## Slide 1: Quantifying Patient Preferences

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## Slide 2: Elicitation vs Construction

- Patients frequently do not have preformed "informed" preferences
- Advocates of SDM have addressed this need    by developing decision support tools

## Slide 3: Tools

- Decision support tools cover many options
- The tools differ:
    o Format
    o Amount of information
    o Testimonials
    o Value clarification
    o Quantify preferences

## Slide 4: Decision Tree
The decision tree shows 2 branches:

- Option 1 has two branches: 99% healthy; 1% dead.
- Option    has one branch Moderate functional impairment

## Slide 5: Conjoint Analysis

- Developed in 1970s
- "Conjoint": buyers evaluate products or services based on *conjoined* attributes
- Extremely popular approach in marketing
- Works in "real world"
    o Data not predicted by managers

## Slide 6: How Does Conjoint Analysis work?

- Breaks products down into attributes
- Asks you to make trade-offs
- Predicts:
    o How much you value each attribute
    o Which attributes most strongly influence
       your preference
    o Which product you should prefer

**Slide 7: Ex: Laptop**

| Attributes | Levels |
|---|---|
| Screen | 15 Inches |
| | 12 inches |
| Price | $1300 |
| | $1800 |
| Weight | 4 lbs. |
| | 6 lbs. |

**Slide 8:  Valuation**

| Attribute | Level | Value |
|---|---|---|
| Screen | 15 inches | 13 |
| | 12 inches | 11 |
| Price | $1300 | 61 |
| | $1800 | 5 |
| Weight | 4 lbs | 42 |
| | 6 lbs | 22 |

**Slide 9: Preferences**

| Model | Screen | Weight | Price | Pref |
|---|---|---|---|---|
| 1 | 12" | 6 lbs | $1800 | 5 |
| 2 | 15" | 6 lbs | $1800 | 7 |
| 3 | 12" | 4 lbs | $1800 | 33 |

| | | | | |
|---|---|---|---|---|
| 4 | 12" | 6 lbs | $1300 | 55 |

**Slide 10: Untitled**
Pie Chart contacting the following labels: Cancer, Infertility, Infection, Efficacy, Mucositis, Cystitis, Nausea, Zoster, Alopecia

**Slide 11: Types of Conjoint Analysis**

- Full profile
- CBC, or choice-based conjoint analysis
- ACBC, adaptive choice-based conjoint analysis
- ACA, or adaptive conjoint analysis

**Slide 12: ACA**

- ACA:
    - Interactive – can handle a lot of attributes
    - Feedback in real time
    - Can be used at individual patient level
- 3 sets of questions to determine each patient's value for differences in risks and benefits

**Slide 13: Untitled**
10-point scale. Left side of scale, "Not willing at all" Right side of scale, Extremely willing. Row captions: Cream, Pills, Injection, Exercise

**Slide 14: Untitled**
5-point scale anchored by 2 images. On the left an image of a cream; on the right, an image of an inkection.

**Slide 15: Untitled**
10-point scale anchored by 2 images. On the left an image of an individual lifting bar-bells over his head ; on the right, an image of an individual unable to lift bar-bells over his head.

**Slide 16: ACA as a decision tool:**

- Process: e.g. HCV
- Output:
    - Relative importances
    - Choices

Source: Eisenberg Center Conference Series 2011 Differing Levels of Clinical Evidence: Exploring Communication Challenges in Shared Decisionmaking, Effective Health Care Program Web site (http://www.effectivehealthcare.ahrq.gov/index.cfm)

**Slide 17: What is important to me:**
Bar chart showing these bars showing these labeled bars on the Y-axis:  Type, Pain, Strength, Dyspepsia, Ulcer.  Relative value of each is not provided.

**Slide 18: Untitled**
Scale of choices from worst to best: injections, capsaicin; Tylenol: Exercise; Exercise and NSAID

**Slide 19: ACA as a decision tool:**

- Process: e.g. HCV
- Output:
    - Relative importances
    - Choices
- Changing preferences

**Slide 20: CBC example: These options prevent bone loss after menopause. If these were your only options which would you choose?**
Four individual bar charts captioned: Infusion 1x/year; Exercise 3x/week; 1 pill 1x/week; none.

**Slide 21: Best-Worst Scaling**

- ~ MaxDiff
- Developed as alternative to rating and ranking tasks
- Prompts subjects to choose "best item" and/or worst item from series of sets

**Slide 22: Untitled**
Question from a survey, Please consider how important each of the following goals are for you in thinking about whether or not to start a biologic. Considering these four items, which is the most important to you?

- Increasing the chance that I will be able to stay independent
- Decreasing the amount of fatigue I have now
- Decreasing my chance of future joint damage
- Decreasing the amount of money I spend on medications

**Slide 23: Deciding About Colorectal Cancer Screening**

- Sensitivity of the test
- Possible tearing
- Capsule getting stuck

Source:   Eisenberg Center Conference Series 2011  Differing Levels of Clinical Evidence: Exploring Communication Challenges in Shared Decisionmaking, Effective Health Care Program Web site (http://www.effectivehealthcare.ahrq.gov/index.cfm)

- Sedation
- Pain
- Prep
- Tube in rectum
- Stool card test
- Ride
- Swallow capsule
- Miss work

## Slide 24: Untitled
A bar chart illustrating the differences between physician and patient scores on a variety of choices in making a health decision. Data on bars are not available.


## Slide 25: Advantages of BWS

- Question format easy to understand
- Works across diverse backgrounds
- More efficient than rating scales
- < social desirability or extreme response
- Can handle large number of items

## Slide 26: Quantifying Preferences

- Specific probabilities vs Gist
    - R   example
- Average vs individualized probability estimates
    - Atrial Fibrillation

## Slide 27: Know the Numbers

- Atrial Fibrillation
    - Individualized probability estimates

## Slide 28: Untitled
Image of a data input form for a patient medical visit.

## Slide 29: Presentation of outcome data for all treatment options
Six boxes containing 100 icons of faces. The boxes are stacked two-high and three wide. The columns are labeled, "no Medication," " Aspirin," Coumadin." The rows are labeled, "Stroke" and "Bleed."