



# A systematic review of cost of liver transplantation

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# Introduction

- Large variation in reported cost of liver transplantation
- The USA seem to report higher costs of liver transplantation than other countries
- Reasons for this cost difference are unexplored



# Aims of the study

- Compare cost of liver transplantation between the USA and other OECD countries
- Identify reasons for the cost difference between the USA and other OECD countries





# Methods

## Systematic review

- 8 electronic databases
- keywords: *cost, costs, cost-effectiveness, cost-utility, and liver transplantation*

Reference lists of selected papers were examined

Hand searching AJT & Liver Transplantation (2002-2006)



# Methods

## Exclusion criteria

- papers published before 1990
- papers from countries outside the OECD
- papers on combined organ transplantation
- papers with less than 10 patients

Focus on transplantation and clinical follow-up until discharge

All cost expressed in inflation-corrected 2005 USD



# Methods

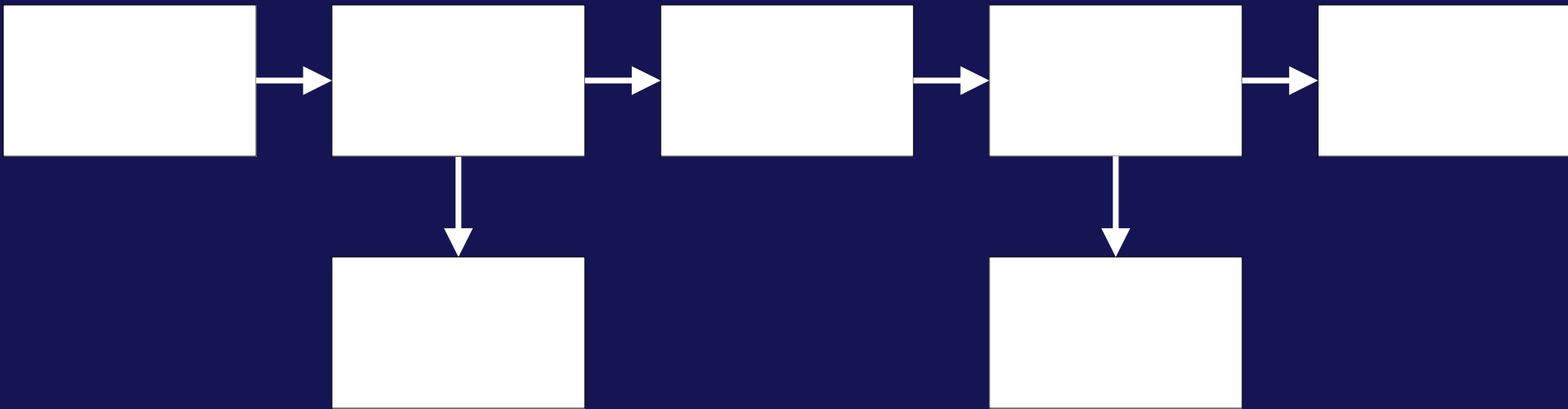
Comparison of costs on

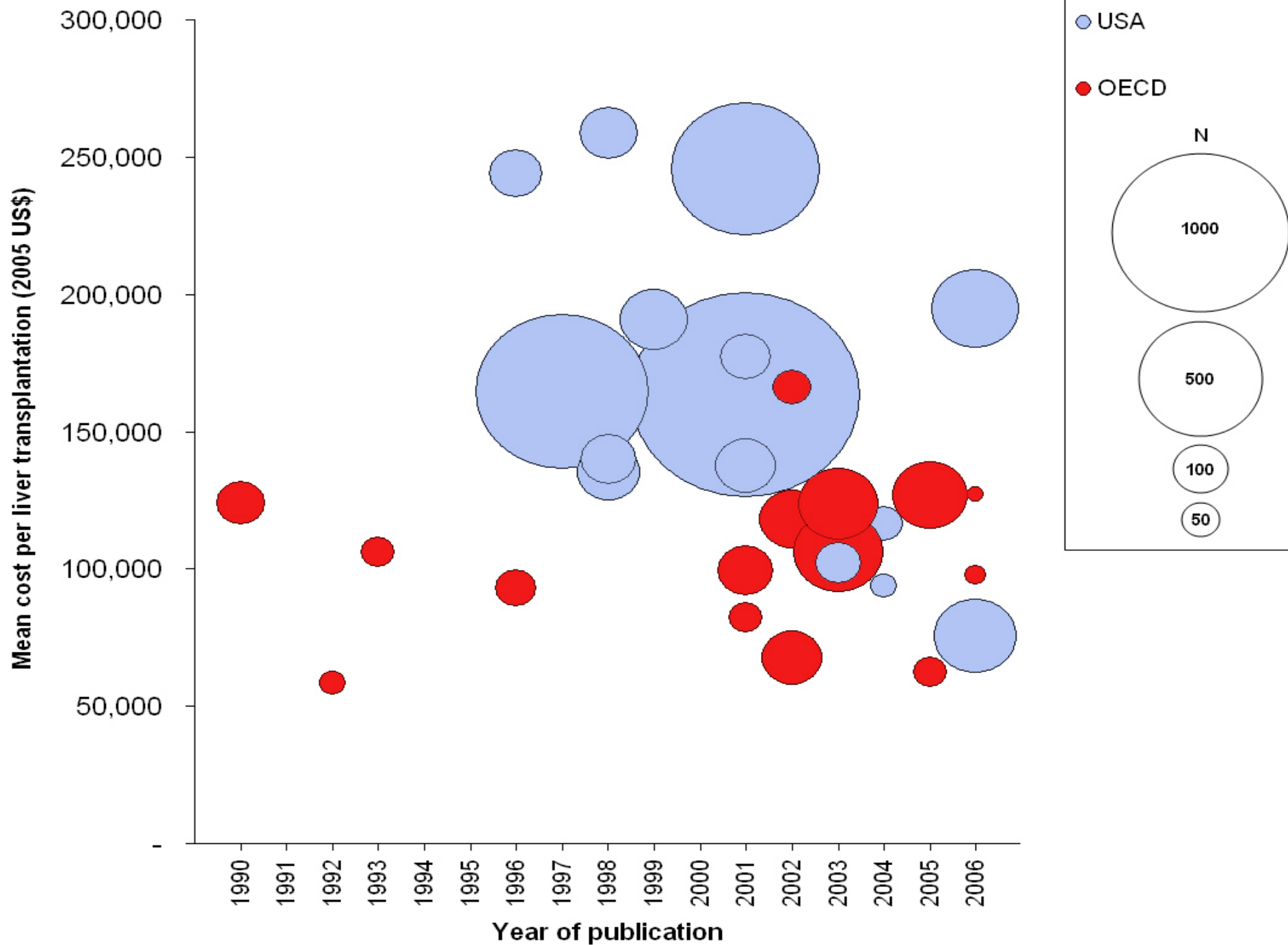
1. patient characteristics
2. disease characteristics
3. quality of the provider of the treatment
4. health care system characteristics
5. methodology used in the economic evaluation

Goeree et al, Curr Med Res Opin 2007;23:671-82



# Results systematic review







# Results systematic review

	USA	OECD countries
Studies	15	15
Liver transplantations	4629	1346
Mean cost per liver transplantation	\$174,490	\$108,934
	difference: \$ 65,556	



# Results comparison

## *1. Patient characteristics*

## **USA**

## **OECD countries**

Gender (male)

57%

59%

Age (mean)

47.6

45.2

Pediatric recipients

9%

5%



# Results comparison

## *2. Disease characteristics*

### USA

### OECD countries

#### Transplantation indication

acute liver failure	3%	9%
chronic liver failure	83%	80%
tumor	1%	3%
metabolic and other	12%	8%

#### Disease severity

MELD (mean)	21.6	22.1
UNOS status 1 / 2 / 3+	19% / 31% / 51%	22% / 27% / 51%



# Results comparison

## ***3. Quality of the provider***

**USA**

**OECD countries**

One-year patient survival rate

84%

80%

## ***4. Health care systems***

**USA**

**OECD countries**

Gross Domestic Product

\$41,900

\$35,480

Size of economy per capita

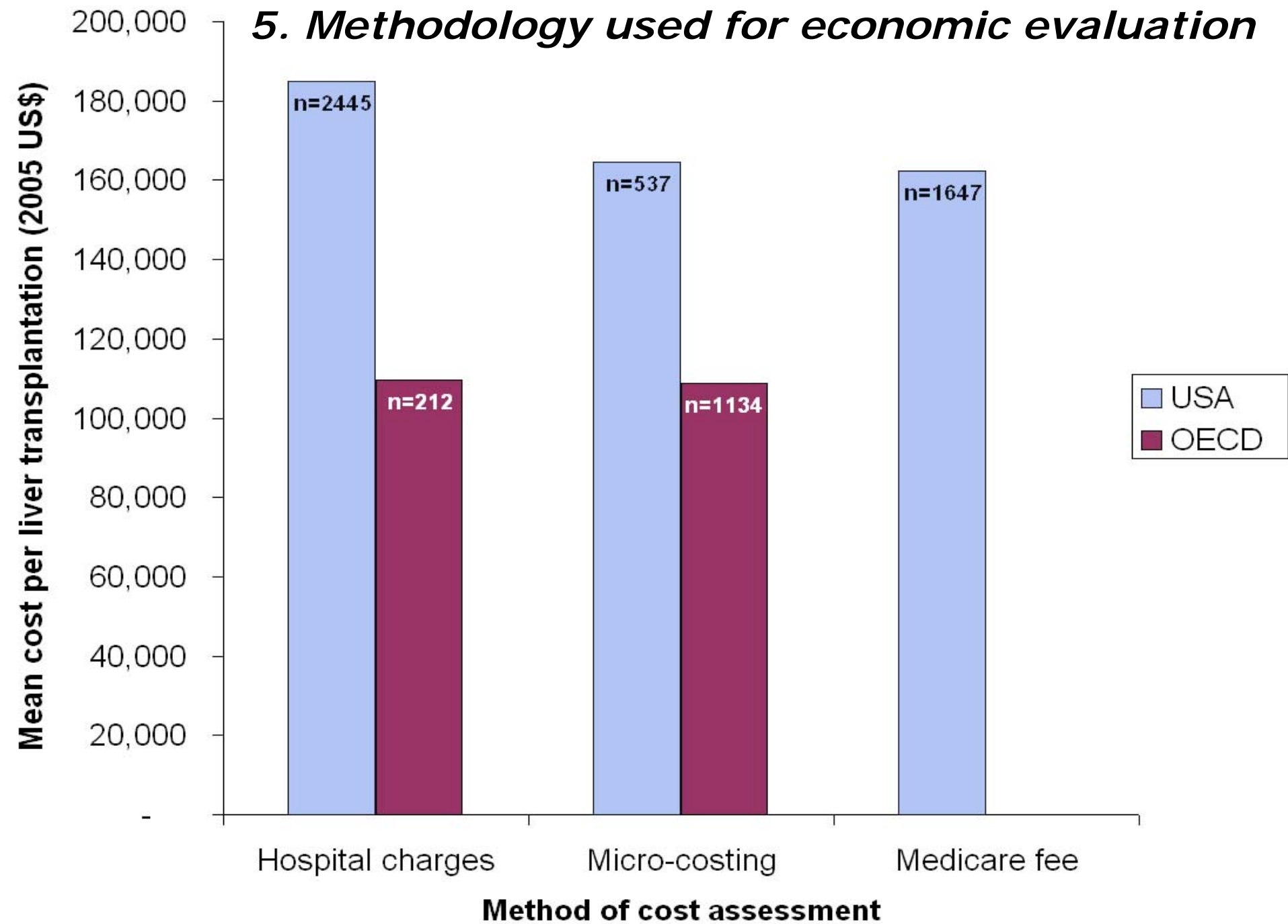
Purchasing power

126

100

Measure of standard of living

## 5. Methodology used for economic evaluation





# Conclusion

- In the USA, liver transplantation is 60% more expensive than in other OECD countries
- Higher costs for liver transplantation in the USA compared to other OECD countries may be explained largely by higher Gross Domestic Product and higher purchasing power

