

# Discrete choice experiment results

## willingness to pay

WTP results are derived from estimation of mixed logit models on the choice data, with inferences drawn based on random utility theory.

### 9.1 Protest Behaviour

Respondents whose choice behaviour was regarded as protest behaviour were excluded from the estimation process. For example, those who indicated they always chose to pay for the pill because they did not take the price seriously, or those who said they did not trust the pill would work and so never chose to buy it.

Of those who completed the priced choice sets, 4.5% of adults and 2% of parents were excluded for such protest behaviour (for more details see Section 17). We regard these rates of protest behaviour as low, particularly given the context of trading off money against (a child's) health.

### 9.2 Aggregate Models

#### 9.2.1 Aggregate Models: Adults

The first two models on the adult DCE data are aggregated models, with the data pooled over all 3 conditions.

We estimate a model (AM1, see Table 9.1) in which choices are potentially affected by the duration of symptom removal ("years") and the cost of the pill ("cost").

We include an alternative specific constant (ASC) to account for the nature of the status quo "SQ" option over and above its levels of duration and cost. The ASC term on the status quo option is specified as a normally distributed random parameter with the parameters of that distribution estimated.

In this model (AM1) the signs of the Cost and Years terms are as expected – people prefer longer periods of symptom removal and lower costs.

The mean value of the SQ term is positive, implying people positively value the status quo option; they have an aversion to the change associated with taking the pill. The SQ term enters the model as a random term – the estimate of the standard deviation of the SQ term is positive - meaning that there is significant variation in the value placed on it. This means some people will have an aversion to it, that is, they positively value the change associated with taking the pill. The WTP value for a year without a FHS, from model AM1, is £718.

Aggregate Model AM2 (reported in Table 9.1) is more complex in that the duration of the period of removal of FHS is entered as a quadratic expression, to allow for declining marginal utility from additional years, further in the future. Lower utility from additional years of FHS absence could be the result of diminishing marginal utility or the discounting of gains further in the future.

Model AM2 also accommodates heterogeneity in the severity of the FHS condition.

Two interaction terms are introduced which allow for differences in utility functions according to the VAS change people reported they anticipate from removal of their FHS. We use VAS difference because we need a measure that applies over all conditions (unlike FAQLQ etc which are specific to FHS conditions).

Interaction terms are specified between anticipated VAS change and:

- years of FHS removal
- the mean of the SQ ASC term.

Model AM2 results indicate that years without FHS are positive, cost is negative and the SQ ASC is again positive although there is significant heterogeneity in the marginal utility of the SQ term.

The Years2 term is negative, consistent with declining marginal utility from additional years of FHS, further in the future.

The VASdif\*years term is positive (people who expect a bigger improvement in their QoL from removal of their FHS value years without that FHS more highly) but is not significant.

The VASdif\*SQ term is negative and significant - people who expect a bigger improvement in their QoL from removal of their FHS value are less averse to moving away from the SQ (taking the pill). This is an intuitive result.

**Table 9.1: Models AM1 and AM2 - Adults, aggregate model**

Category	Aggregate Model (AM1)	signif	Aggregate Model (AM2)	signif
years	0.0919	***	0.159	***
(s.error)	(0.00781)	-	(0.0223)	
years2	-	-	-0.00331	***
(s.error)	-	-	(0.000902)	-
cost	-0.000128	***	-0.000129	***
(s.error)	(1.17e-05)	-	(1.18e-05)	-
VASdif x years	-	-	0.000183	-
(s.error)	-	-	(0.000400)	-
SQ (mean)	1.206	***	1.710	***

Category	Aggregate Model (AM1)	signif	Aggregate Model (AM2)	signif
(s.error)	(0.100)	-	(0.144)	-
SQ (SD)	2.937	***	2.900	***
(s.error)	(0.208)	-	(0.207)	-
VAS dif x SQ	-	-	-0.0357	***
(s.error)	-	-	(0.0094)	-
Choices	10,809	-	10,809	-
Individuals	1201	-	1201	-

The WTP values from AM2 (see Table 9.2) are moderated by the year (the first year is valued more highly than the 10th or 20th year) and by the person's expected VAS improvement from removal of their FHS.

For someone anticipating a 5-point improvement in their VAS score (which is the median change in VAS between current and no-FHS score), the first year is valued at £1191, the 10th year is valued at £727, and the decline in value over time is such that a 20th year is not valued.

For someone anticipating a 21-point improvement in their VAS score (which is the 90th percentile change in VAS between current and no-FHS score), the first year is valued at £1214, the 10th year is valued at £750, and the decline in value over time is such that a 20th year is not valued.

**Table 9.2 Marginal WTP for a single year removal. Adult aggregate results with quadratic duration term and VAS change interactions**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
Years =1 dif=5	1191	144	8.29	<0.001	909	1472
Years=10 dif=5	727	50	14.45	<0.001	629	826
Years=20 dif=5	212	134	1.58	0.113	-50	475
Years=1 dif=21	1214	147	8.25	<0.001	925	1502

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
Years=10 dif=21	750	61	12.3	<0.001	630	869
Years=20 dif=21	234	139	1.69	0.091	-37	507

## 9.2.2 Aggregate Models: Children

The first model reported is an aggregate model, over all 3 conditions.

We estimate a model (PAM1, see Table 9.3) in which choices are potentially affected by the duration of child's symptom removal ("years") and the cost of the pill. As with the adult models we include a normally distributed random term for the status quo ASC.

In this model (PAM1) the signs of the Cost and Years terms are as expected – people prefer longer periods of symptom removal and lower costs.

SQ is positive, implying people value the status quo option, they have an aversion to the change associated with their child taking the pill, although there is significant heterogeneity in the marginal utility of the SQ term.

**Table 9.3 Base Aggregate Model**

Category	Child Aggregate Model (PAM1)	significance
years	0.105	***
(s.error)	(0.00689)	-
cost	-0.000042	***
(s.error)	(2.43e-06)	-
SQ (mean)	0.609	***
(s.error)	(0.120)	-
SQ (SD)	2.265	***
(s.error)	(0.107)	-

Category	Child Aggregate Model (PAM1)	significance
Choices	5,202	-
Individuals	578	-

The WTP value is the ratio of the Years and Cost terms giving values reported in Table 9.4. Child, base aggregate model: Marginal WTP for a single year of removal of child's FHS.

**Table 9.4: Marginal WTP for year of removal of child's condition, base aggregate model**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
Aggregate	2501	155.97	16.04	<0.001	2195	2807

The average WTP for a year of removal of their child's FHS is £2501

## 9.3 Disaggregated Base Models

We now consider results for the 3 individual conditions.

### 9.3.1 Disaggregated Base Models: Adults

For each condition an initial, base, specification replicates that of model AM1: choices are potentially affected by the duration of symptom removal and the cost of the pill.

We include an alternative specific constant (ASC) to account for the nature of the option over and above its levels of duration and cost. The ASC term on the status quo option is specified as a normally distributed random parameter with the parameters of that distribution estimated.

Model results for each condition are shown in Table 9.5.

**Table 9.5: Disaggregated Adult models by condition (models A1, C1, I1)**

Category	Allergy Model A1	signif	Coeliac Model C1	Signif	Intolerance Model I1	Signif
years	0.0671	***	0.126	***	0.0638	***
(s.error)	(0.0149)	-	(0.014)	-	(0.0131)	-

Category	Allergy Model A1	signif	Coeliac Model C1	Signif	Intolerance Model I1	Signif
cost	-0.00108	***	-0.000165	***	-0.000106	***
(s.error)	(2.15E-05)	-	(0.0000243)	-	(1.59E-05)	-
SQ (mean)	1.199	***	0.790	***	1.985	***
(s.error)	(0.184)	-	(0.141)	-	(0.215)	-
SQ (SD)	2.610	***	2.570	***	3.458	***
(s.error)	(0.288)	-	(0.215)	-	(0.395)	-
Choices	2736	-	4752	-	3321	-
Individuals	304	-	528	-	369	-

Models A1, C1 and I1 yield the WTP estimates for a year of FHS removal shown in Table 9.6.

**Table 9.6 Marginal WTP for a year with condition removed**

Model type	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
Allergy	620	89	6.96	<0.001	445	795
Coeliac	760	67	11.37	<0.001	629	891
Intolerance	603	99	6.07	<0.001	408	797

The WTP for FHS removal for people with coeliac disease (£760) is higher than that for people with Food Allergies (£620) and Intolerances (£603).

### 9.3.2 Disaggregated Base Models: Children

For each condition an initial, base, mixed logit specification replicates that of model PAM1: choices are affected by the duration of child's symptom removal and the cost of the pill.

The ASC term on the status quo option is again specified as a normally distributed random parameter. Model results for each condition are shown in Table 9.7 and the resulting WTP values are displayed in Table 9.8.

**Table 9.7. Disaggregated Models, Children (models: PA1, PC1, PI1)**

Category	Child Allergy Model PA1	signif	Child Coeliac Model PC1	Signif	Child Intolerance model PI1	Signif
years	0.115	***	.0731	***	0.0874	***
s.error	(0.00824)	-	(0.0216)	-	(0.0158)	-
cost	-0.0000397	***	-0.0000453	***	-0.0000516	***
s.error	(2.73e-06)	-	(8.41e-06)	-	(6.53e-06)	-
SQ (Mean)	0.455	***	0.724	***	1.068	***
s.error	(0.138)	-	(0.404)	-	(0.291)	-
SQ (SD)	2.142	***	2.648	***	2.449	***
s.error	(0.122)	-	(0.381)	-	(0.267)	-
Choices	3573	-	576	-	1053	-
Individuals	397	-	64	-	117	-

**Table 9.8. Children, base models: Marginal WTP for a single year increase**

Category	WTP (£/year)	s.error	z	P	95 CI lower	95% CI upper
Allergy	2902	204	14.21	<0.001	2502	3302
Coeliac	1611	422	3.81	<0.001	783	2439

Category	WTP (£/year)	s.error	z	P	95 CI lower	95% CI upper
Intolerance	1695	274	6.18	<0.001	1157	2232

The average WTP for a year of removal of their child's food allergy is £2902, for coeliac disease it is £1611 and for Food Intolerance it is £1695.

## 9.4 Disaggregated Models using Condition-Specific QoL Measures

### 9.4.1 Models using Condition-Specific QoL Measures: Adults

In the next 3 adult models, reported in Table 9.9, condition-specific health effects are included. Unlike the aggregate model which uses the generic VAS score, the disaggregated models make use of condition-specific measures of condition severity (FAQLQ, FIQLQ, CDQ). Insignificant interactions are removed from the model.

We include interaction terms between the severity of the condition (FAQLQ, FIQLQ, CDQ) and:

- the value of additional years of FHS removal
- the value of the status quo.

**Table 9.9. Models Disaggregated by Condition, Adults**

Category	Allergy model A2	signif	Coeliac Model C2	Signif	Intolerance Model I2	Signif
years	-0.0484	-	0.126	***	-0.0461	**
s.error	(0.0401)	-	(0.0140)	-	(0.0386)	-
cost	-0.000109	***	-0.000166	***	-0.000105	***
s.error	(2.11e-05)	-	(2.47e-05)	-	(1.73e-05)	-
FIQ x years	-	-	-	-	0.0220	***
s.error	-	-	-	-	(0.00760)	-
FAQ x years	0.0221	***	-	-	-	-



Category	Allergy model A2	signif	Coeliac Model C2	Signif	Intolerance Model I2	Signif
s.error	(0.00746)	-	-	-	-	-
FIQ x SQ	-	-	-	-	-0.667	***
s.error	-	-	-	-	(0.150)	-
CDQ x SQ	-	-	-0.0281	***	-	-
s.error	-	-	(0.00771)	-	-	-
FAQ x SQ	-0.697	***	-	-	-	-
s.error	(0.141)	-	-	-	-	-
SQ (mean)	4.587	***	2.169	***	5.021	***
s.error	(0.731)	-	(0.396)	-	(0.771)	-
SQ (SD)	2.346	***	2.517	***	3.070	***
s.error	(0.246)	-	(0.216)	-	(0.362)	-
Choices	2736	-	4752	-	3321	-
Individuals	304	-	528	-	369	-

Robust standard errors in parentheses  
significance:\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### Food Allergy model A2

In this model the sign of Cost is as expected – people prefer lower costs. SQ is positive, implying people value the status quo option, they have an aversion to the change associated with taking the pill, although there is variation in that preference parameter.

The value of additional years without the food intolerance only becomes positive when the condition (the value of FAQLQ) is sufficiently severe (large) - the more severe the individuals' FHS condition (higher FAQLQ score) the higher the value attached to an additional year of FHS removal.

The more severe the individuals' FHS condition (higher FAQLQ score) the lower the value attached to the status quo – the less averse to change (taking the pill) people are.

### Food Intolerance model I2

In this model the sign of Cost is as expected – people prefer lower costs. SQ is positive, implying people value the status quo option, they have an aversion to the change associated with taking the pill, although there is variation in that preference parameter.

The value of additional years without the food allergy only becomes positive and significant when the condition (the value of FIQLQ) is sufficiently severe (large) - the more severe the individuals' FHS condition (higher FIQLQ score) the higher the value attached to an additional year of FHS removal.

The more severe the individuals' FHS condition (higher FIQLQ score) the lower the value attached to the status quo – the less averse to change (taking the pill) people are.

### Coeliac Disease model C2

In this model the sign of Cost is as expected – people prefer lower costs. SQ is positive, implying people value the status quo option, they have an aversion to the change associated with taking the pill, although there is variation in that preference parameter.

The utility increase from years without coeliac disease is positive and significant. The interaction term between severity (CDQ score) and years without FHS is not significant (excluded from model).

The more severe the individuals' FHS condition (higher CDQ score) the lower the value attached to the status quo – the less averse to change (taking the pill) people are.

WTP estimates from the three disaggregated models are reported in Table 9.10.

For Food Allergy and Food Intolerance, the WTP for years of FHS removal are moderated by severity of condition (FAQLQ and FIQLQ score) – the WTP values in the table are for the sample median value of FAQLQ and FIQLQ.

**Table 9.10: Marginal WTP for a year with FHS removed (calculated at median score of FAQLQ and FIQLQ)**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
Allergy	500	94	5.34	<0.001	317	684
Coeliac	760	67	11.34	<0.001	629	891
Intolerance	633	104	4.7	<0.001	429	837

## 9.5 Preferred Model Results: Adults

### 9.5.1 Preferred Model Specifications: Adults

In addition to individual-level measures of health impacts of the conditions (VAS, EQ5D, FAQLQ, FIQLQ and CDQ) a range of characteristics were included in the models estimated.

One of the findings from the Focus groups was that age played a role – in terms of some (older) adults reporting that they had become used to their FHS, or parents indicating a difference in how they regarded temporary FHS removal for children of different ages.

Age effects were tested for and found to be present in the Allergy model: older people were more averse to moving from away the status quo (taking the pill and temporarily removing their FHS).

In addition, quadratic duration effects were tested for and found to be present in the allergy and coeliac model: additional years of FHS removal yielded smaller utility gains the further into the future they occurred.

These effects are retained in the preferred adult models A3, C3 and I3 reported in Table 9.11.

**Table 9.11: Preferred Specifications of Disaggregated Models, Adults**

Category	Allergy model A3	signif	Coeliac Model C3	Signif	Intolerance Model I3	Signif
years	-	-	0.235	***	-0.0461	*
s.error	-	-	(0.0327)	-	(0.0386)	-
years2	-0.00283	**	-0.00527	***	-	-
s.error	(0.00132)	-	(0.00129)	-	-	-
cost	-0.000110	***	-0.000167	***	-0.000104	***
s.error	(2.09e-05)	-	(2.50e-05)	-	(1.73e-05)	-
FIQ x years	-	-	-	-	0.0220	***
s.error	-	-	-	-	(0.00760)	-
FAQ x years	0.0241	***	-	-	-	-
s.error	(0.0058)	-	-	-	-	-

Category	Allergy model A3	signif	Coeliac Model C3	Signif	Intolerance Model I3	Signif
FIQ x SQ	-	-	-	-	-0.667	***
s.error	-	-	-	-	(0.150)	-
CDQ x SQ	-	-	-0.0283	***	-	-
s.error	-	-	(0.00779)	-	-	-
FAQ x SQ	-0.663	***	-	-	-	-
s.error	(0.135)	-	-	-	-	-
SQ (mean)	0.0288	**	2.506	***	5.021	***
s.error	(0.740)	-	(0.405)	-	(0.771)	-
SQ (SD)	2.318	***	2.536	***	3.069	***
s.error	(0.239)	-	(0.217)	-	(0.362)	-
Choices	2727	-	4752	-	3321	-
Individuals	303	-	528	-	369	-

Robust standard errors in parentheses  
significance:\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Note: in model A3 the coefficient on years was not significant, and hence the variable has been dropped from the model – but duration effects are still included via the term interacting years with FAQLQ score

## 9.6 WTP Values from Preferred Specifications: Adults

### 9.6.1 Adult WTP values: Food Allergy

The WTP values reported in Table 9.12 depend on the severity of the condition's impacts ( FAQLQ score) and the year in which the allergy's effects are removed. They are reported here for 10th, 50th and 90th percentile values of FAQLQ and in years 1, 10 and 20.

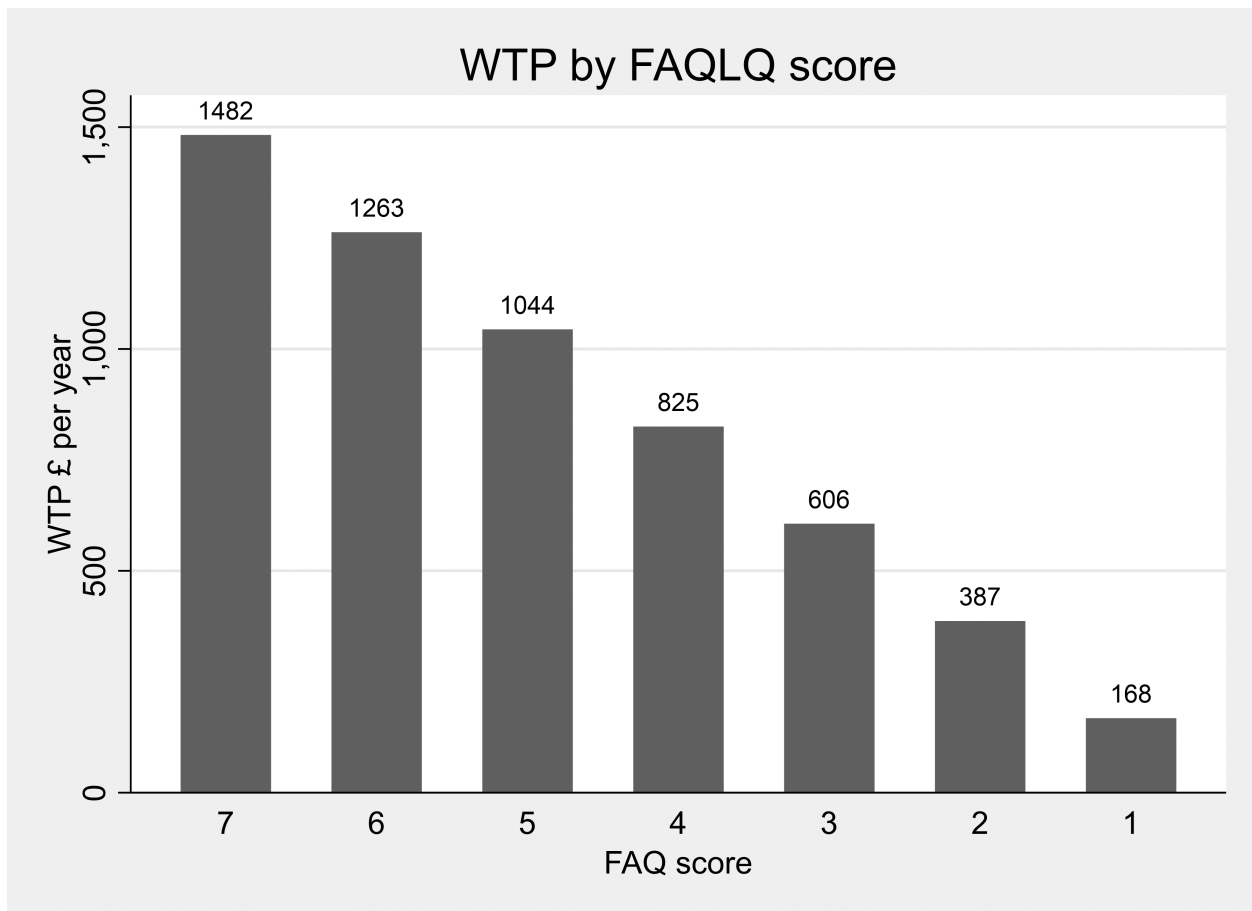
At a FAQLQ score of 2.44 (10th percentile value) the WTP of £482 in year 1 falls to zero in year 10. At the sample median FAQLQ value (5.1) the WTP of £1064 falls to zero by year 16.

**Table 9.12: Marginal WTP for removal of food allergy, at 3 levels of FAQLQ and year of removal**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
FAQLQ=2.44 years=1	428	102	4.72	<0.001	282	683
FAQLQ=5.10 years=1	1064	239	4.45	<0.001	596	1532
FAQLQ=6.45 years=1	1359	308	4.41	<0.001	755	1964
FAQLQ=2.44 years=10	18	139	0.13	0.895	-255	292
FAQLQ=5.10 years=10	600	87	6.89	<0.001	429	771
FAQLQ=6.45 years=10	896	126	7.10	<0.001	648	1143
FAQLQ=2.44 years=20	-497	387	-1.28	0.199	-1255	261
FAQLQ=5.10 years=20	85	270	0.31	0.753	-444	614
FAQLQ=6.45 years=20	380	220	1.73	0.083	-50	810

Figure 9.1 below reports the marginal WTP for an additional year of health improvement, evaluated at the initial year. This is significant at all levels of FAQLQ, although it falls to a relatively low level (£168) for a FAQLQ score of 1.

**Figure 9.1. WTP for one year without food allergy, by FAQLQ score**



### 9.6.2 Adult WTP values: Coeliac Disease

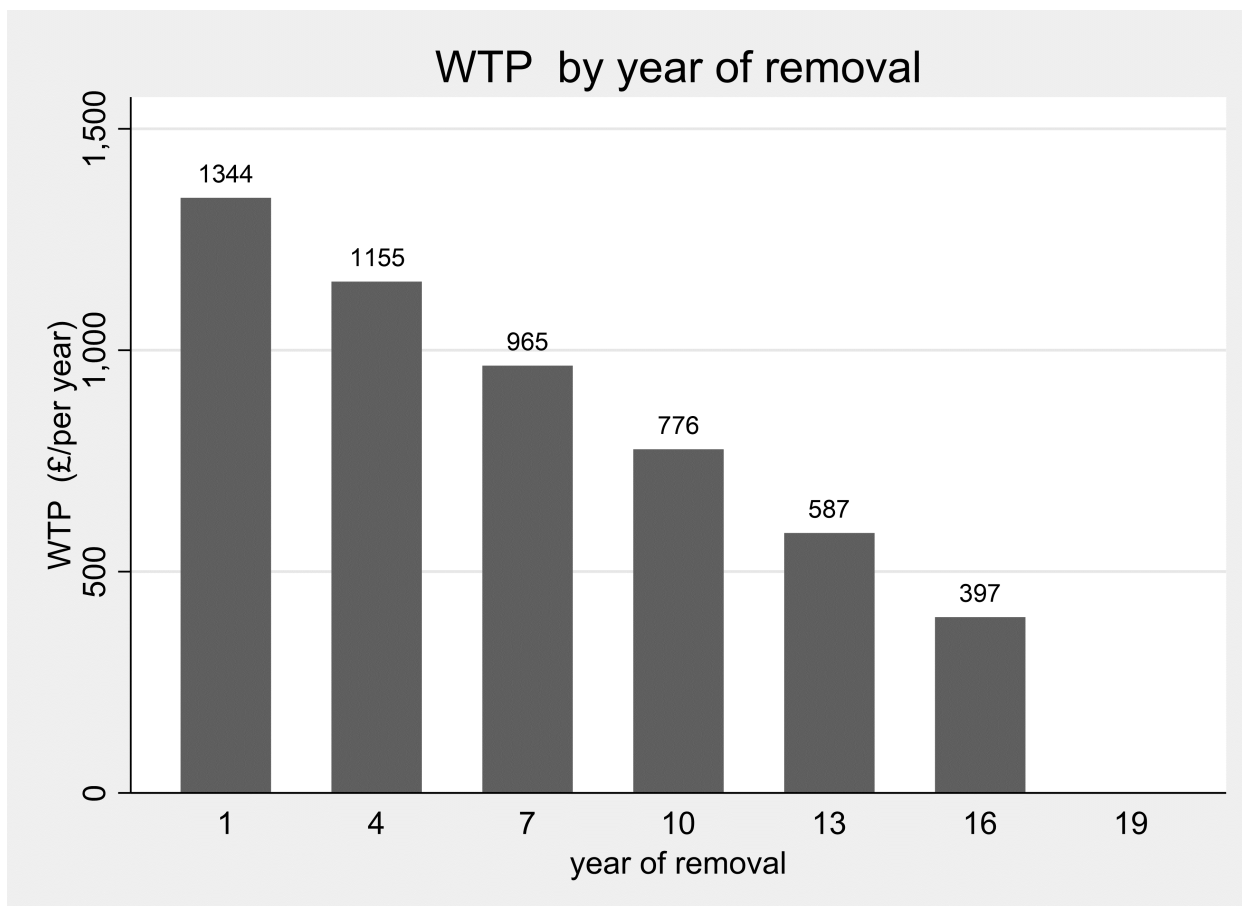
WTP values, displayed in Table 9.13, are invariant over CDQ scores (although the higher the CDQ score the less averse people are to moving away from the SQ option people) but vary over time.

**Table 9.13. Marginal WTP for a year without FHS, at 3 different levels of year of improvement**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
Years=1	1342	188	7.16	<0.001	975	1710
Years=10	775	71	10.94	<0.001	636	914
Years=20	144	151	0.95	0.340	-152	440

The marginal value of an additional year without coeliac disease is not significantly different from zero by Year 19 (which is evident in Figure 9.2).

**Figure 9.2. WTP per year without coeliac disease**



The WTP for a year without coeliac disease falls to zero at Year 19.

### 9.6.3 Adult WTP values: Food Intolerance

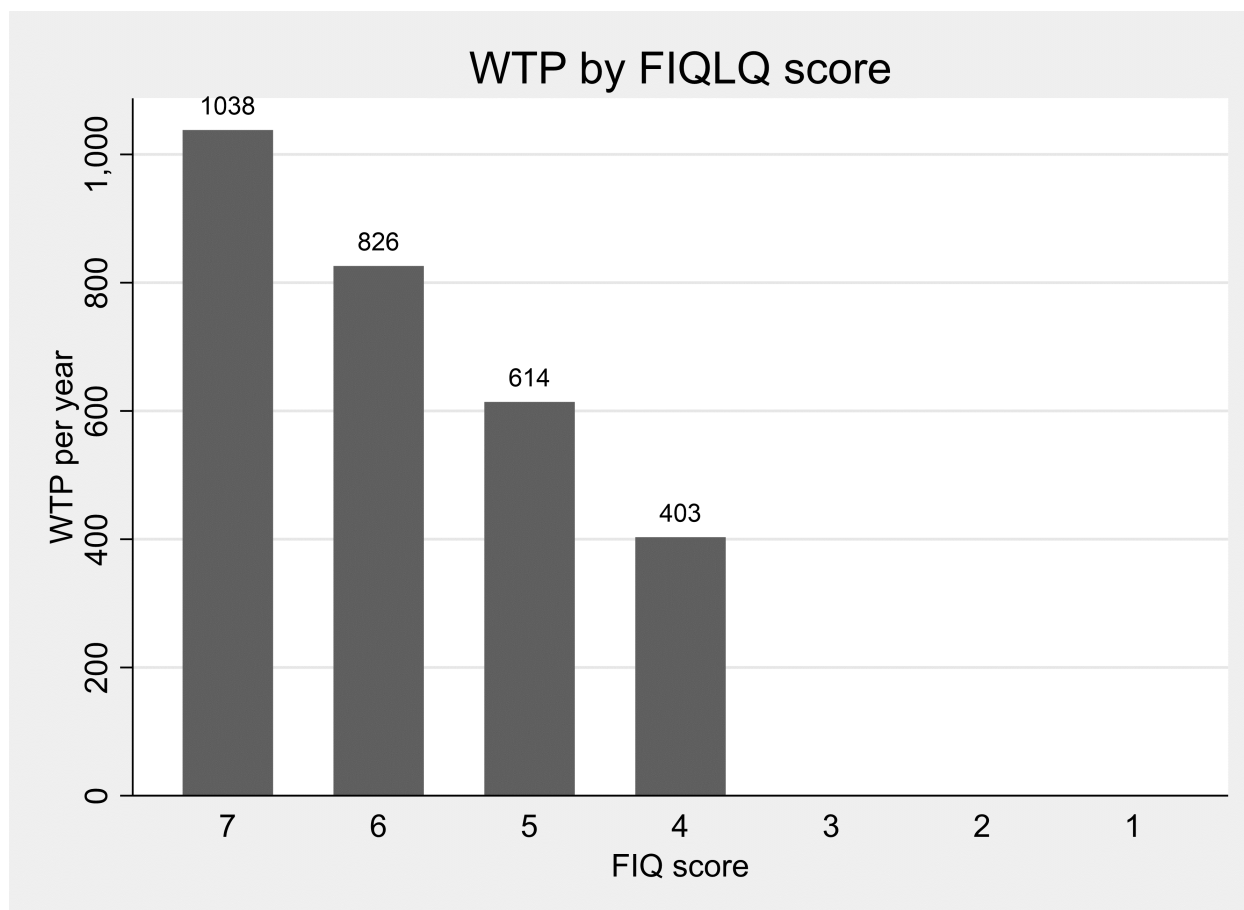
The WTP to remove food intolerance depend on the severity of the condition's impacts (FIQLQ score) but not the year of removal. The WTP estimates reported in Table 9.14 are for the 10th, 50th and 90th percentile values of FIQLQ.

**Table 9.14. Marginal WTP for a single year increase. Intolerance, at 3 different levels of FIQLQ**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
FIQ=2.38	61	211	0.29	0.773	-353	474
FIQ=4.66	540	97	5.56	<0.001	349	731
FIQ=6.44	915	177	5.17	<0.001	568	1262

A FIQLQ score of 3 or below implies that the WTP for removal of the Food Intolerance is not significantly different from zero (which is evident in Figure 9.3).

**Figure 9.3. WTP for one year without food intolerance, by FIQLQ score**



## **9.7 Preferred Model Results: Children**

### **9.7.1 Preferred Model Specifications: Children**

In these preferred mixed logit model specifications, the marginal utility of additional years with the child's FHS removed, and/or the SQ ASC, are conditioned by the child's age and the predicted improvement in the child's health condition score. The three sets of model results are reported in Table 9.15.

In the Allergy model (PA2) the younger the child the lower the value derived from years with the allergy removed and the less averse the parent is to change (their child taking the pill). Also, the higher the condition score (FAQLQ) the less averse the parent is to change (their child taking the pill)

In the coeliac model (PC2) no child age effects are significant but the greater the anticipated improvement in CCDUX score, the greater the value the parent places on reducing a year of the condition.

In the Intolerance model (PI2) there are no significant effects of child age but the higher the FIQLQ score (for example, the worse the condition) the more likely they are to take the pill.

**Table 9.15. Preferred Specifications of Disaggregated Models, Child sample**



Category	Child Allergy model PA2	signif	Child Coeliac Model PC2	Signif	Child Intolerance Model PI2	Signif
years	0.140	***	-0.110	-	0.0873	***
s.error	(0.0155)	-	(0.0810)	-	(0.0158)	-
years x childage	-0.00313	*	-	-	-	-
s.error	(0.00161)	-	-	-	-	-
Years x CCDUX	-	-	0.00438	**	-	-
s.error	-	-	(0.00188)	-	-	-
cost	-0.0000395	***	0.0000454	***	-0.0000517	***
s.error	(2.72e-06)	-	(2.70e-05)	-	(6.54e-06)	-
SQ (mean)	2.953	***	0.714	*	4.252	***
s.error	(0.422)	-	(0.398)	-	(0.751)	-
SQ (SD)	2.106	***	2.6768	***	2.219	***
s.error	(0.116)	-	(0.386)	-	(0.244)	-
childage x SQ	-0.0578	*	-	-	-	-
s.error	(0.0307)	-	-	-	-	-
FIQ x SQ	-	-	-	-	-0.844	***
s.error	-	-	-	-	(0.176)	-

Category	Child Allergy model PA2	signif	Child Coeliac Model PC2	Signif	Child Intolerance Model PI2	Signif
FAQ x SQ	-0.486	***	-	-	-	-
s.error	(0.086)	-	-	-	-	-
Choices	3573	-	576	-	1053	-
Individuals	397	-	64	-	117	-

Robust standard errors in parentheses  
significance:\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

## 9.8 WTP Values from Preferred Specifications: Children

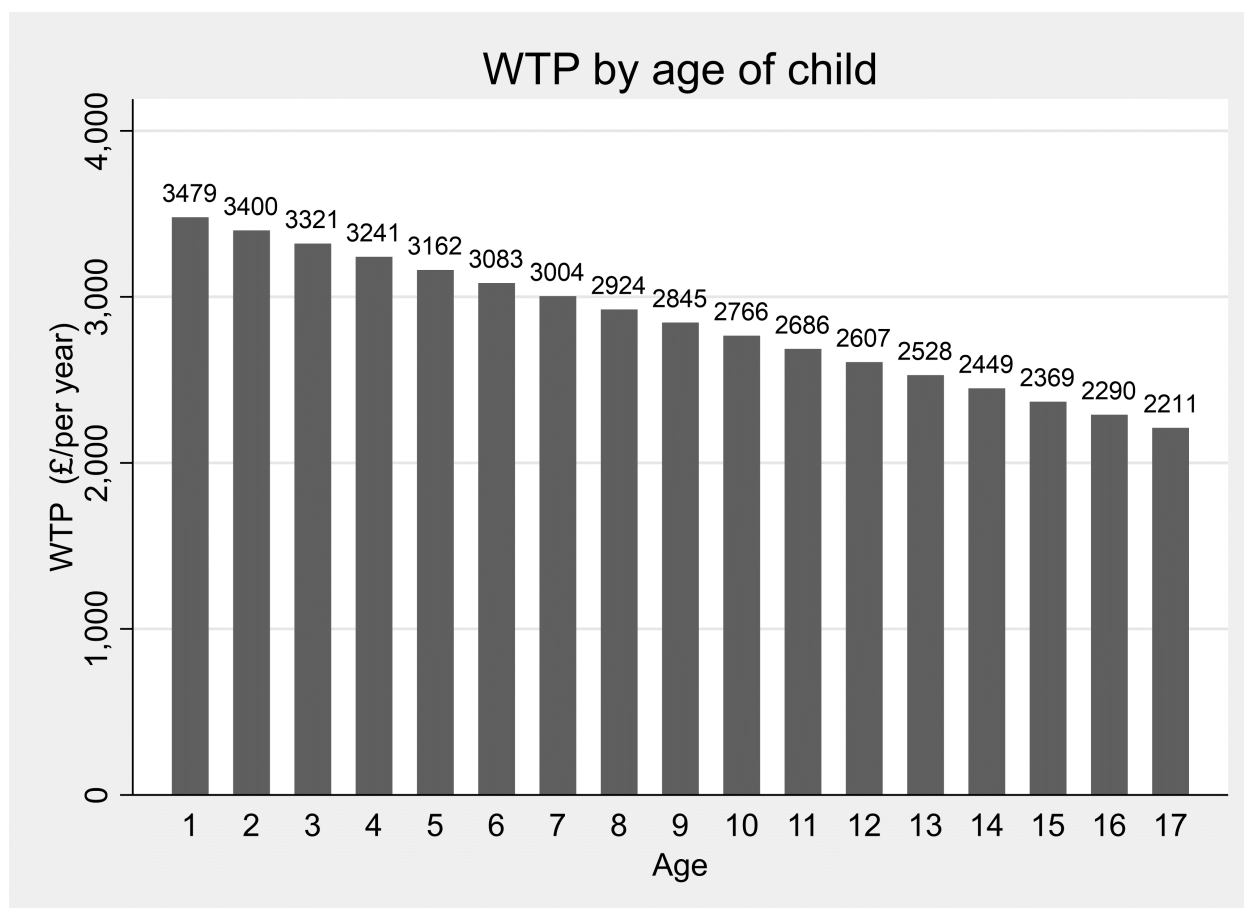
### 9.8.1 Child WTP values: Food Allergy

The age of the child with the allergy moderates WTP estimates in the food allergy model – the younger the child the more people are on average prepared to pay per year. The WTP estimates shown in Table 9.16 indicate that for a one-year-old the mean WTP is £3479/ year whilst for a ten-year-old the WTP is £2766/year.

**Table 9.16. Child Food Allergies: Marginal WTP for a single year removal, at different ages of the child**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
Age=1	3479	368	9.47	<0.001	2759	4200
Age=10	2766	215	12.85	<0.001	2344	3188
Age=17	2211	409	5.41	<0.001	1410	3012

**Figure 9.4. WTP for one year without food allergy, by age of child**



### 9.8.2 Child WTP values: Coeliac Disease

In the preferred child coeliac disease model (PC2) the severity of the child's condition, measured via parents scoring on the CCDUX health related QoL instrument, moderates WTP. The greater the disease impacts (the higher the CCDUX score) the higher is WTP for a year without coeliac disease.

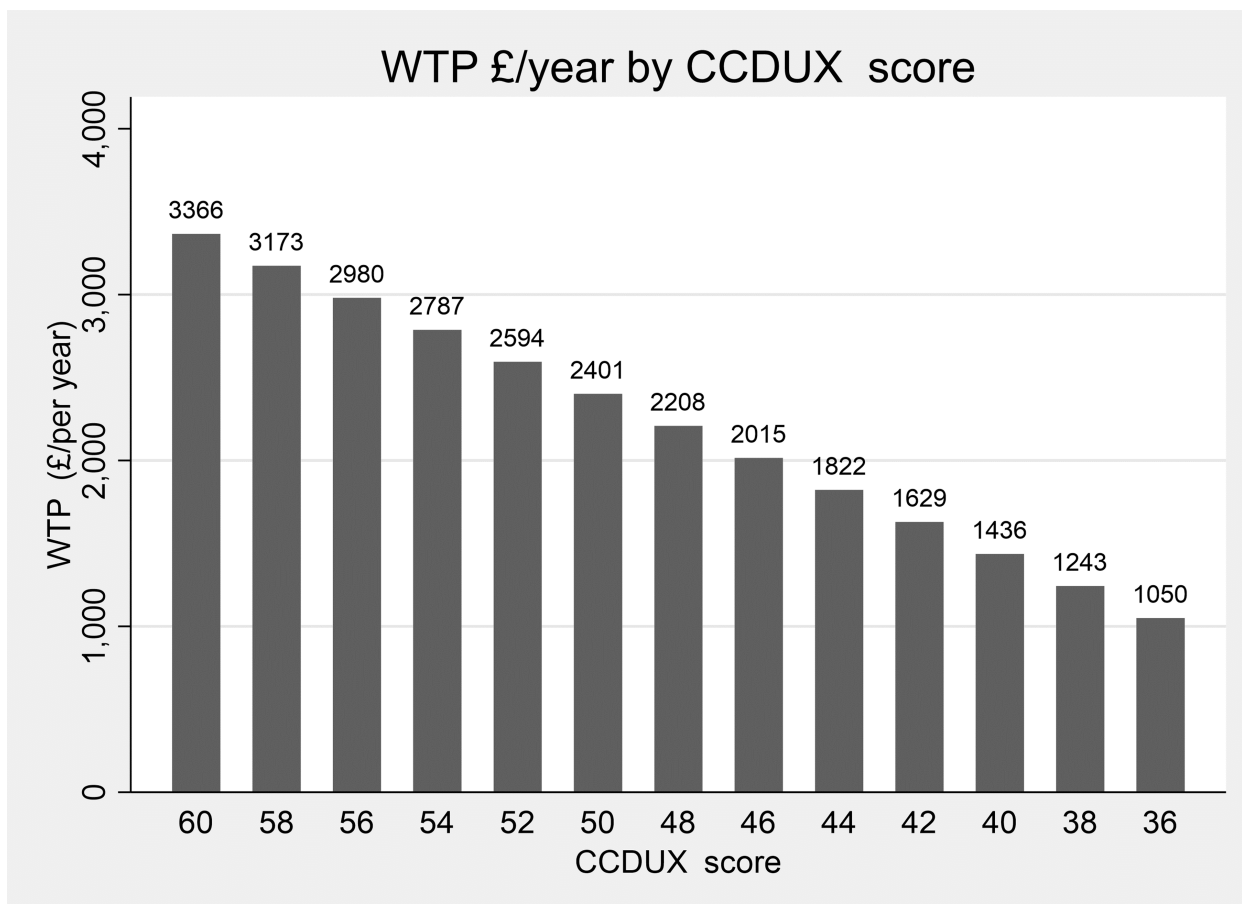
The CCDUX score takes values between 12 and 60 (12 items scored 1 to 5). The WTP is not significantly different from zero for children whose CCDUX score is below 36. A CCDUX score of 36 corresponds to a WTP value of £1049. The maximum CCDUX score (60) generates a WTP value of £3366/year. At the sample median CCDUX value of 42, the WTP for a year without the condition is £1628.

**Table 9.17. Child Coeliac Disease: Marginal WTP for a year of removal, evaluated at 10th , 50th and 90th percentiles of CCDUX**

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
CCDUX=29	374	690	0.54	0.588	-978	1727
CCDUX=42	1628	428	3.81	<0.001	789	2466

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
CCDUX=53	2689	671	4.01	<0.001	1374	4003

Figure 9.5. WTP for one year without coeliac Disease, by severity of condition (CCDUX score)



WTP is not significantly different from zero for children whose CCDUX score is below 36, which is evident in Figure 9.5.

### 9.8.3 Child WTP values: Food Intolerance

There are no effects of child age, or severity of condition (FIQLQ) on WTP values for parents of children with a food intolerance: the WTP value for removal of a child's food intolerance is £1689/year.

Table 9.18. Child Food Intolerance: Marginal WTP for a single year removal

Category	WTP (£/year)	s.error	z	P	95% CI lower	95% CI upper
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Intolerances	1689	274	6.17	<0.001	1153	2226
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The Adult results are summarised in Table 9.19 and the child results in Table 9.20. The results and the uses to which they can be put, in particular in relation to the FSA COI model are discussed in Section 11.

**Table 9.19. WTP Summaries, Adult conditions, In Aggregate and Disaggregated by FHS Condition**

Adults	Adult condition	WTP (£/year)
-	Aggregate	718 (627-810)
Base models	Allergy	620 (445-795)
Base models	Coeliac	760 (629-891)
Base models	Intolerance	603 (408-797)
Preferred models	Allergy	1064 (596-1532) (for first year)
Preferred models	Coeliac	1342 (975-1710) (for first year)
Preferred models	Intolerance	540 (349-731) (at median values of relevant condition score)

95% CI in parentheses.

**Table 9.20. WTP Summaries, Child conditions, In Aggregate and Disaggregated by Condition**

Children	Child condition	WTP (£/year)
-	Aggregate	2501 (2195-2807)
Base models	Allergy	2902 (2502-3302)

<b>Children</b>	<b>Child condition</b>	<b>WTP (£/year)</b>
Base models	Coeliac	1611 (783-2439)
Base models	Intolerance	1695 (1157-2232)
Preferred models	Allergy	2766 (2344-3188) (At child age of 10; WTP = £3479 for a one-year-old child, WTP = £2211 for 17-year-old.)
Preferred models	Coeliac	1628 (789-2466) (at median values of relevant condition score)
Preferred models	Intolerance	1689 (1153-2226)

95% CI in parentheses.