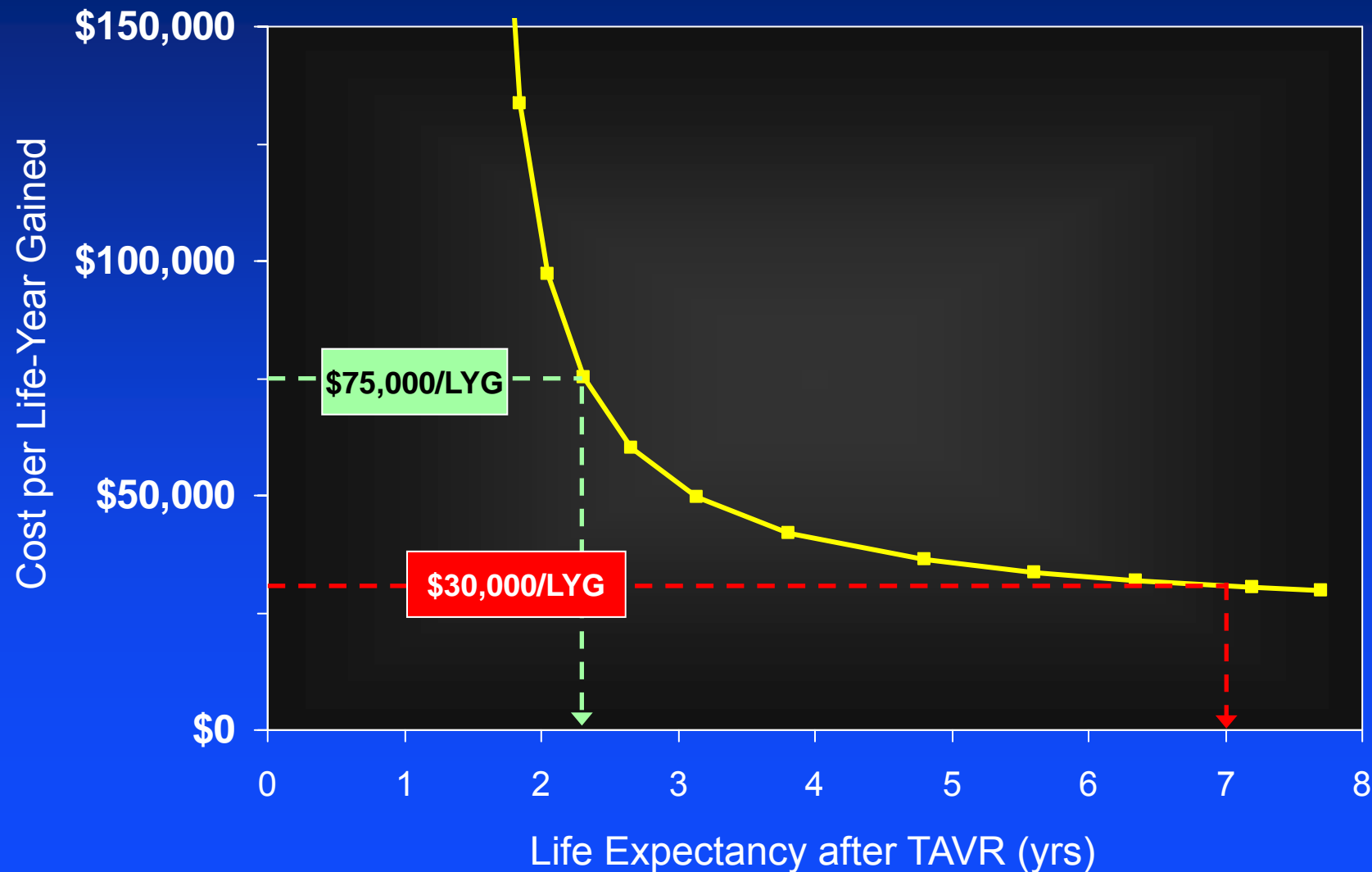


# What does a life-expectancy of 3 years look like?

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# Relationship between Cost-Effectiveness and Post-TAVR Life Expectancy



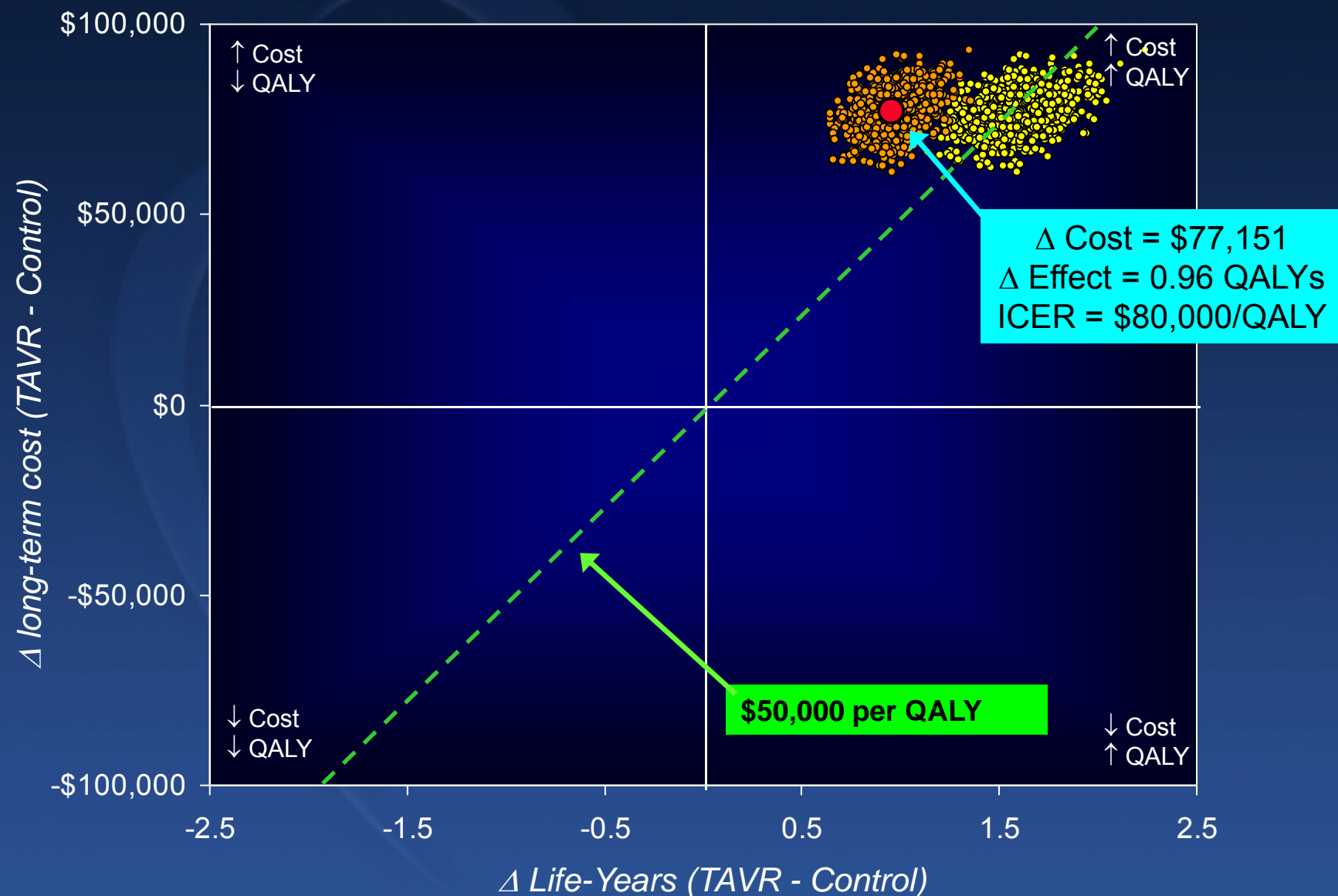
# When is TAVI Not Cost-Effective?

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*When quality of life does not  
improve after TAVI*

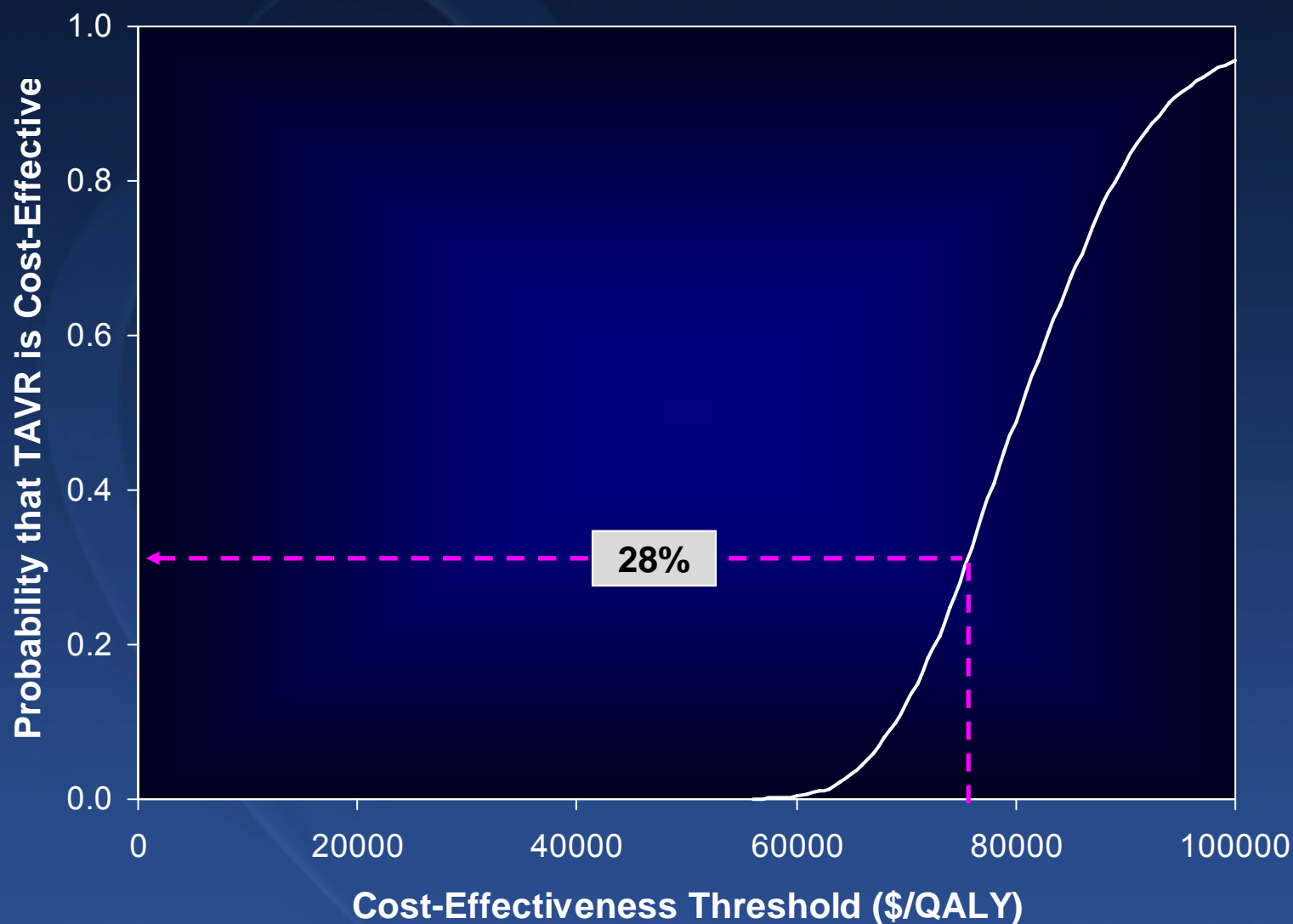
# Cost-Effectiveness of TAVR vs. Medical Rx

## Sensitivity Analysis: No QOL Improvement



# Cost-Effectiveness of TAVR vs. Medical Rx

## Sensitivity Analysis: No QOL Improvement





# When is TAVI Not Cost-Effective?

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*When surgical AVR is equally effective  
and less costly*

# Summary: When is TAVR Not Cost-Effective?

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- Although the PARTNER B cost-effectiveness analysis demonstrated that TAVR is reasonably cost-effective for patients with severe, inoperable AS, these results are sensitive to several key parameters/assumptions
- In particular, TAVR is probably not an economically viable therapy when...
  - *TAVR results in minimal QOL improvement*
  - *Life expectancy after TAVR <2.5 years*
  - *TAVR is used in countries where the acceptable ICER is << \$50,000/QALY gained (i.e., most non-Western countries)*