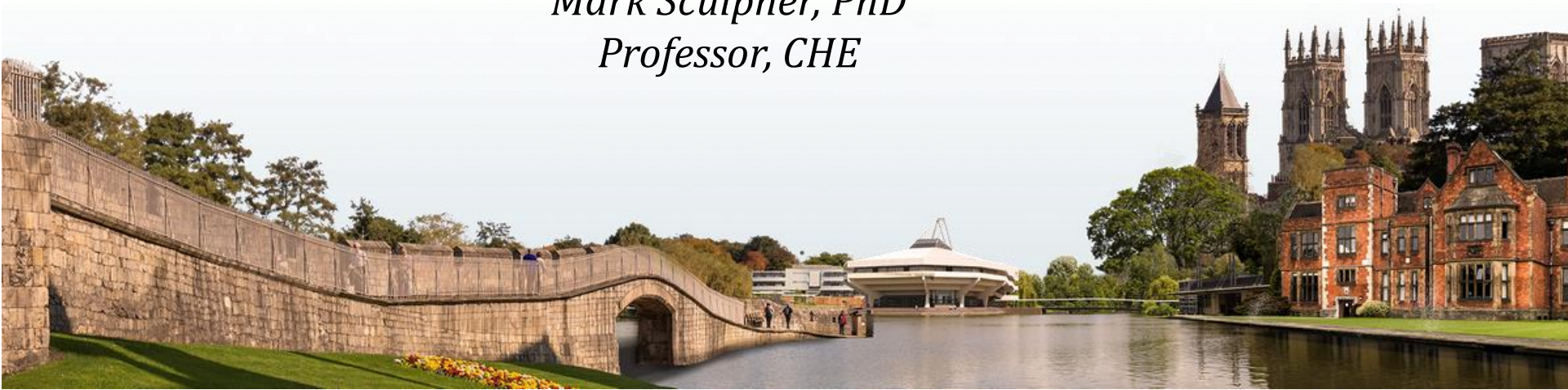


# Online Advanced Methods for Cost-Effectiveness Analysis

## Presentation 1: Analytical Starting Points 1.2: Decisions

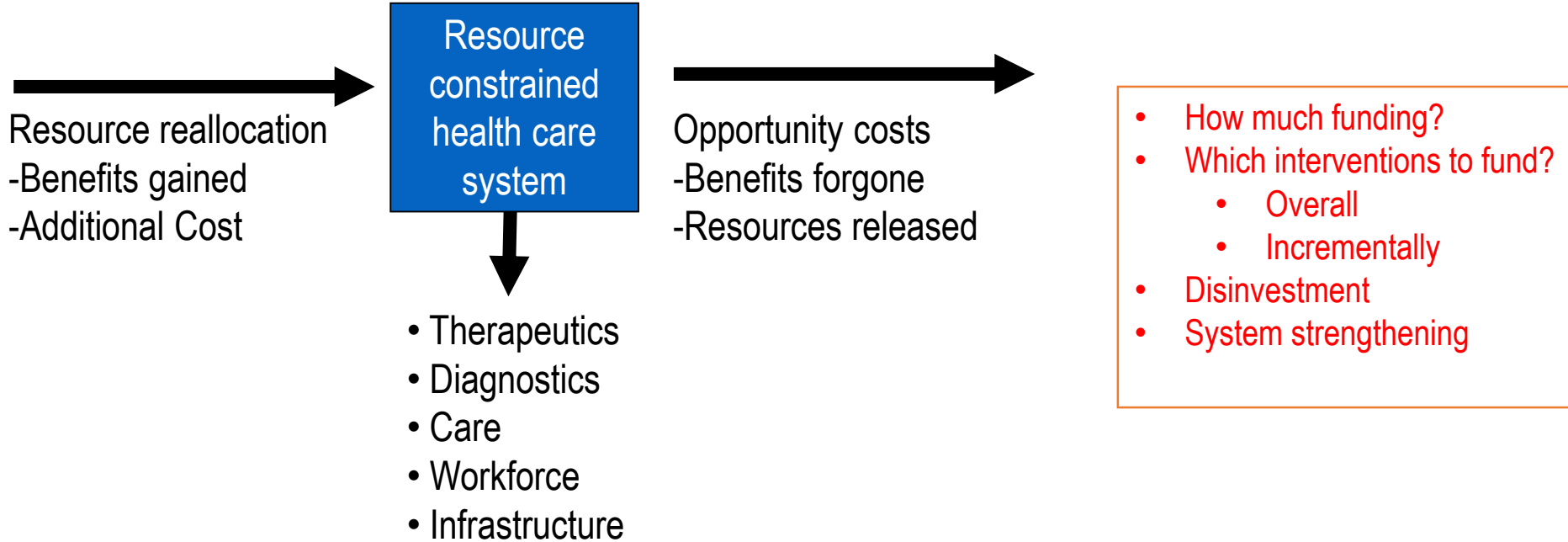
*Mark Sculpher, PhD*  
*Professor, CHE*



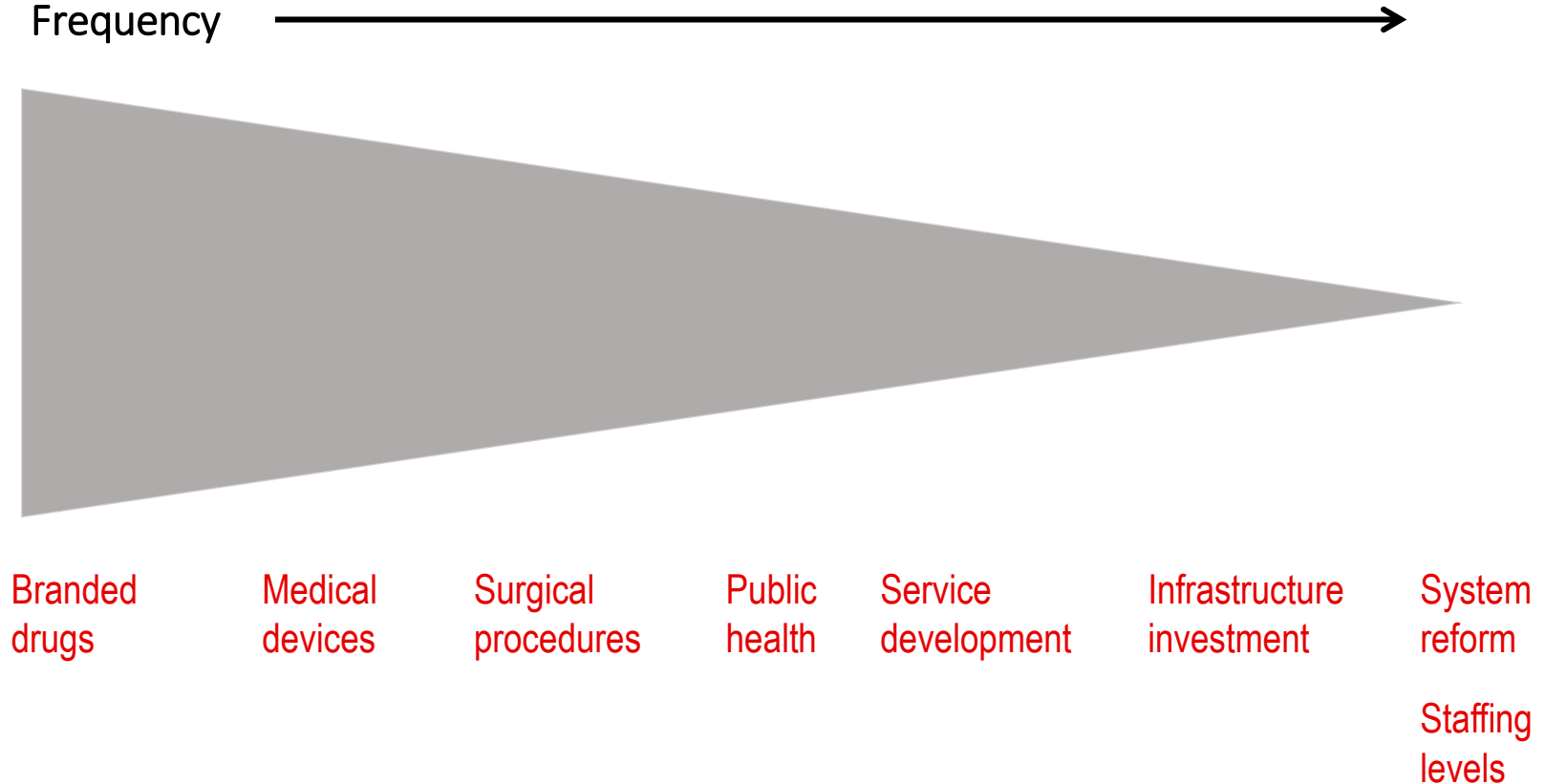
# Objectives

- Understand key aspects of economic evaluation for decisions
- Clear about emerging policy trends
- Appreciate different types of decisions
- Understand appropriate analysis for different decisions

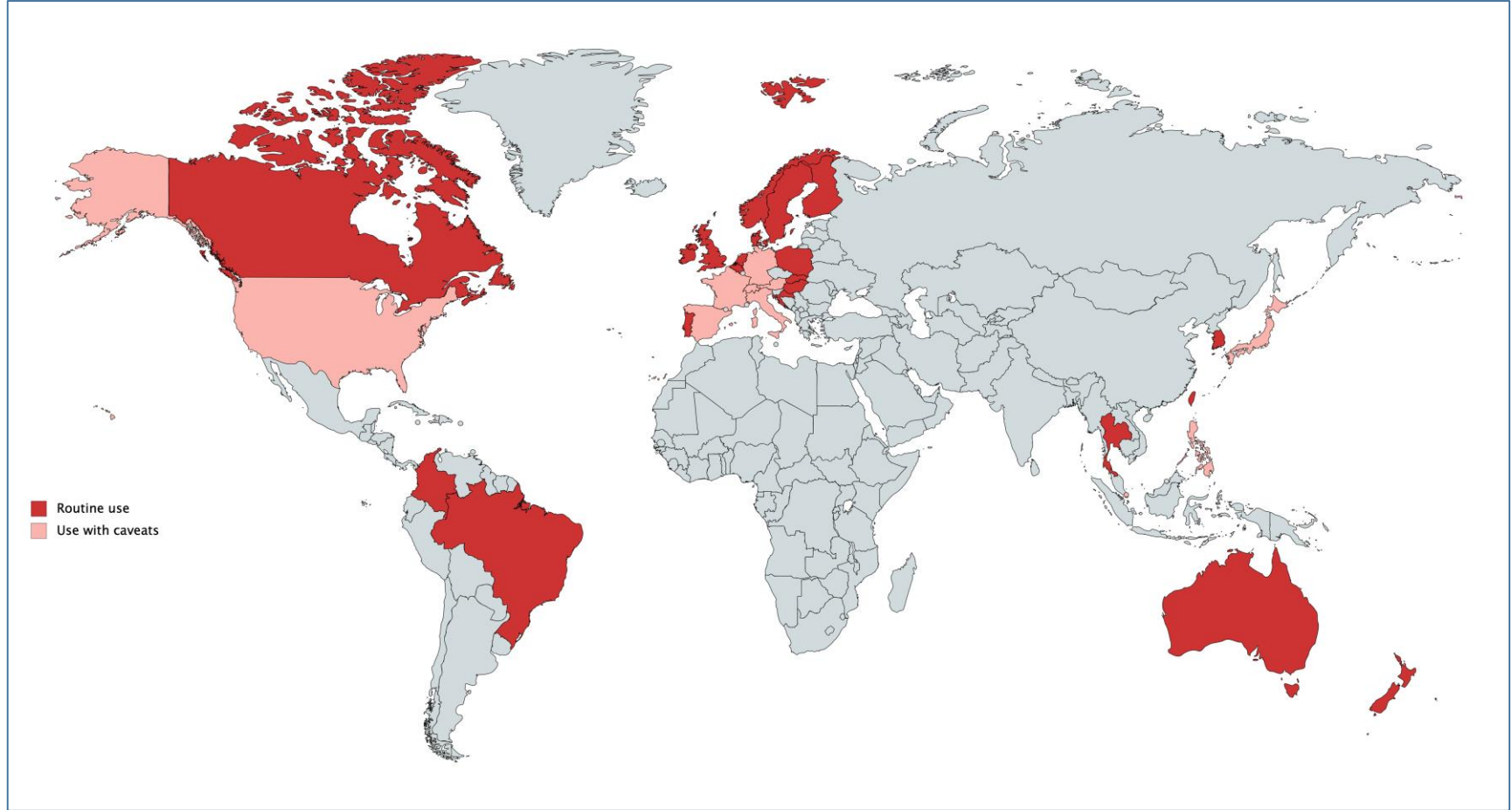
# Economic evaluation to inform decisions



# What types of intervention?



# Economic evaluation in drug funding decisions



# Positive versus normative

- Positive
  - How do decision makers reach decisions?
  - What factors do they take into account?
- Normative
  - How should decisions be made?
- What position should analysts take?
  - Reflect decision makers' stated requirements
  - Present all relevant information
  - Seek to make decisions transparent
  - Contribute to making decision makers accountable?

# Two decisions for health care interventions

Is the intervention cost-effective based on existing evidence?

		Yes	No
Is additional research valuable?	Yes	<b>Adopt</b> <b>Demand additional evidence</b> <b>Revisit decision</b>	<b>Do not adopt</b> <b>Demand additional evidence</b> <b>Revisit decision</b>
	No	<b>Adopt</b> <b>Do not demand extra evidence</b> <b>Review decision if other evidence emerges</b>	<b>Do not adopt</b> <b>Do not demand extra evidence</b> <b>Review decision if other evidence emerges</b>

# Analytical requirements for decision making

## Adoption decision – decision problem

Relevant population



- As specific as possible
- Often defined by line of treatment (e.g. 1<sup>st</sup> line treatment of metastatic breast cancer)

Relevant sub-population(s)



- One or more sub-groups
- Possibility of heterogeneity

Options being compared



- Full range of options
- May be intervention of interest plus comparators
- Includes strategies (e.g. sequences, stopping rules)



# Analytical requirements for decision making

## Adoption decision – design

Clear objective function



- No consensus on fully specified function
- Centrality of health
- Can include other factors (e.g. severity, inequality)

Defining constraints



- Usual focus on financial (budget) constraints
- Increasing interest in real resource constraints

Usual all relevant evidence



- Importance of systematic evidence identification
- Different type of evidence
- Quality assessment, synthesis

# Analytical requirements for decision making

## Research decision

Quantification of uncertainty



- Consider all evidence simultaneously
- Ideally parametric and structural
- Decision uncertainty – probability of a wrong decision

'Costs' of a wrong decision



- In terms of health or financial costs
- Aggregate to population level
- Equivalent to value of perfect information

Implications for decisions



- Adds to decision options with research
- Will research be undertaken if adopted?
- How long will research take?
- Will other information emerge to reduce uncertainty?

# Summary

- Increasing use of economic evaluation in policy
- Focus on pharmaceuticals but principles apply more widely
- Important distinction between adoption and research decisions
- Important principles of analysis to address each question