Too Costly to Keep Alive? Equity Concerns Arising From New Economic Evaluation Guidance

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Disclosure Slide

THETA was commissioned by CHP Pharma to conduct an economic evaluation for Sevelamer which is used as a case study in this presentation today.

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CONTENTS

- Background to ‘unrelated’ costs.
- Using a case study to demonstrate the implications.
- Potential solutions.

BACKGROUND

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What Are Unrelated Costs?

- Costs that are not dependent on the **intervention** or **disease** being evaluated.

Drug extends life in heart failure patients, include:	Related cost?
Cost of the drug	☑
Cost of managing side effects associated with drug	☑
Cost of heart failure management	☑
Cost of potential cancer care due to increased life expectancy	☒

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What Has Been the Debate?

Include unrelated costs	**Exclude unrelated costs**
➢ They represent an opportunity cost.	➢ Disadvantages high cost users.
➢ We include the health benefits derived from unrelated costs.	➢ May lead to an inequitable distribution of health.
➢ Creates more consistency as the definition is rather loose.	➢ Involves making assumptions about future healthcare spending.

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What Do The Guidelines Say?

- New US guidance says:
  - *"…include current and future costs both related and unrelated to the condition under consideration…"*
- Guidelines from the Netherlands and Sweden also explicitly call for the inclusion of unrelated costs.
- The National Institute for Health and Care Excellence in the UK says:
  - *"Costs that are considered to be unrelated to the condition or intervention of interest should be excluded"*

What Do The Guidelines Say?

- In the previous 3rd edition of guidelines for economic evaluation CADTH said:
  - *"Unrelated costs that are incurred during life-years gained from the intervention may be included at the analyst's discretion in a sensitivity analysis."*
- Unlike previous editions now CADTH does not explicitly mention 'unrelated' costs.
- In the latest 4th edition CADTH says:
  - *"…future resource use should be included where it is understood that the clinical or care pathway includes resource-intensive health states…"*

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CASE STUDY

Background Information

- Patients with end stage renal disease on dialysis often experience elevated phosphate levels.
- Calcium based phosphate binders (CB) have been used to tackle this, however these may lead to calcification of arteries and increase the risk of cardiovascular events.
- Non-calcium phosphate binders (Sevelamer) are as effective as CB in controlling phosphate levels, with a lower mortality risk. Relative risk of mortality 0.54 [CI]: 0.32 to 0.93. (Patel et al 2016)

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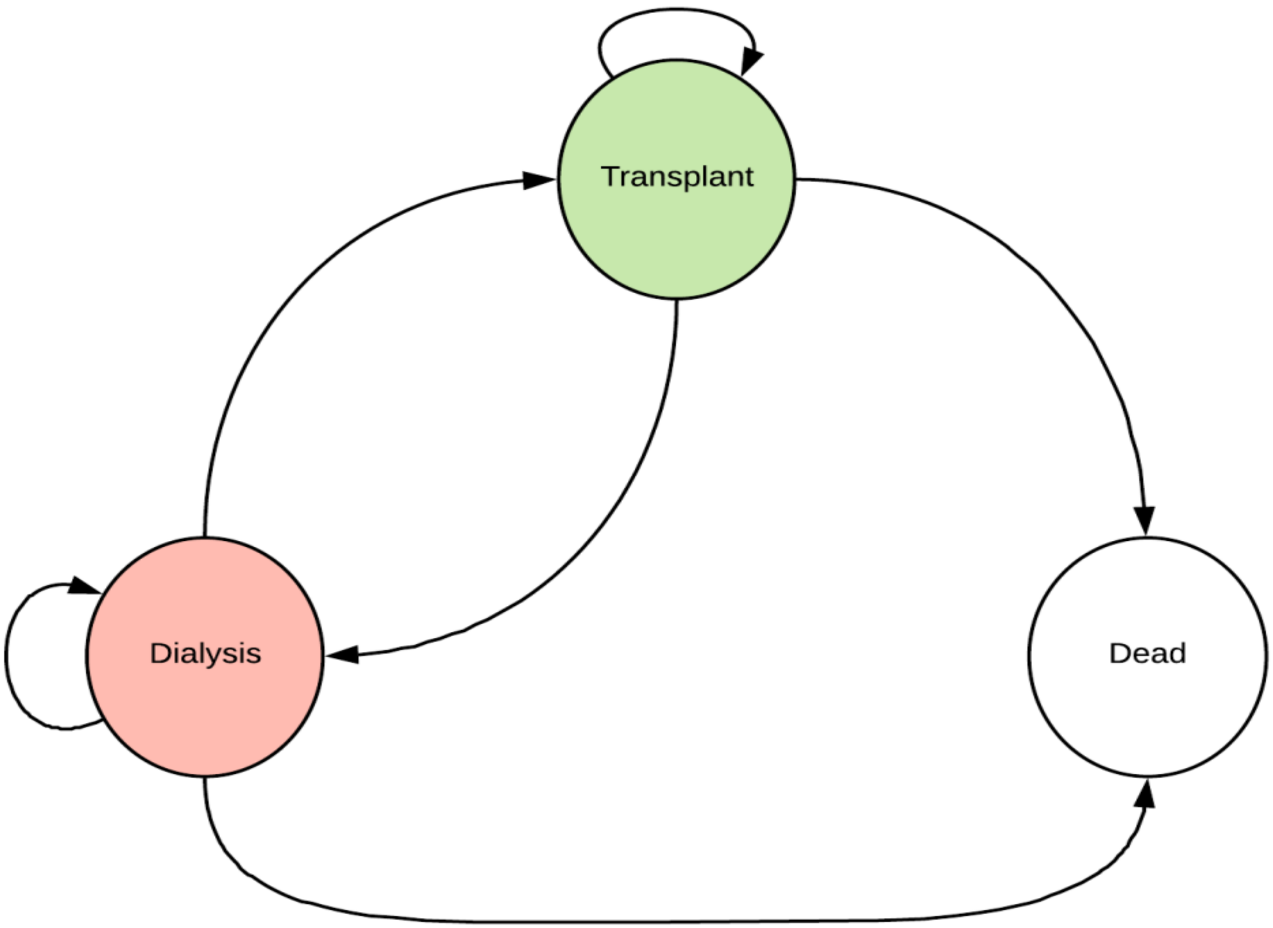
How The Economic Evaluation was Approached



Dialysis state

Related: $73,356	Unrelated: $48,904

Transplant state

Cost (annual) : $26,390
Utility: 0.816

Annual drug cost (only incurred for dialysis)

CB cost: $72
Sevelamer cost: $4,380

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Case Study Results

Base case

Strategy	Cost	δ costs	QALYs	δ QALYs	ICER	Prob. (CE)*
CB	$576,401	-	4.6	-	-	<99%
Sevelamer	$835,475	$259,073	6.6	1.9	**$139,204**	<1%

Set the cost of Sevelamer to $0

Strategy	Cost	δ costs	QALYs	δ QALYs	ICER	Prob. (CE)*
CB	$576,402	-	4.6	-	-	<99%
Sevelamer	$808,340	$231,939	6.6	1.9	**$121,709**	<1%

Remove unrelated dialysis costs

Strategy	Cost	δ costs	QALYs	δ QALYs	ICER	Prob. (CE)*
CB	$379,618	-	4.6	-	-	35%
Sevelamer	$548,164	$168,546	6.6	1.9	**$95,981**	65%

* $100,000 per QALY threshold

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Case Study Results Conclusions

- Using conventional threshold estimates, Sevelamer would not be deemed a cost effective intervention.
- No life extending intervention would be deemed 'cost-effective' (at a $100,000 per QALY threshold) in this group of patients.
- The merit of the treatment is washed out by pre-existing costs.

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POTENTIAL SOLUTIONS

WHAT IS THE ROLE OF HEALTH ECONOMICS?

- 1. Tool for allocating a healthcare budget.
- 2. Maximization of health (or welfare).

- In both cases- inclusion of unrelated costs is implied by economic theory (e.g. Meltzer 1997).

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(POTENTIALLY PROBLEMATIC) ETHICAL CONSEQUENCES?

- Are there certain subgroups with higher unrelated costs?
  - Age (old vs young)
  - Socioeconomic status (low vs high)
  - General health (sick vs healthy)
- Life extending interventions in individuals with higher unrelated costs become less cost effective (sometimes prohibitively so).

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POTENTIAL SOLUTIONS

- 1. Accept inclusion and implications of "unrelated" costs.
- 2. Exclude 'unrelated' costs.

- Both can be justified on equity grounds …

Potential Solutions

- 3. Use equity weights in CEA

How much healthcare we willing to trade-off to improve equity?

Cost-effectiveness

\+

Win-Lose

- Cost-effective (+)
- Harms Equity (-)

Win-Win

- Cost-effective (+)
- Improves Equity (+)

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\+ Equity

Lose-Lose

- Cost-ineffective (-)
- Harms Equity (-)

Lose-Win

- Cost-ineffective (-)
- Improves Equity (+)

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Cookson et al (2017)

My conclusions

- Inclusion of unrelated costs is theoretically sound and more transparent.
- However, results will raise issues around equity.
- Must ensure these equity concerns are captured.
- Explicit equity conversations need to take place in the decision making framework.

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Thank You

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