How Does Price Matter in Healthcare Stated-Choice Surveys?

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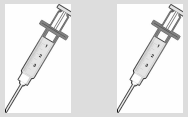
Stated-Preference Tradeoff Task

Features	Treatment Plan A	Treatment Plan B	Current Treatment
Diabetes medications:			
Fasting glucose:	90-120 mg/dL	70-170 mg/dL	> 170 mg/dL
HbA1c	< 7%	7-8%	> 8%
Hypoglycemic events/month	3-6	< 1	1-2
Out-of-pocket cost/month	$100	$50	$150
Circle the letter that describes your opinion	**Prefer Plan A** **A**	**Prefer Plan B** **B**	**Prefer current treatment** **C**

Are Conjoint WTP Estimates for Healthcare Valid?

- Requires subjects evaluate hypothetical healthcare prices correctly
- Limited market experience—unaccustomed to paying full cost
- Resistance to principle of patients paying for healthcare
- Hypothetical money—health tradeoffs
- Simplifying heuristics to minimize cognitive burden

Six Datasets Used in Analysis

Study	Price/Cost Levels	Number of Respondents	Number of Alternatives	Number of Tradeoff Questions
Colorectal Cancer	25, 100, 500, 1000	1,087	2	12
HIV testing dataset	0, 10, 50, 100	354	2	10
Insulin Devices	100, 175, 225, 300	402	2	8
Diabetes Prevention	0, 25, 50, 100, 200	703	3	9
Inhaled Insulin	50, 100, 150, 200	737	3	10
Febrile Neutropenia	0, 50, 100	420	2	10

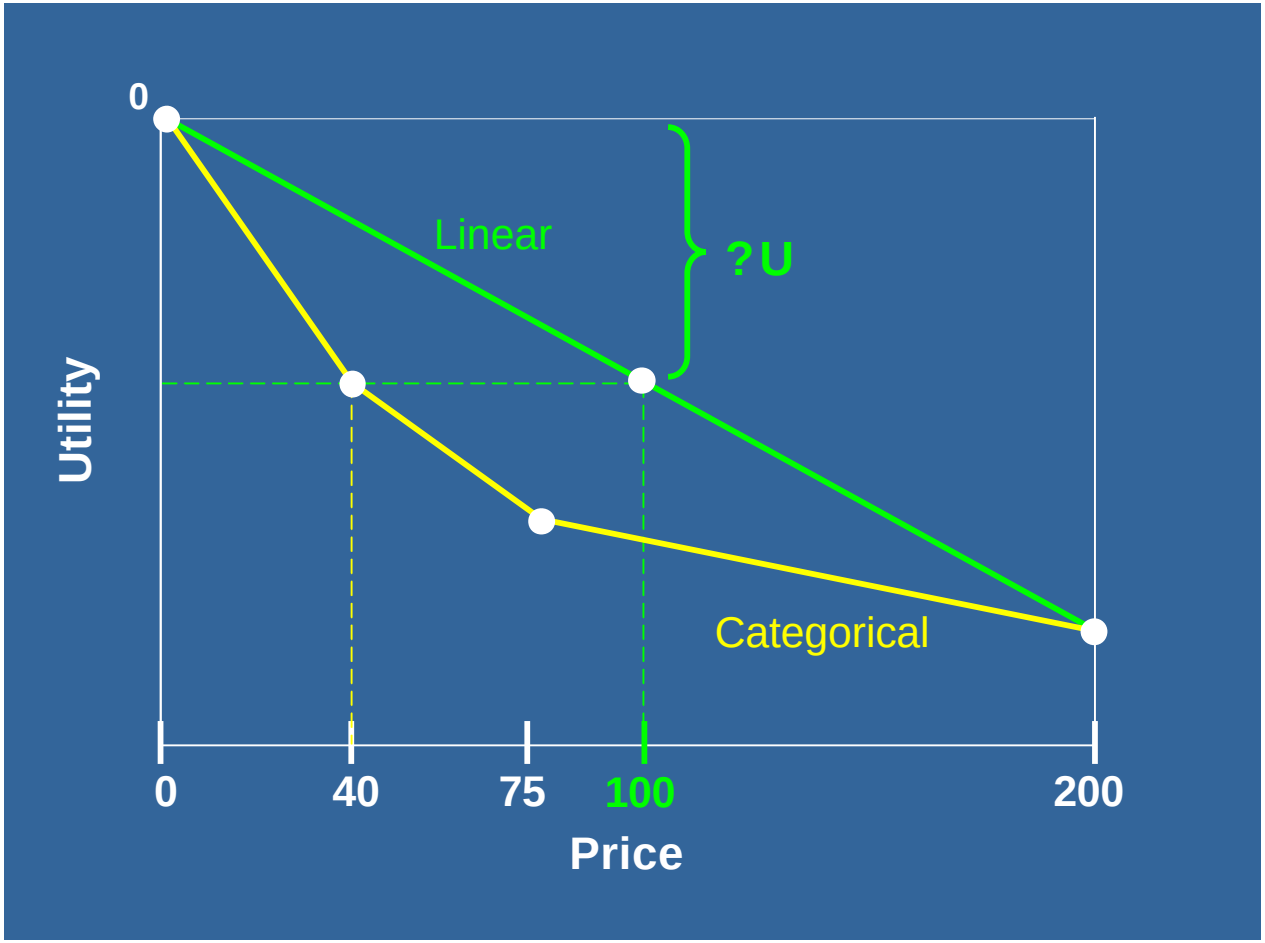
Willingness to Pay for Health Improvements

$$U(H_o, Y) = U(H_1, Y - WTP)$$

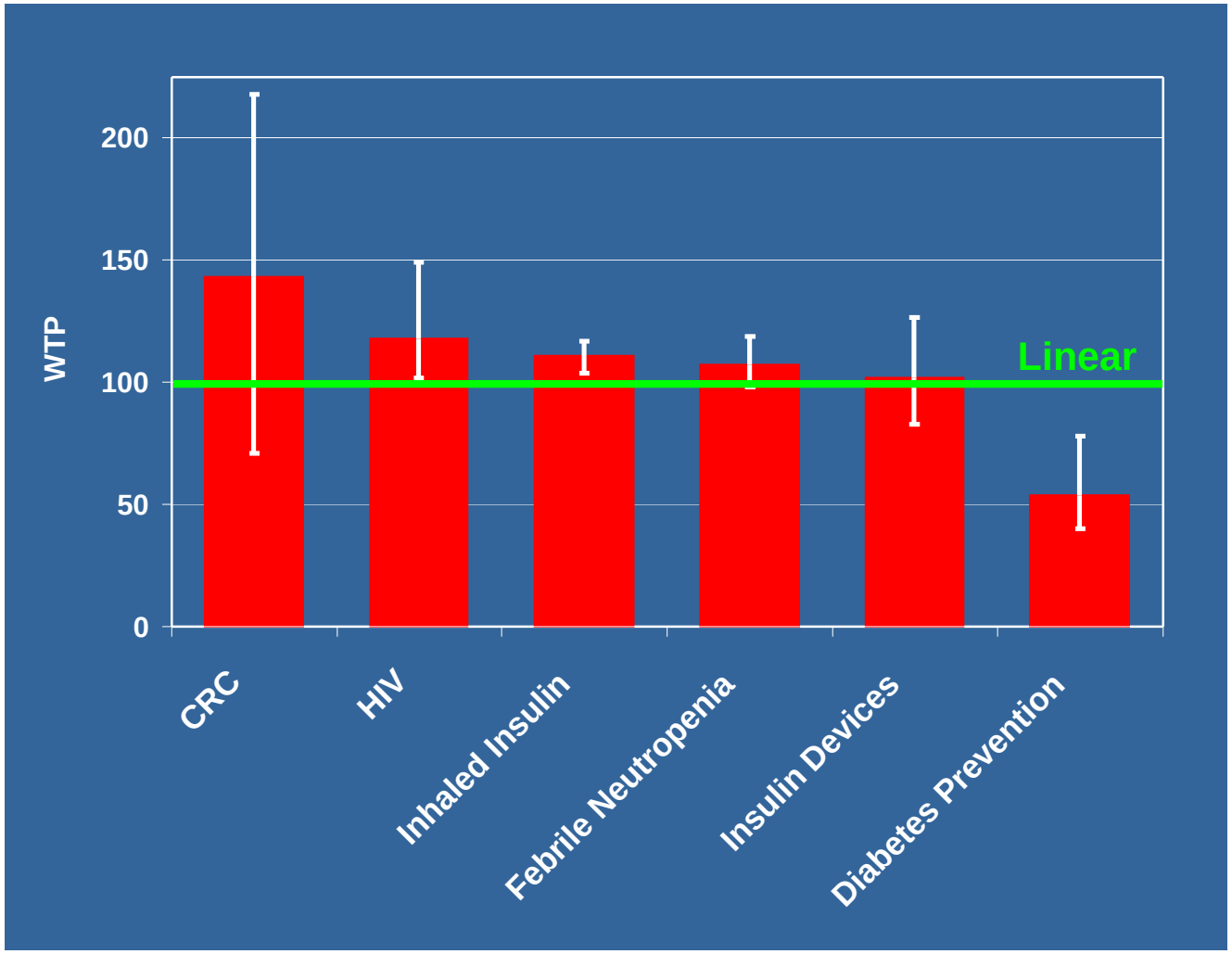
$$U_H(H_o) + U_Y(Y) = U_H(H_1) + U_Y(Y - WTP)$$

$$WTP = \frac{U_H(H_o) - U_H(H_1)}{dU_Y / dY}, \quad dU_Y / dY = -\beta_{price}$$

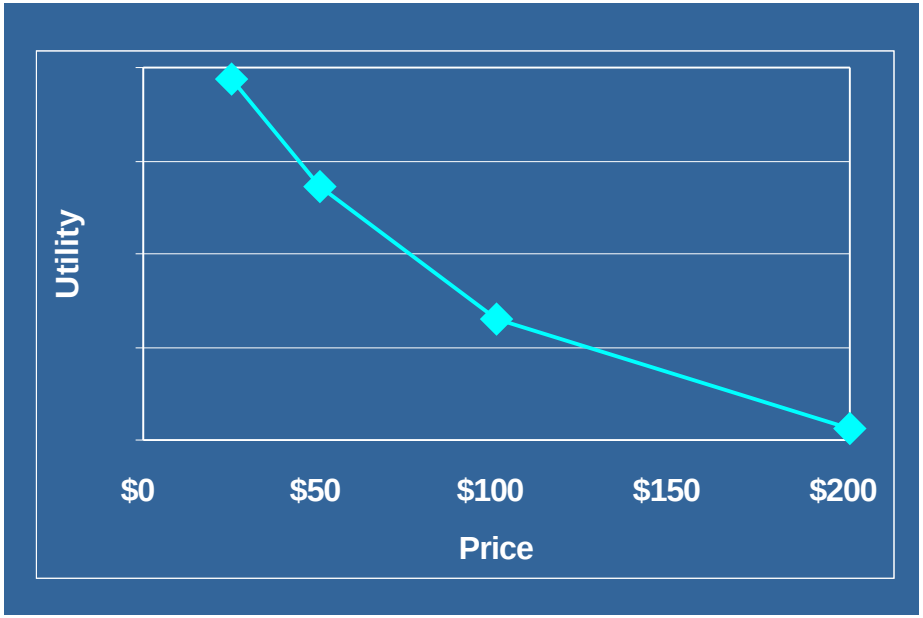
Linear and Categorical Price Functions

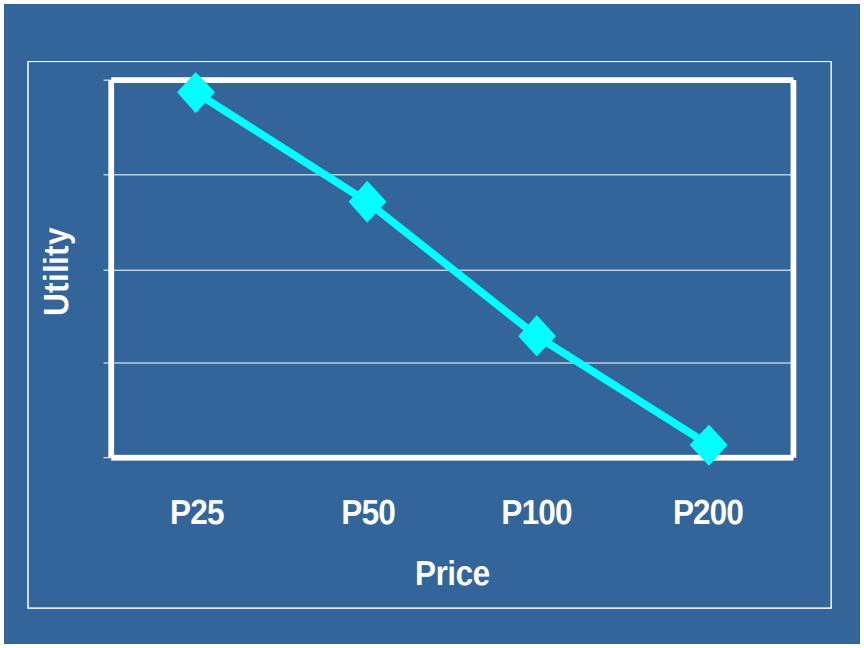


Piecewise Linear Categorical Estimates



Price Recoding for Diabetes Prevention





Three Datasets with Apparently Consistent WTP

Study	Price/Cost Levels
Insulin Devices	100 v 175 v 225 v 300 75 50 75
Inhaled Insulin	50 v 100 v 150 v 200 50 50 50
Febrile Neutropenia	0 v 50 v 100 50 50

Cheap Talk

- ***We asked you to respond to the question as though it involved a real cash payment. In most studies of this kind, folks seem to have a hard time doing this.***
- ***A recent study compared real payments and hypothetical payments.***
  - ***In the real situation, 25% said 'yes' and 75% said 'no.'***
  - ***In the hypothetical situation, 38% said 'yes' and 62% said 'no.'***
- ***How can we get people to think about their answer in a hypothetical situation like they think in a real situation?***
  - ***The only way that we know is to simply ask you.***
  - ***<u>Please</u>, <u>please</u>, <u>please</u> tell us what you would do if this were real.***

(Murphy et al., 2005)

Motivating Payment

- **Copay levels may increase in the future**
- **Some new medications may not be covered by insurance**
- **Some costs related to treatment are not covered by drug benefit**
  - Over-the-counter medications
  - Dietary supplements and special foods
  - Transportation
  - Child care
  - Lost income if self-employed

Survey Design and Analysis Considerations

- **Do CA subjects evaluate healthcare prices correctly?**
- **Categorical models allow for preferences that do not conform to linear MUY**
- **Increasing intervals between prices allow recoding test**
- **Improving CA instruments**
  - Cheap talk
  - Better motivation for payment