

# Survey instrument Willingness to Pay

## 5.1 Survey Overview

The main elements of the survey are shown In Table 5.1, and those sections are discussed thereafter.

**Table 5.1: Survey Overview**

Number	Survey step
1	Introduction, Information and Consent
2	Household composition - which children & which adults have which FHS conditions. Nomination of child (if child survey and > 1 child has FHS).
3	Current EQ5D and VAS
4	Quality of life measures - FAQLQ, FIQLQ or CDQ
5	Contingent EQ5D and VAS - scored as if FHS removed
6	Discrete Choice Experiment (DCE) a) Introduction and training b) Zero costs training choice sets c) Debriefs on why 20-year zero cost option rejected (if it is) and minimum duration required to be desirable. d) 9 costed choice sets (unless declined all zero cost options) e) Includes cheap talk social desirability script f) DCE debrief – how hard to understand, how hard to make choices. g) Protest debriefs – why always paid/why never paid
7	Open ended CVM questions
8	Best Worst Scaling (BWS) – using FAQLQ, FIQLQ, or CDQ items. a) Introduction and training b) BWS sets c) BWS debrief – how hard to understand, how hard to make choices
9	Demographics
10	Subjective perception of illness
11	Risk attitudes
12	Free text comments

### 5.1.1 Household composition and conditions

These questions elicited how many adults and how many children had which food hypersensitivities and what were the ages of the children.

If there were

- adults but no children with FHS in the household – the respondent was routed to the Adult FHS questions only
- one child with FHS in the household – the respondent was routed to the Child FHS questions only (whether or not there were adults with FHS in the household)
- >1 child with FHS in the household – the respondent was routed to the Child FHS questions (whether or not there were adults with FHS in the household). The respondent was also asked to nominate one child to answer about (and the age and FHS of that child was elicited).

If respondents had more than one condition they were asked which one had the greatest impact on their quality of life - this was in part because they were required to complete quite lengthy HR

QoL instruments and it was regarded as impractical for people to complete more than one of these.

### **5.1.2 EQ5D and VAS – Current Health**

Adults scored their current health on the day of the survey using the EQ5D-5L. These values were then referred to as 'baseline' health.

Parents were asked to complete the EQ5D for their children. As no proxy version of the EQ5D-5L is available for children, the EQ5D-3L proxy version was used.

Respondents also scored their (child's) health using a Visual Analogue Scale (VAS) (Appendix A).

### **5.1.3 Quality of Life measures - FAQLQ, FIQLQ, CDQ**

Adults rated the impacts of their food hypersensitivity on their life using one of FAQLQ, FIQLQ or CDQ.

Parents rated the impacts of their child's food hypersensitivity on their life using age-appropriate versions of the FAQLQ, FIQLQ or CDQ.

### **5.1.4 'Contingent' EQ5D and VAS – without food hypersensitivity**

Adults were asked to imagine what their health related QoL would be if they did not have their food hypersensitivity - and then score that imagined health state using the EQ-5D-5L.

Likewise, parents were asked to imagine their child's health without their FHS and score it using the proxy EQ-5D-5L.

Respondents were also asked to use the VAS to indicate how they thought their (child's) health would be in the absence of their food hypersensitivity.

These questions were included to allow comparison with baseline (current) EQ5D and VAS scores; the difference between the two scores, at the individual level, being a measure of FHS severity.

### **5.1.5 Discrete Choice Experiment (DCE)**

The DCE comprised 9 binary choice sets (see section 3)

These were preceded by training materials that introduced the idea of temporary removal of food hypersensitivity via a pill taken once. The training included 3 choice sets in which the binary choices were between the current situation and removal of their (child's) FHS for 1, then 5, then 20 years – all at zero cost.

The prospect of there being a cost for the pill was then introduced.

If people declined free removal in all 3 training sets (i.e. including the removal of FHS for 20 years for free) they were skipped past the priced DCE – since they had declined the 'best' offer at zero price and so offering them inferior options at positive prices was unnecessary.

People who declined all 3 training sets were instead debriefed as to why they had declined them, and what was the minimum period of removal they would require to be interested in the option.

People who completed the 9 priced choice sets were asked debrief questions on

- how hard was it to understand the DCE choices
- how hard was it to make the DCE choices.

People who always chose to buy the pill in the 9 sets were presented with debrief questions (to allow identification of protest or problematic behaviour – for example people not taking the price seriously).

People who never chose to buy the pill in the 9 sets were presented with debrief questions (to allow identification of protest or problematic behaviour – for example not thinking that the pill would be safe and therefore not considering buying it).

### **5.1.6 Contingent Valuation questions**

Respondents were asked an open-ended Contingent Valuation question as to the maximum they would pay for temporary removal of their condition for either 1, 3, or 5 years (randomly assigned a duration).

Additionally, they were asked their maximum WTP to remove their (child's) food hypersensitivity permanently.

### **5.1.7 Best Worst Scaling (BWS)**

The BWS comprised repeated choices of which food hypersensitivity impacts had the greatest/least impact on the respondents' quality of life (see Section 4, Appendix E).

These were preceded by training materials that introduced the items and the structure of the BWS tasks.

People who completed the BWS sets were asked debrief questions on

- how hard was it to understand the BWS choices?
- how hard was it to make the BWS choices?

### **5.1.8 Demographics**

Information on sex, income, etc was collected and is reported in Appendix H.

### **5.1.9 Subjective Perception of Illness**

We used a subjective perception of illness scale as an additional potential measure of the impact of the conditions on respondents. We used the widely cited Brief Illness Perception Questionnaire (Brief IPQ) (Broadbent et al., 2006) which uses 9 questions on a single, 11-point, scale.

We report on the distributions of Brief IPQ scores in Appendix M and report results of choice models estimated incorporating this variable in Appendix R.

### **5.1.10 Risk Attitudes**

The propensity to commit to (one's child) taking a pill to eliminate a food hypersensitivity was hypothesised to potentially be affected by one's attitude to risk.

To derive a measure of risk attitude, questions from the SOEP (German Socioeconomic Panel) were included in the survey. These questions and the resulting data are described in Appendix N. The Risk measure is included in additional choice models reported on in Appendix R.

### **5.1.11 A note on Sample Size**

When designing a DCE a consideration of required sample size is appropriate. One can, with appropriate assumptions about the distribution of population preferences, simulate the necessary sample size to achieve statistically significant estimates for all parameters.

In this case, with only two DCE attributes and a full factorial, orthogonal, experimental design, the necessary sample sizes for statistical significance were small. The greater challenge was a recruiting sample for which representativeness could be claimed – something which we discuss in Section 11.