

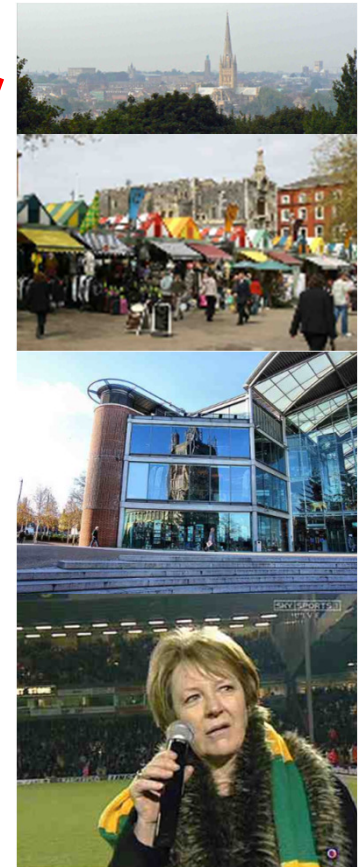
Health Economics Group

# **Economic approaches to research priority setting**

Ed Wilson

## Introduction

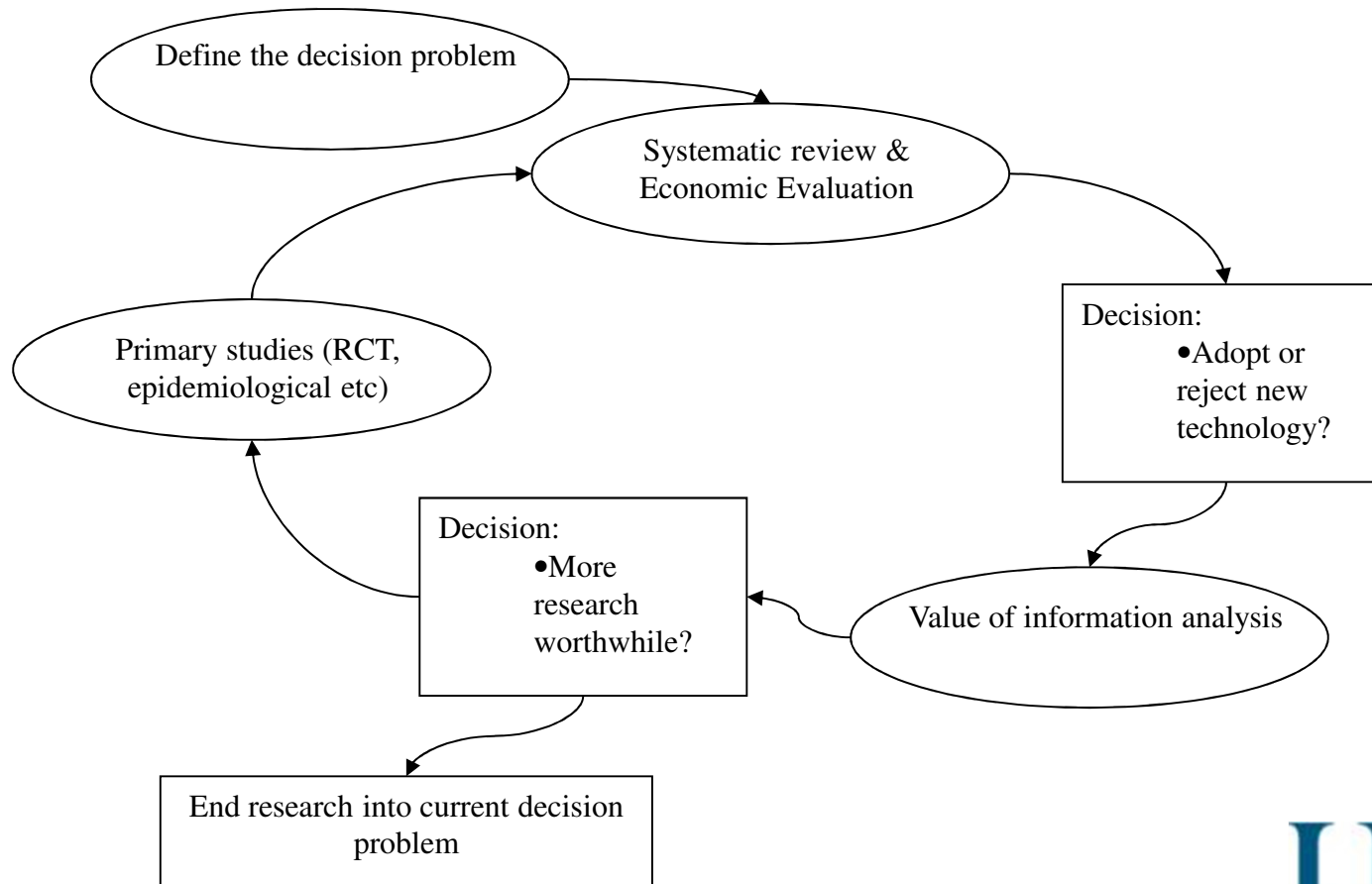
- Lecturer in Health Economics, University of East Anglia
- Decision analytic modelling
- Economic evaluation alongside clinical trials
- Efficient research design



## Plan

- The cycle of evidence (economics?) based medicine
- A quantitative approach to research priority setting
  - Value of information analysis
- Methodological research questions
  - How can we adapt the principles to prioritise Cochrane reviews?

## Cycle of 'economics based medicine'



## The adoption decision: economic evaluation

- The comparison of two or more courses of action in terms of their costs and consequences<sup>1</sup>

$$\frac{C_2 - C_1}{E_2 - E_1} \leq \lambda$$

	£	QALYs	ICER
<b>New</b>	£1,084	1.621	
<b>Old</b>	£872	1.605	
<b>Increment</b>	£213	0.015	£14,200

## From ICERs to Net Benefit

$$\frac{C_2 - C_1}{E_2 - E_1} \leq \lambda$$

$$\lambda(E_2 - E_1) - (C_2 - C_1) \geq 0$$

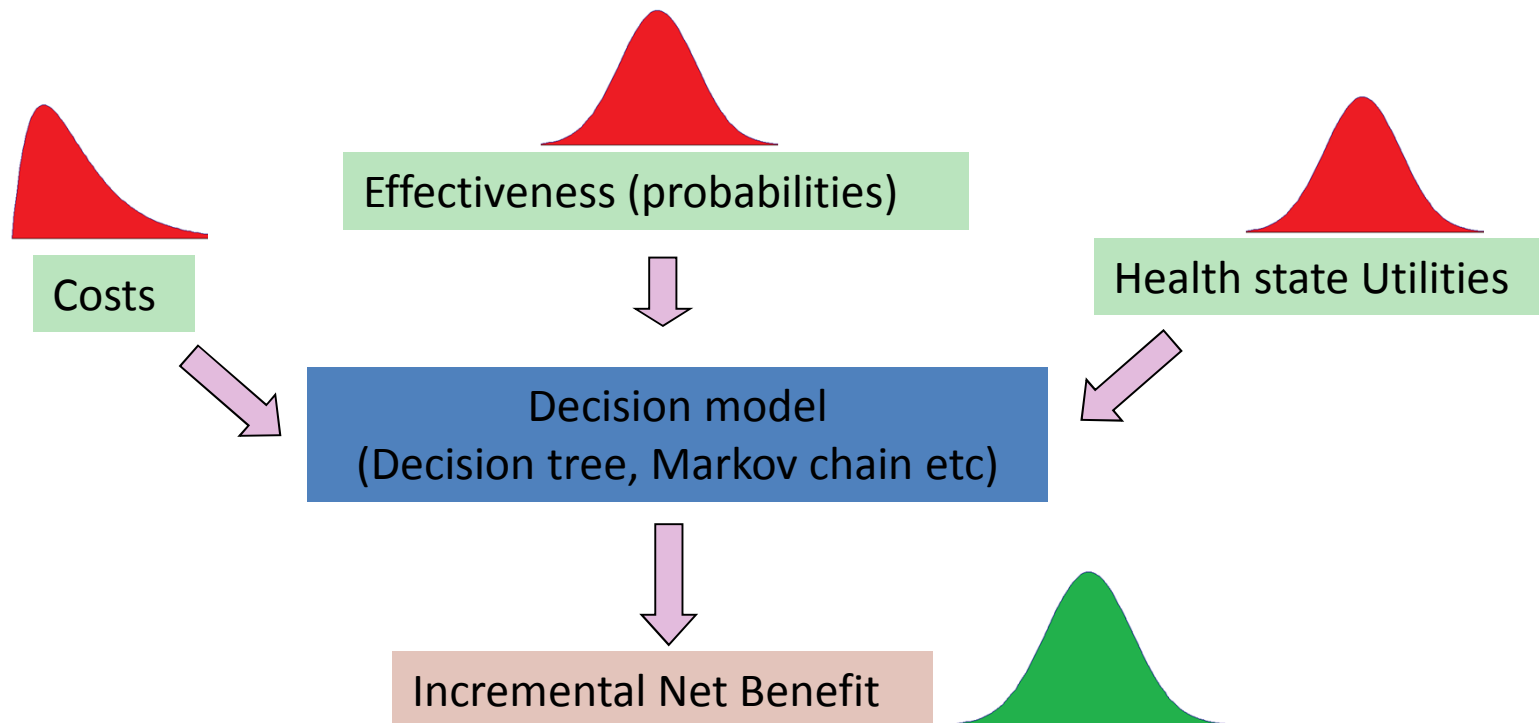
$$\lambda\Delta E - \Delta C \geq 0$$

$$INB \geq 0$$

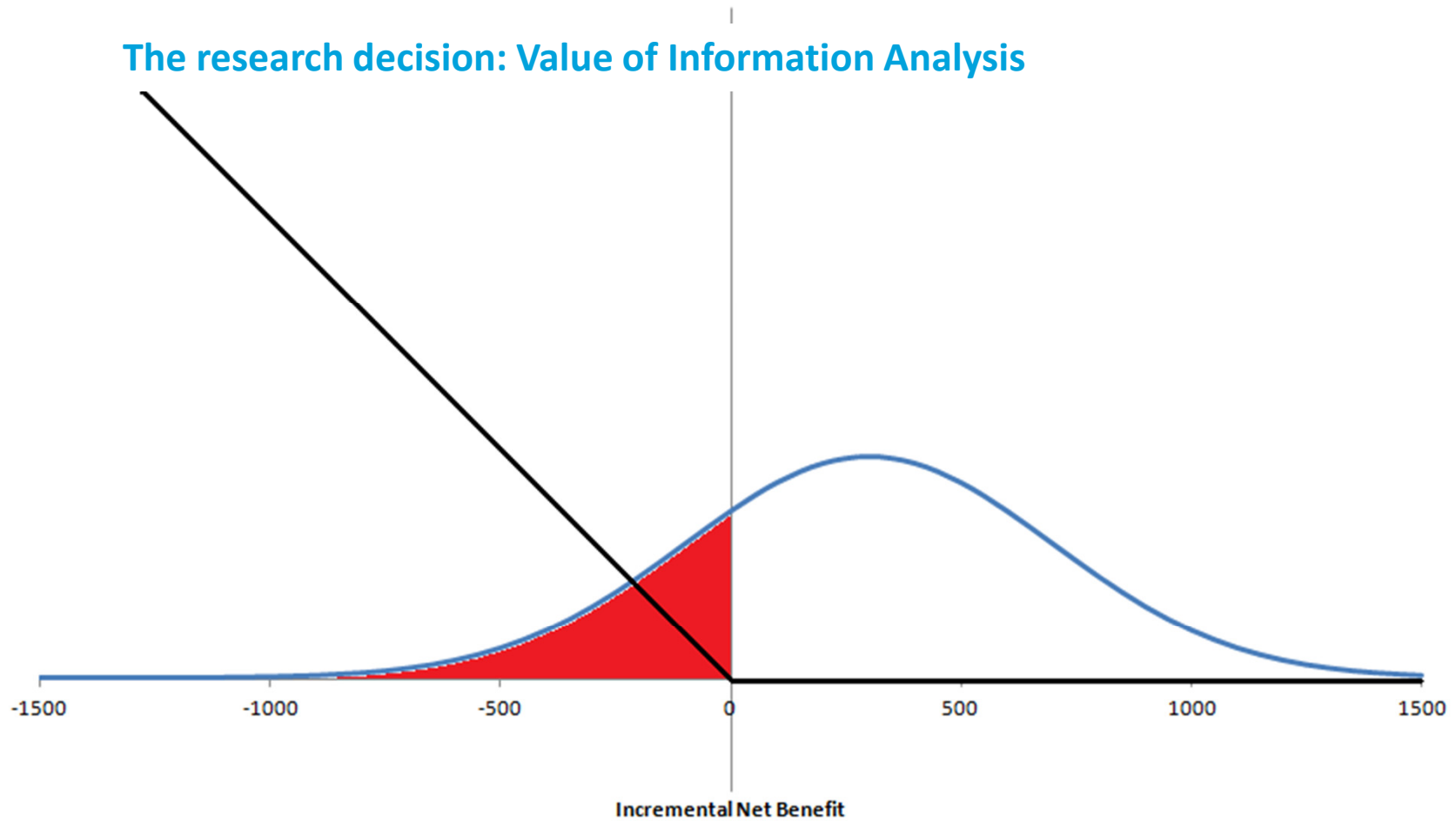
$$b \geq 0$$

## Approach to economic evaluation

- Decision modelling & Monte Carlo Simulation

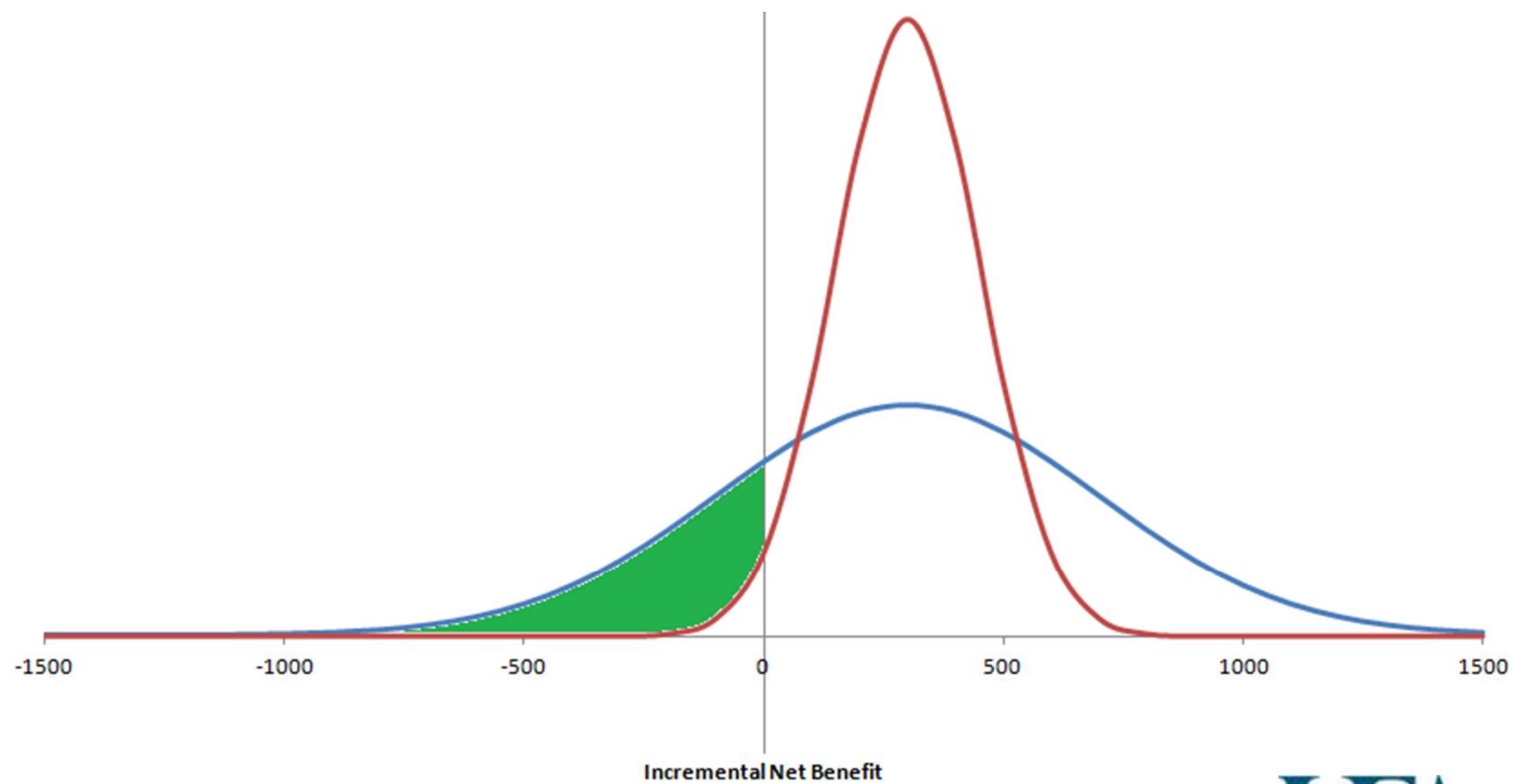


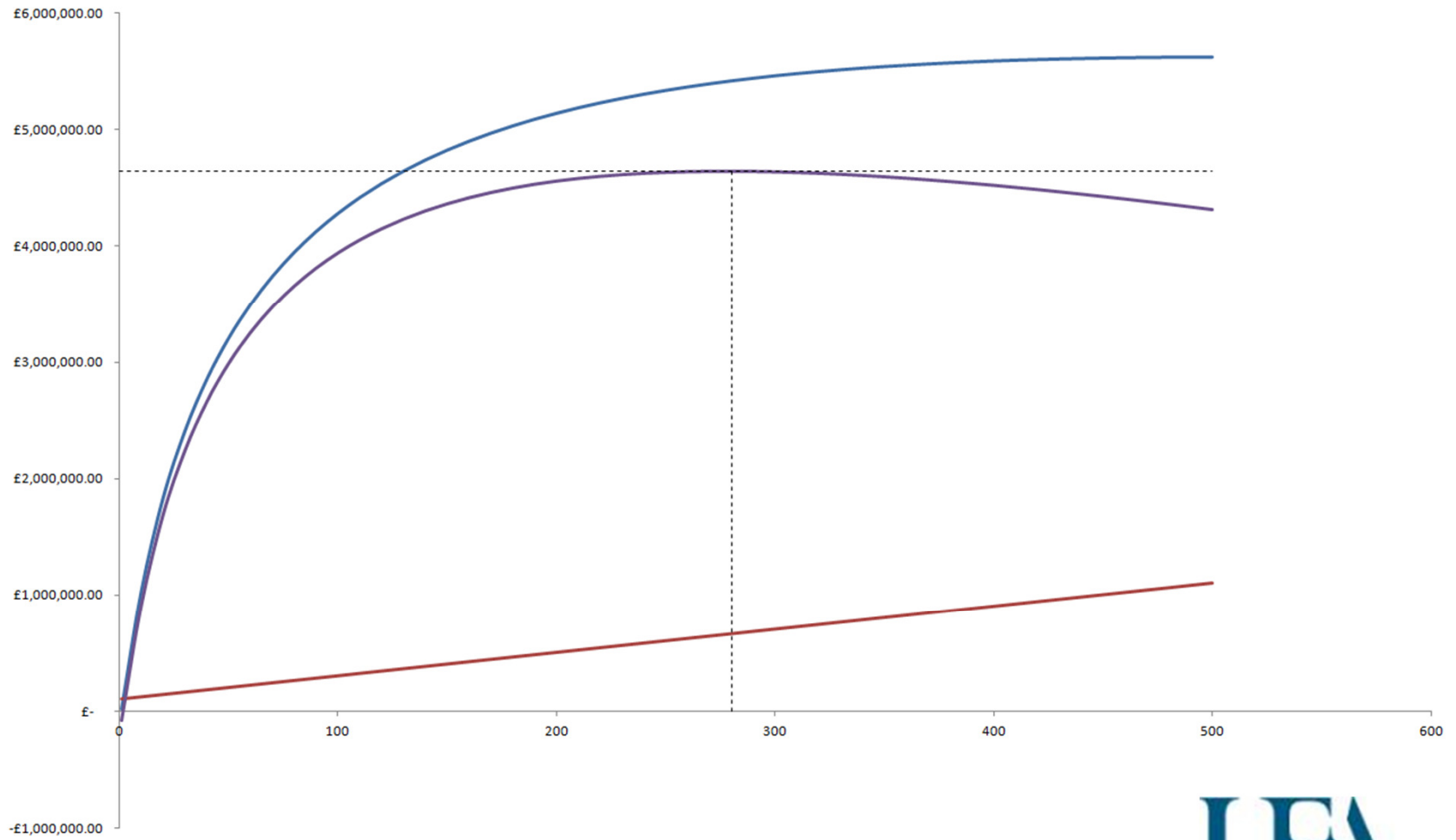
### The research decision: Value of Information Analysis





## The research decision: Value of Information Analysis





## Ranking alternative research projects

Project	Expected Net Benefit of Sampling
RCT A	£250,000,000
RCT B	£100,000,000
RCT C	£10,800,000
RCT D	£7,350,000
RCT E	£1,500,000

## Prioritising Cochrane Reviews – initial thoughts

- ENBS of updating a Cochrane review?

Decision uncertainty

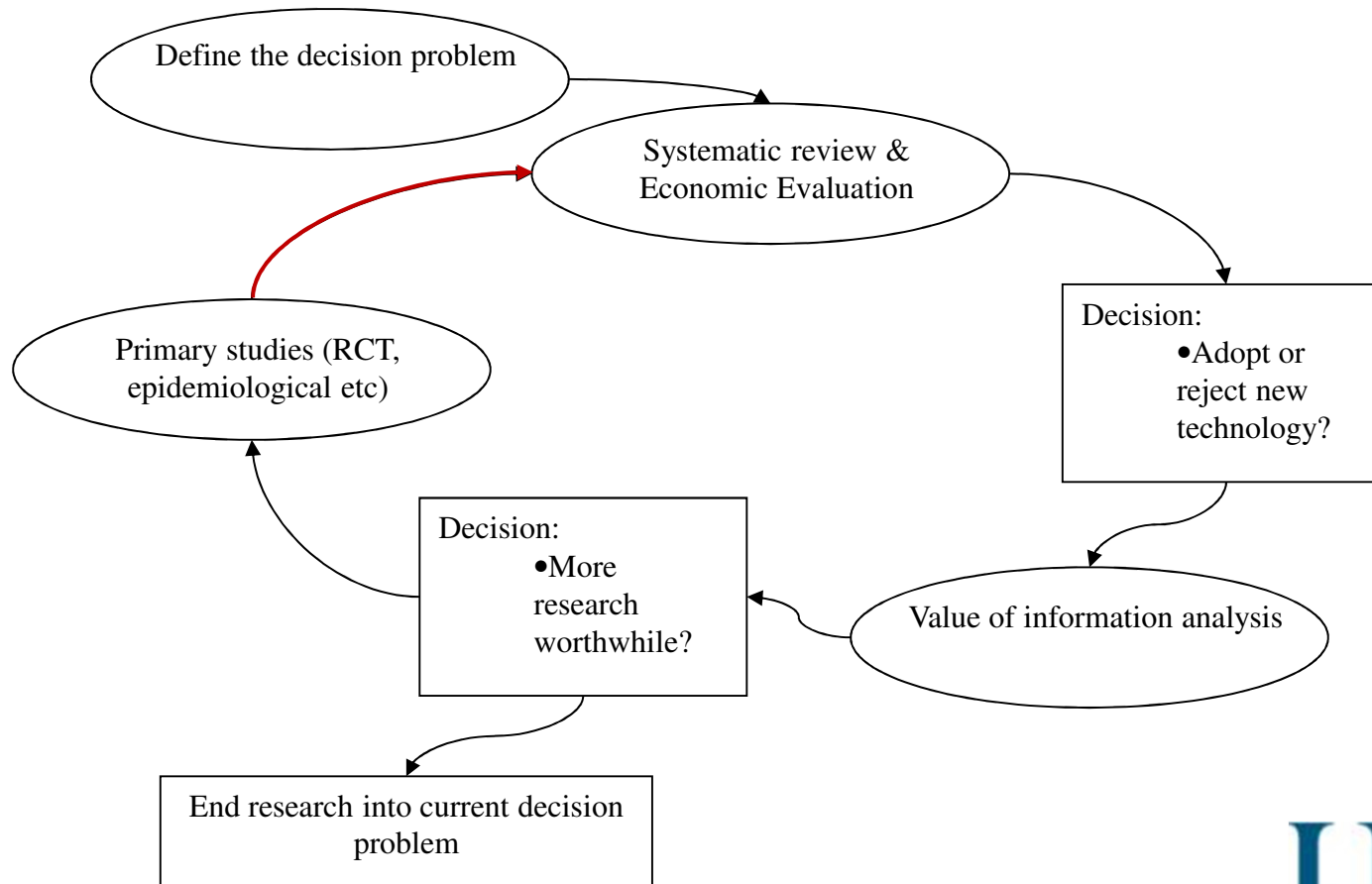


Expected loss



Recommendation for new trials

## Prioritising Cochrane Reviews – initial thoughts



## Prioritising Cochrane Reviews – initial thoughts

- Factors affecting the value of updating a review
  - Current decision uncertainty
  - Number of new trials
    - Specifically number of observations
  - Cost of the review
- Discussion points
  - International transferability of results – Vol implications
    - What is the correct scope for a Cochrane review? (Global?)
    - Possible to generalise for purposes of prioritising?
  - How much analysis is too much?!
    - Technical solution vs ‘gut feeling’

## References

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