

# Chemotherapy adverse events and cost

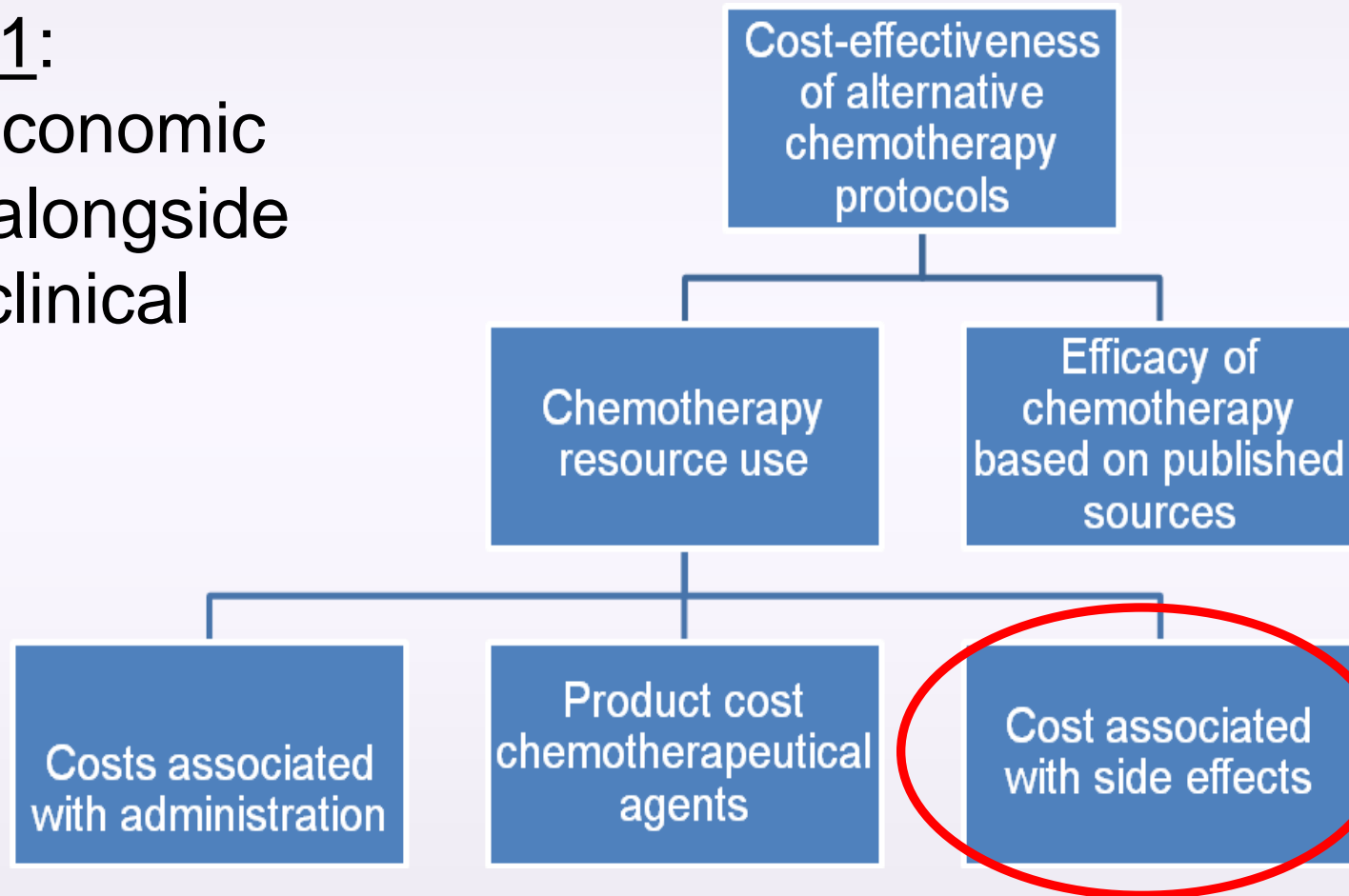
Alison Pearce, Marion Haas Philip Haywood, Kees van Gool, Gisselle Gallego, Sallie Pearson, Margaret Faedo and Robyn Ward

Health Services and Policy Research  
Conference, 2009

# Where does this fit in EM-CaP?

## Objective 1:

Develop economic evidence alongside CI-SCaT clinical guidance



# Background

- Adverse events (side effects) are a common feature of chemotherapy
- Profile of chemotherapy side effects is changing
- Managing these side effects has a cost



# Literature Review

## Primary research question

Q1. What are the resources / costs associated with managing the side effects of chemotherapy?

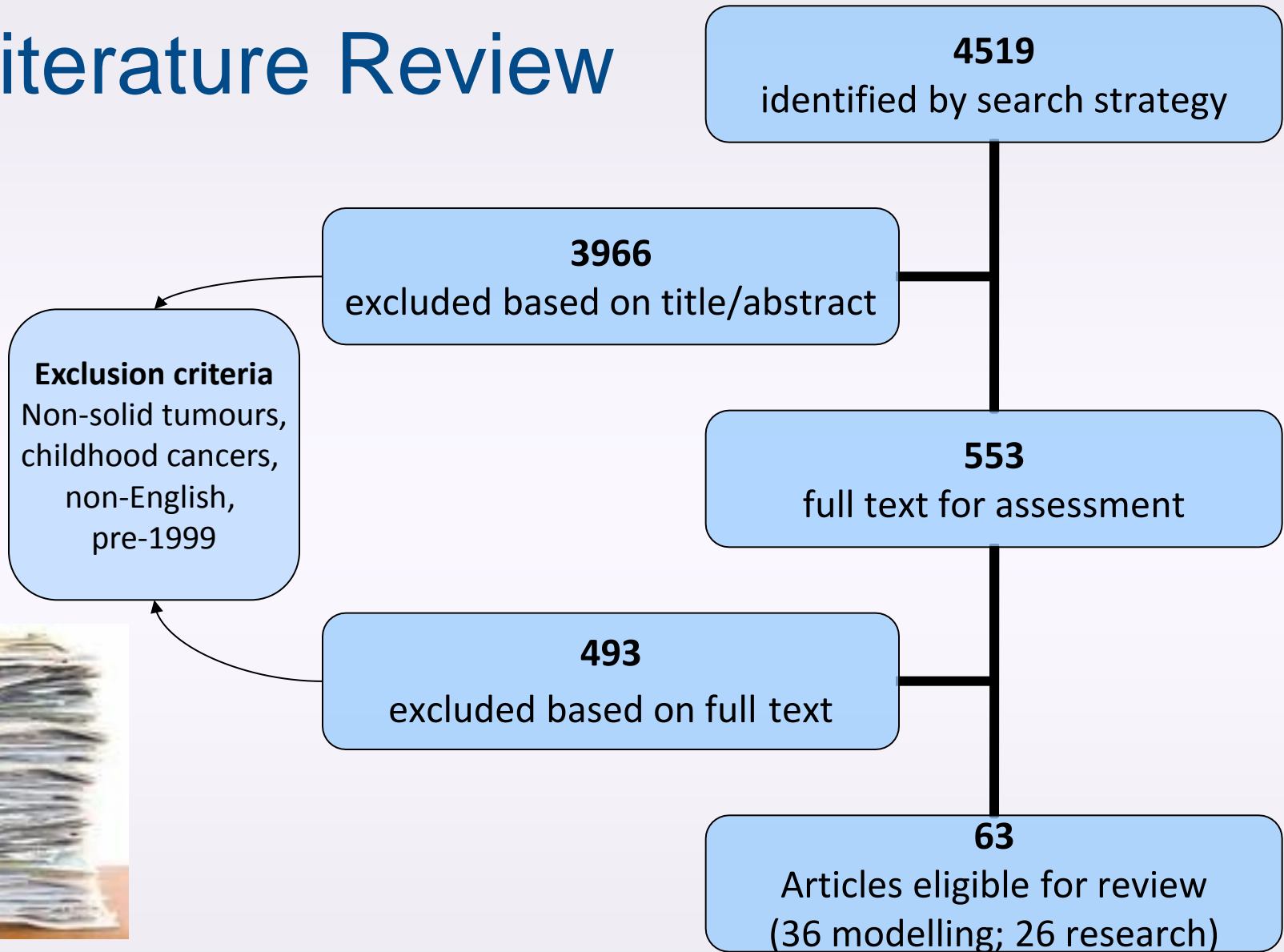
## Secondary research questions

Q2. How much does it cost to manage chemotherapy side effects?

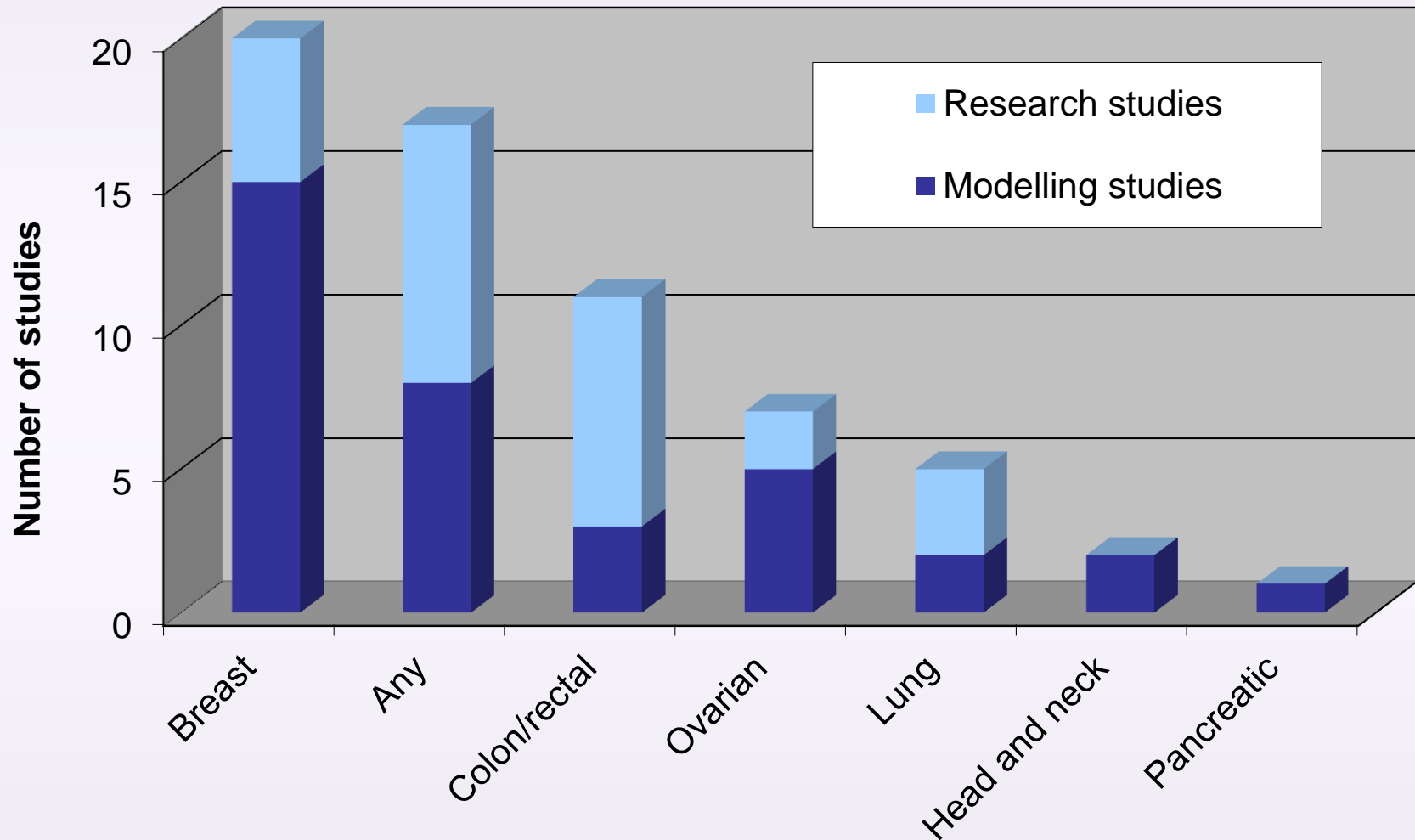
Q3. How does the type and severity of side effect(s) influence the costs?

Q4. How can the costs associated with managing the side effects of chemotherapy be measured and estimated?

# Literature Review

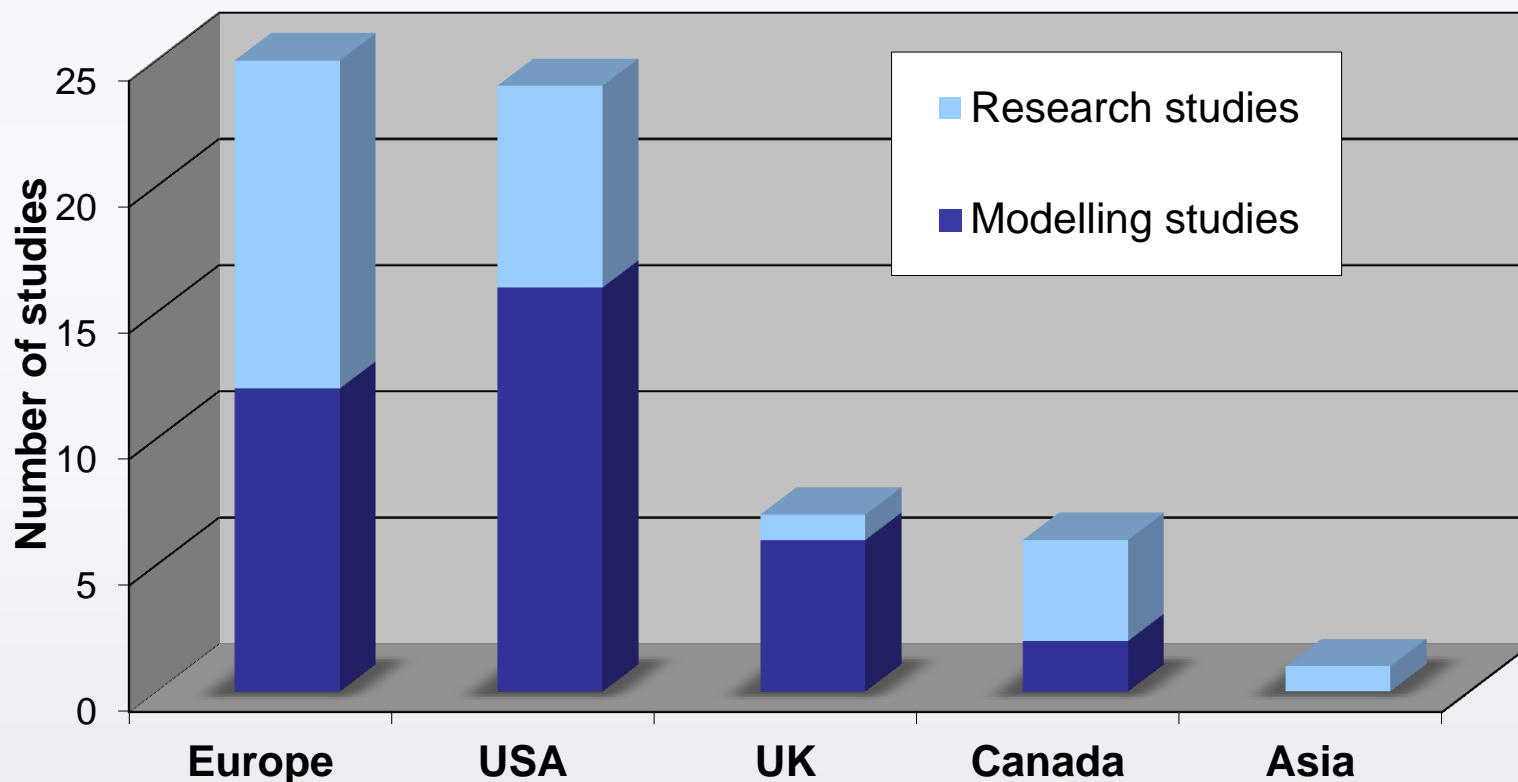
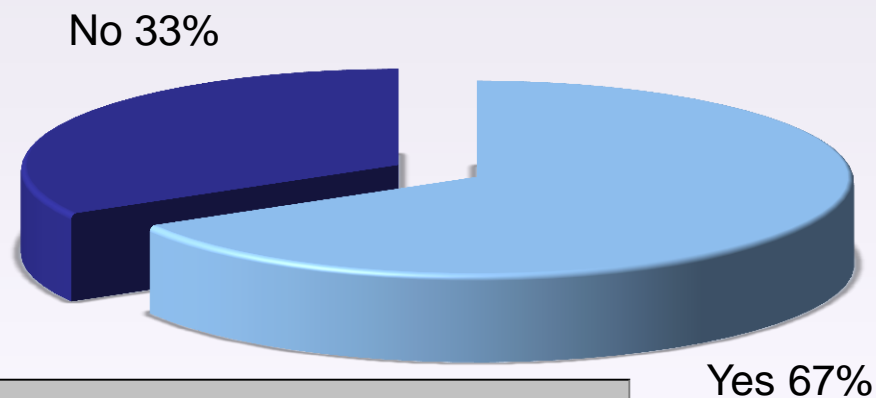


# Included studies

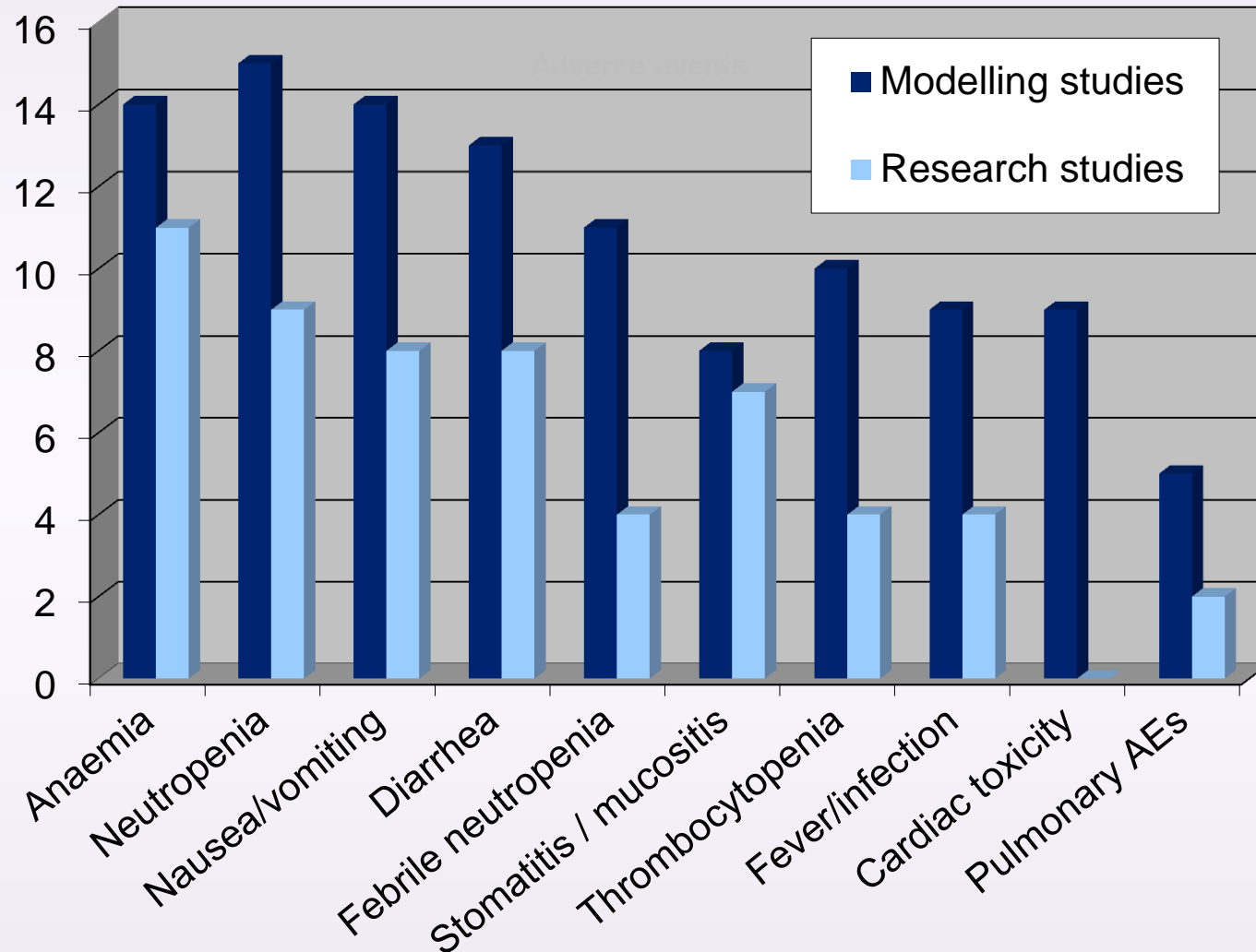


# Included studies

Industry funding or authorship <sup>7</sup>



# Adverse events



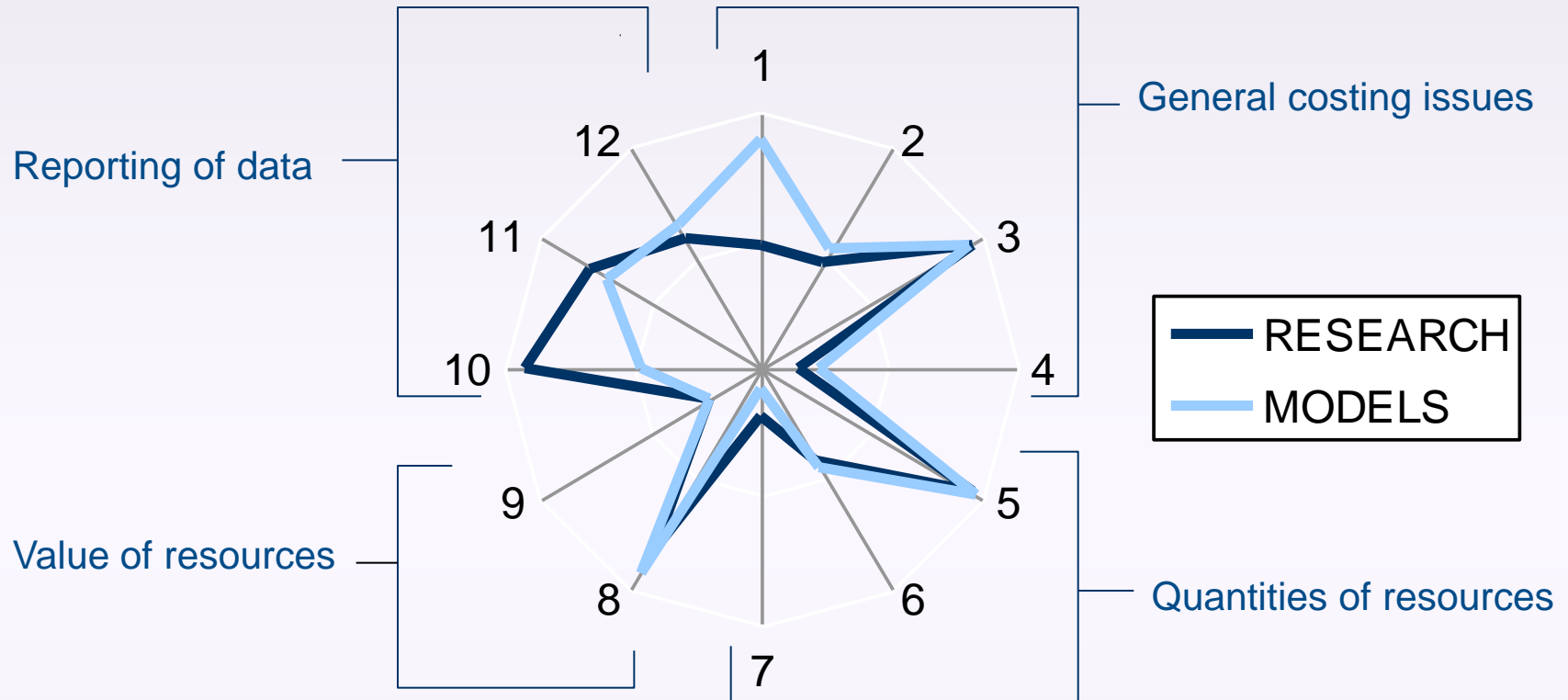


# Quality of studies

- Graves criteria (12 questions) used:
  - General costing issues
  - Methods to determine quantities of resources
  - Methods to determine value of resources
  - Reporting of data
- Quality of studies is variable:
  - Mean 7 out of 12
  - Range 2 to 11 out of 12

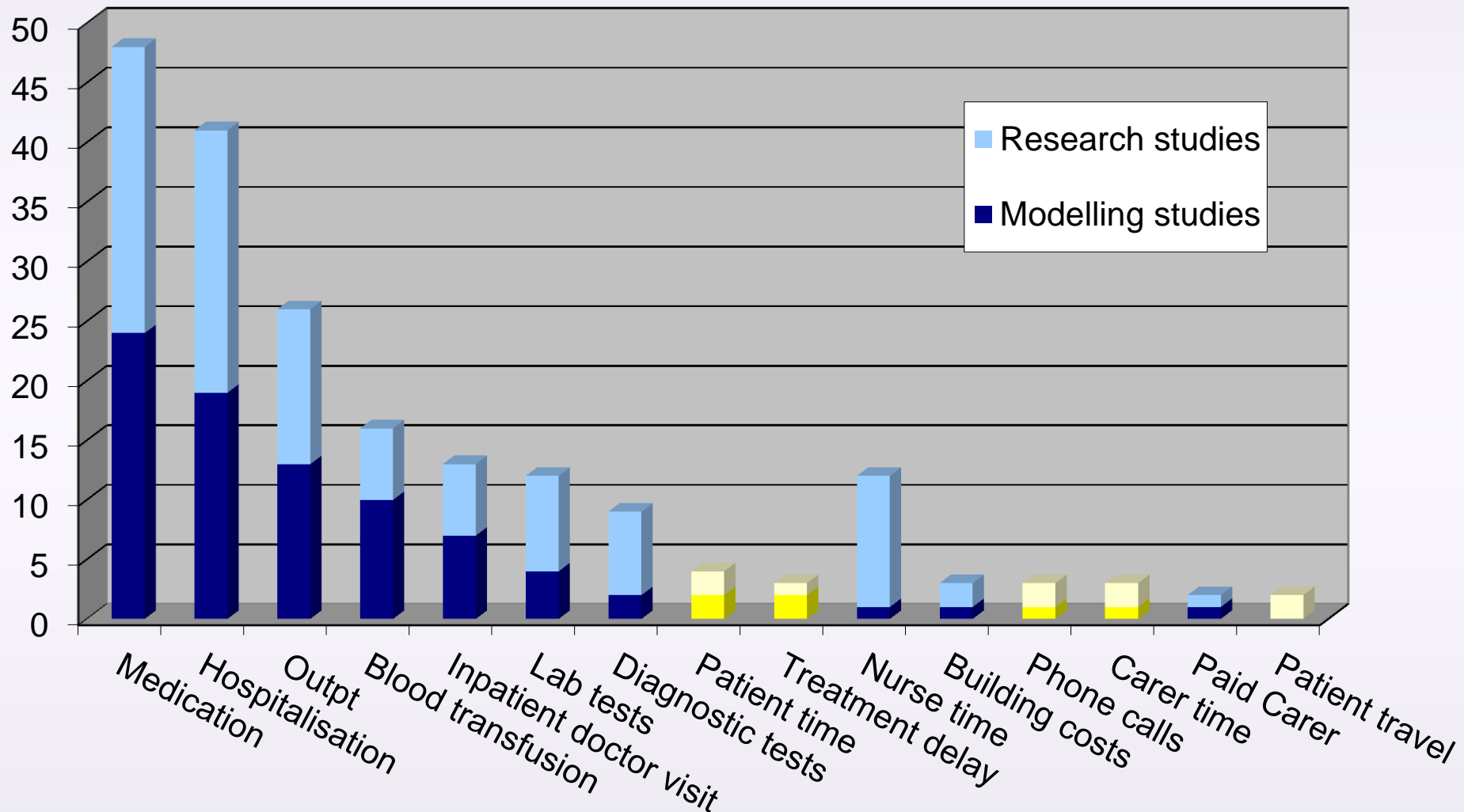
*Graves , Walker et al, Health economics, 2002*

# Quality of studies (Graves)



- Perspective stated
- Perspective justified
- Costs satisfied perspective
- Short & long run costs distinguished
- Methods for quantifying resources
- Methods for allocating human resources
- Methods for allocating fixed costs
- Methods for estimating prices given
- Data other than 3<sup>rd</sup> party payer charges used
- Years in which cost data collected given
- Base cost year reported
- Adjustments for costs from different times

# Q1. What resources are used to estimate costs?

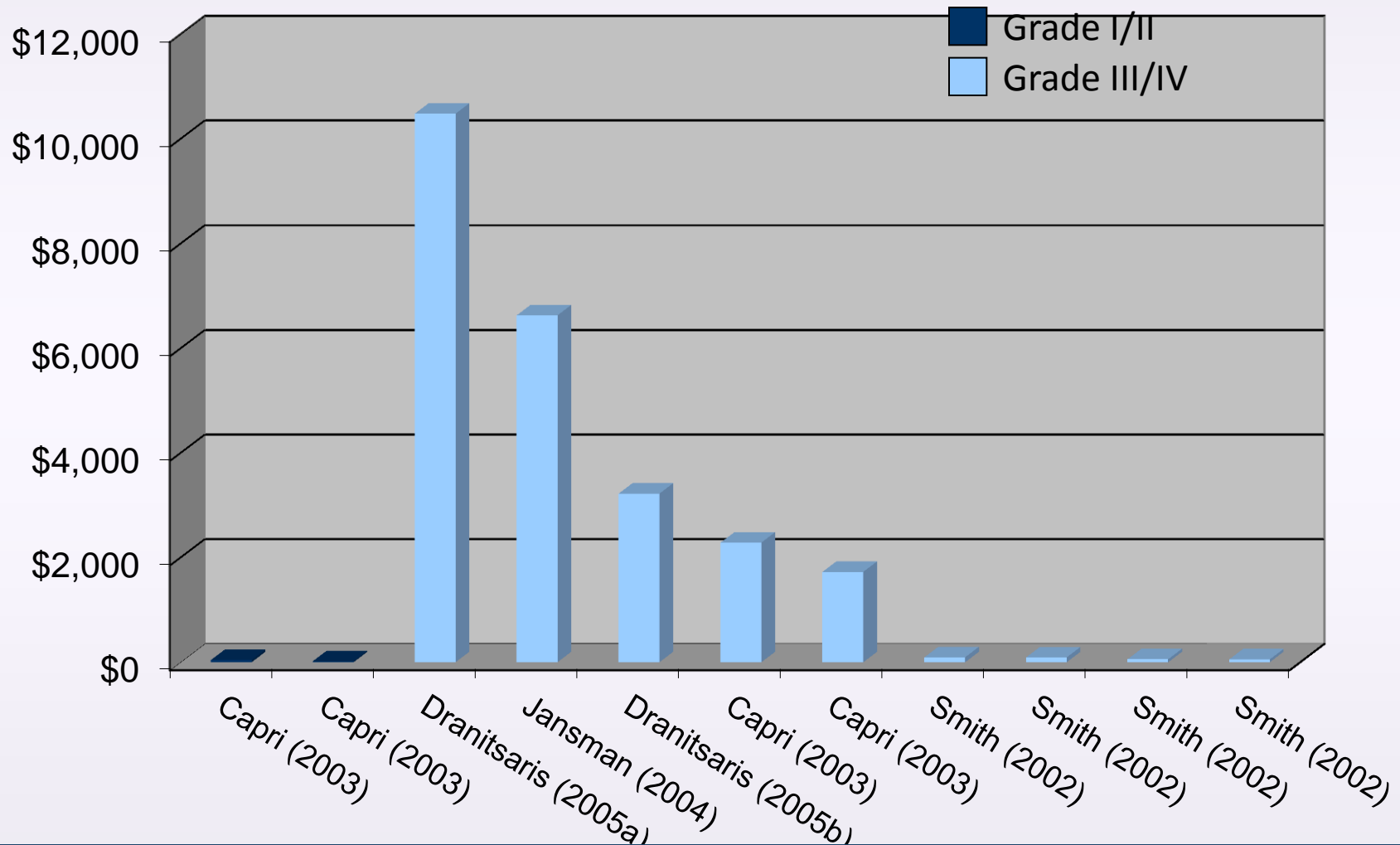


Q2. How much does it cost to manage specific side effects?

Q3. Does the severity influence the cost?

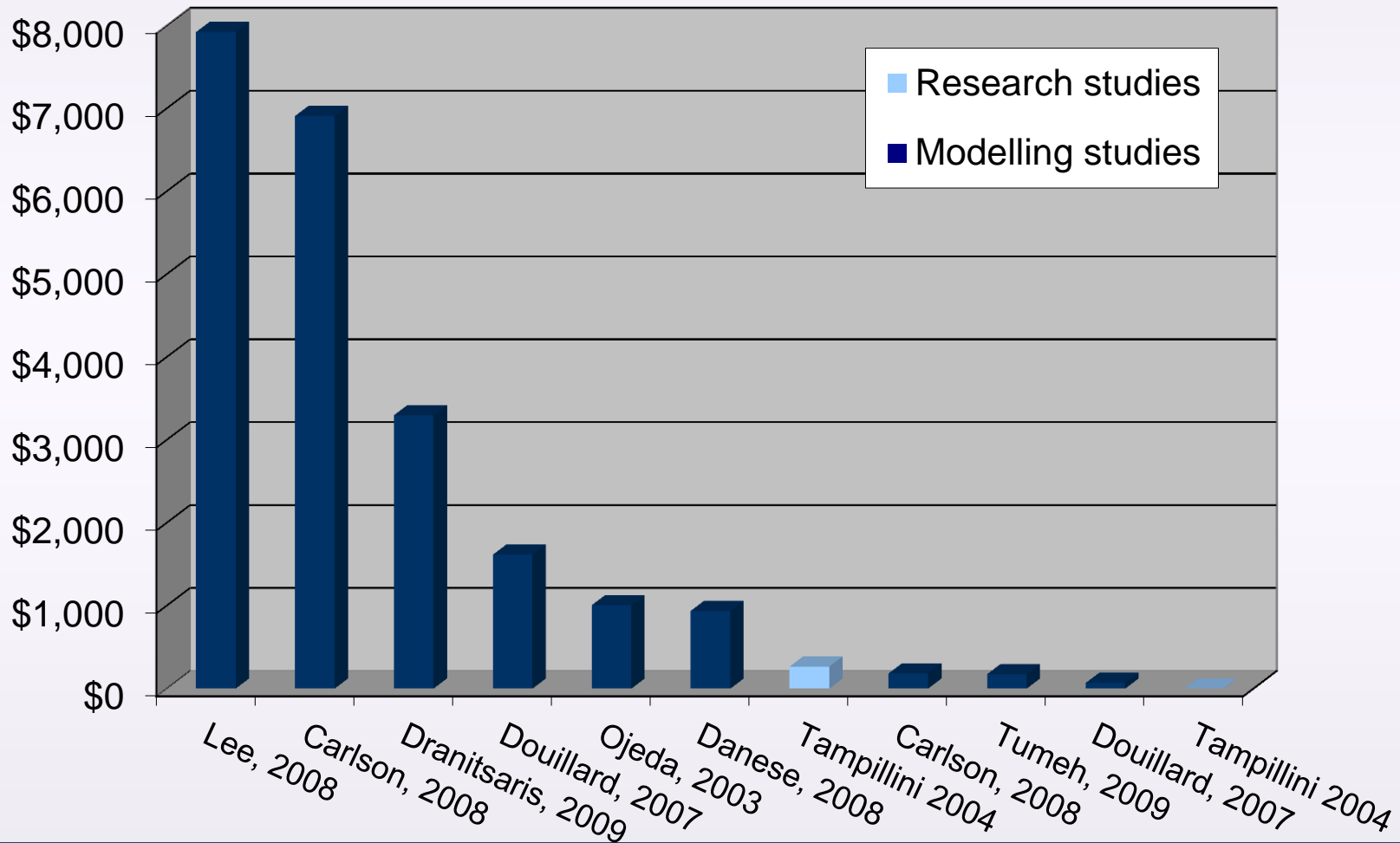
- Results are difficult to compare
  - Different costs included
  - Adverse events poorly defined
  - Different outcome measures
  - Different methodology used
  - Quality of studies variable

# Diarrhea – mean cost per patient (2009 AUD)



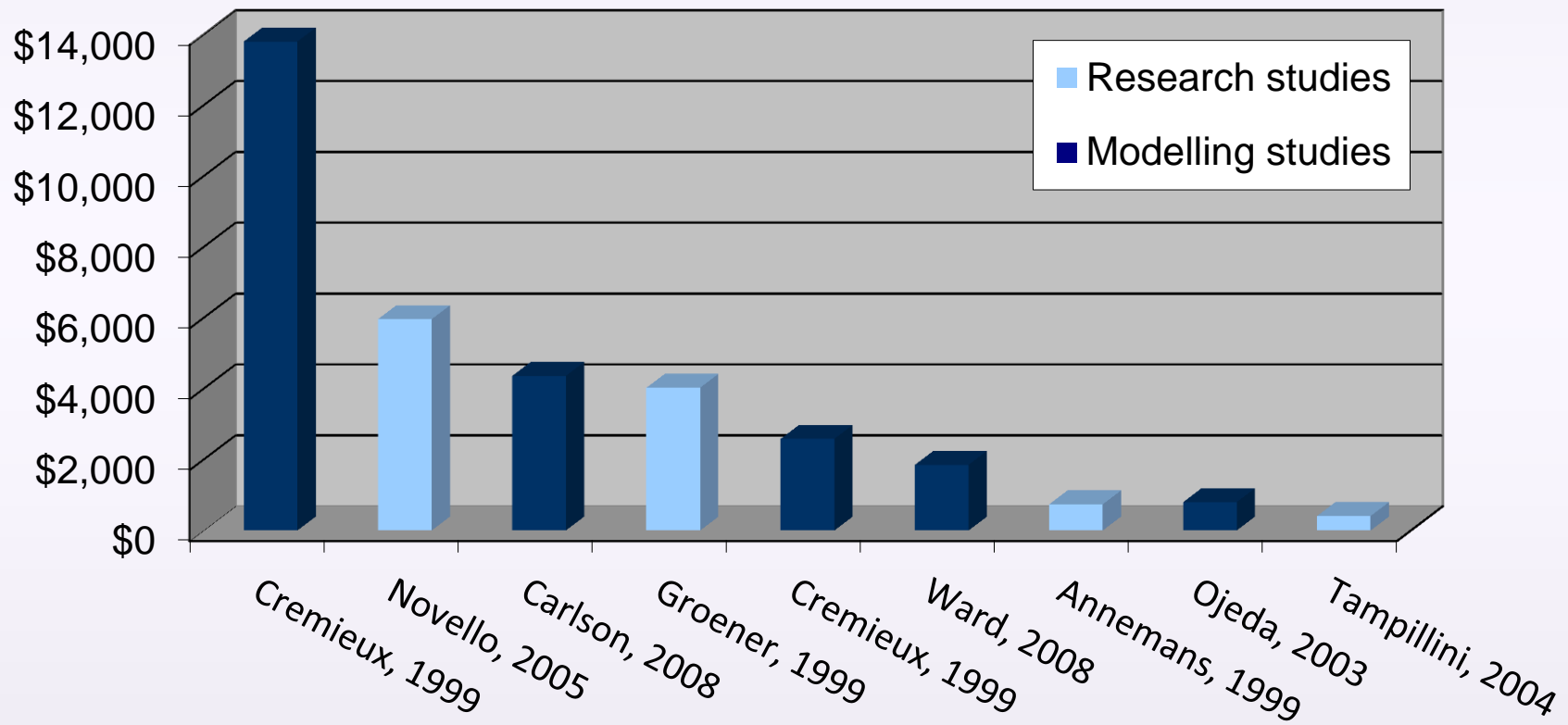
# Diarrhea (grade III/IV)

(cost per event; AUD 2009)

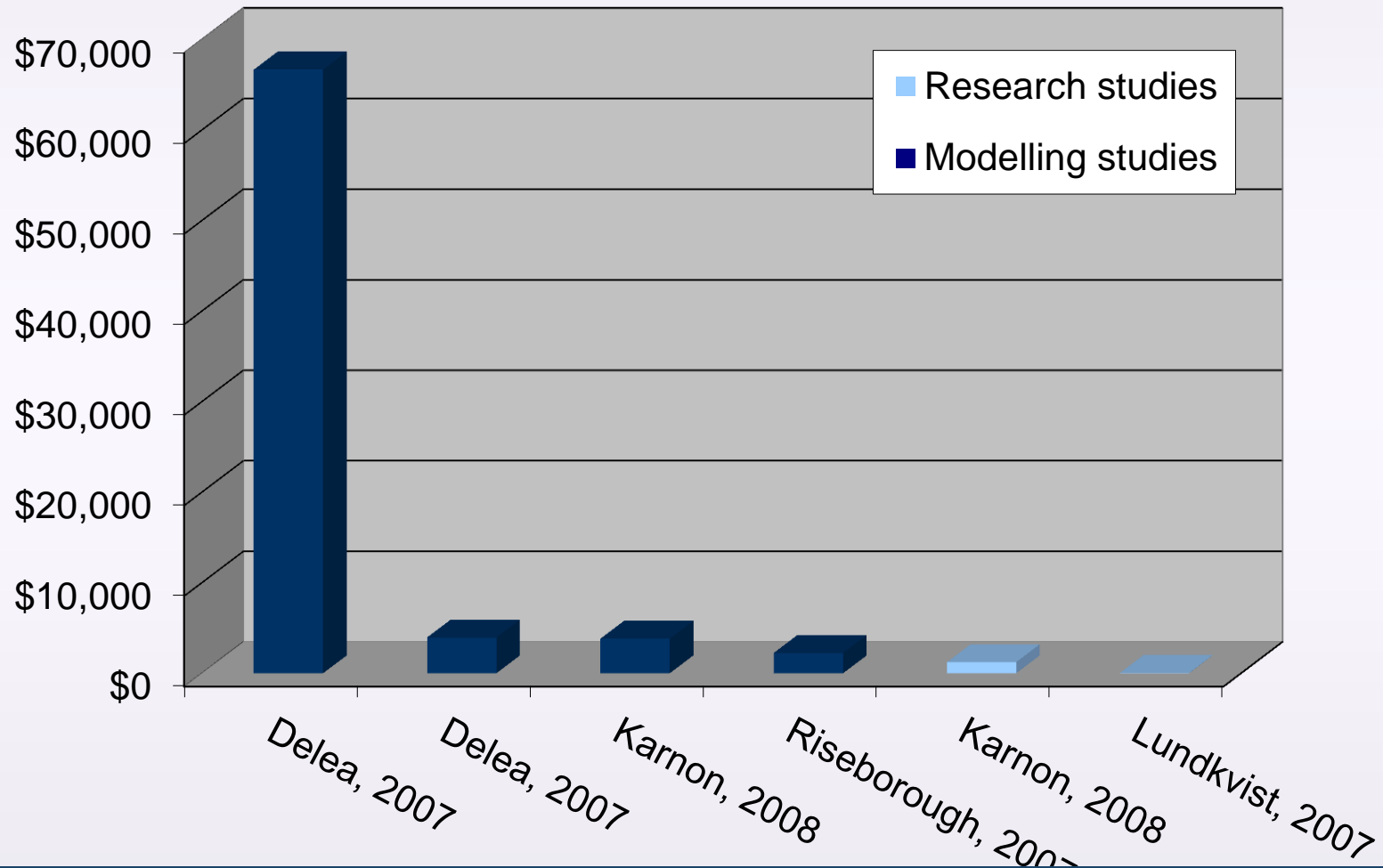


# Cost of grade III/IV Anaemia

(cost per event; 2009 AUD)

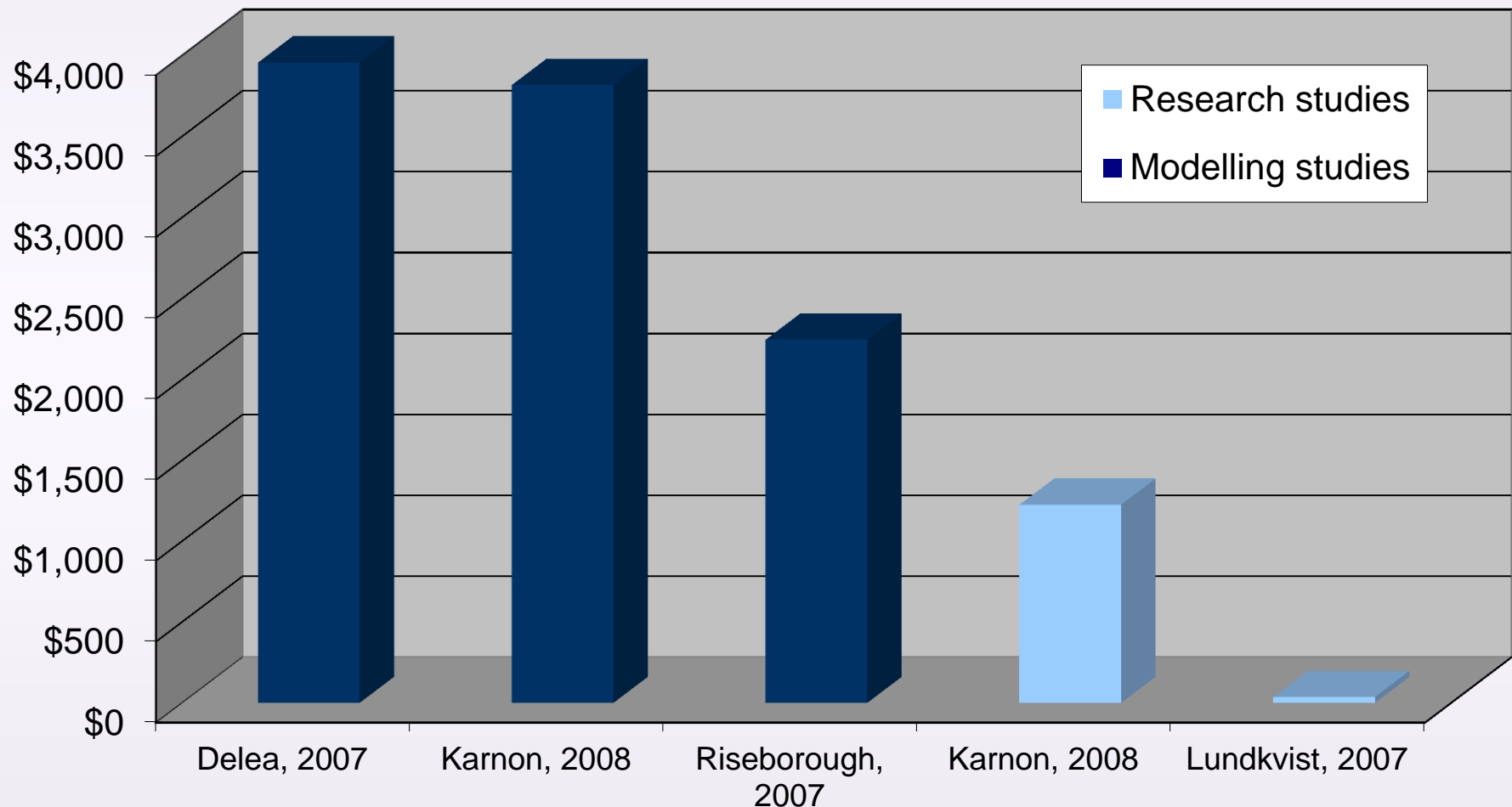


# Cost of fractures (Annual, AUD 2009)





# Cost of fractures (annual) (AUD 2009)



## Q4. What are the best methods for developing estimates of cost?

- Methods are inconsistent
  - Different data sources utilised
  - Results are difficult to compare
  - Quality is variable
- 
- Heterogeneity has not been questioned

# Conclusion

There is a lack of understanding of the costs of adverse events associated with chemotherapy, and how they can best be modelled

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